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13. SUPPLEMENTARY NOTES The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other documentation.					
14. ABSTRACT Project InterACTION provided a systematic examination of culture, negotiation, and collaborations, focusing on the Middle East. Thrust I advanced a comprehensive understanding of core cultural values, norms, and attitudes within the Middle East. Thrust II examined dynamic effects of culture on psychological and social processes in negotiation. Thrust II examined dynamic effects of culture on collaboration processes. Thrust IV examined how dynamical and agent based modeling can help us to understand culture, negotiations and collaborations. We developed and solidified a very high caliber research team in the Middle East as well as develop a virtual					
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## **Report Title**

Final Report: Dynamic models of the effect of culture on collaboration and negotiation

### **ABSTRACT**

Project InterACTION provided a systematic examination of culture, negotiation, and collaborations, focusing on the Middle East. Thrust I advanced a comprehensive understanding of core cultural values, norms, and attitudes within the Middle East. Thrust II examined dynamic effects of culture on psychological and social processes in negotiation. Thrust III examined dynamic effects of culture on collaboration processes. Thrust IV examined how dynamical and agent based modeling can help us to understand culture, negotiations and collaborations. We developed and solidified a very high caliber research team in the Middle East as well as develop a virtual intercultural laboratory. We initiated many collaborative projects across the team that span multiple methodologies (qualitative, experimental, survey, archival, computational) within each thrust. We have published 50 papers in peer reviewed journals, 29 book chapters, 240 presentations, 32 conference proceeding publications, 42 manuscripts, 1 edited book and 1 special issue, 16 spin off grants, 58 honors and awards, 77 references to our work in the media, 18 Graduate MURI student theses in progress, and had over 70 undergraduates volunteering on MURI projects. The MURI Virtual Brownbag Series invited speakers from across teams and disciplines. In all, we capitalized on our interdisciplinary team to advance novel interdisciplinary and dynamic approaches to culture and collaboration and negotiation which have significant theoretical and applied value.

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**Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:**

**(a) Papers published in peer-reviewed journals (N/A for none)**

<u>Received</u>	<u>Paper</u>
06/13/2012 37.00	Sarah L. Lyons, Michele J. Gelfand, Janetta Lun. Toward a Psychological Science of Globalization, <i>Journal of Social Issues</i> , (12 2011): 841. doi:
06/18/2012 41.00	Michele Gelfand, Garry Shteynberg, Tiane Lee, Janetta Lun, Sarah Lyons, Chris Bell, Joan Y. Chiao, C. Bayan Bruss, May Al Dabbagh, Zeynep Aycan, Abdel-Hamid Abdel-Latif, Munqith Dagher, Hilal Khashan , Nazar Soomro. The cultural contagion of conflict, <i>Philosophical Transactions of the Royal Society-B</i> , (03 2012): 692. doi:
06/19/2012 49.00	Leigh Anne Liu, Ray Friedman, Bruce Barry, Michele J. Gelfand , Zhi-Xue Zhang. The Dynamics of Consensus Building in Intracultural and Intercultural Negotiations, <i>Administrative Science Quarterly</i> , (11 2012): 0. doi:
06/20/2012 51.00	Michele J. Gelfand, C. Ashley Fulmer. At What Level (and in Whom) We Trust: Trust Across Multiple Organizational Levels, <i>Journal of Management</i> , (07 2012): 1167. doi:
07/09/2012 57.00	Janetta Lun , Sarah Lyons, Michele J. Gelfand , Garry Shteynberg. Descriptive norms as carriers of culture in negotiation, <i>International Negotiation</i> , (06 2011): 361. doi:
07/10/2012 56.00	Michele Gelfand, Chi-Yue Chiu, Toshio Yamagishi, Garry Shteynberg, Ching Wan. Intersubjective Culture: The Role of Intersubjective Perceptions in Cross-Cultural Research, <i>Perspectives on Psychological Science</i> , (12 2012): 0. doi:
07/20/2012 71.00	Sarit Kraus, Yaniv Mazliah, Raz LinaYa'akov (Kobi) Gal . Training with Automated Agents Improves People's Behavior in Negotiation and Coordination Tasks, <i>Decision Support Systems</i> , (06 2012): 0. doi:
07/20/2012 70.00	RAZ LIN , SARIT KRAUS, TIM BAARSLAG, DMYTRO TYKHONOV, KOEN HINDRIKS, CATHOLIJN M. JONKER. GENIUS: An Integrated Environment for Supporting the Design of Generic Automated Negotiators, <i>Computational Intelligence</i> , (08 2012): 0. doi:
07/22/2013 11.00	Michele J. Gelfand , Janetta Lun. The culture of the situation: The role of situational strength in cultural systems, <i>Asian Journal of Social Psychology</i> , (11 2012): 34. doi:
07/22/2013 12.00	Michele J. Gelfand, Lisa M. Leslie, Kirsten Keller, Carsten de Dreu. Conflict Cultures in Organizations: How Leaders Shape Conflict Cultures and Their Organizational-Level Consequences, <i>Journal of Applied Psychology</i> , (10 2012): 1131. doi:
08/01/2011 25.00	M. J. Gelfand, J. L. Raver, L. Nishii, L. M. Leslie, J. Lun, B. C. Lim, L. Duan, A. Almaliach, S. Ang, J. Arnadottir, Z. Aycan, K. Boehnke, P. Boski, R. Cabecinhas, D. Chan, J. Chhokar, A. D'Amato, M. Ferrer, I. C. Fischlmayr, R. Fischer, M. Fulop, J. Georgas, E. S. Kashima, Y. Kashima, K. Kim, A. Lempereur, P. Marquez, R. Othman, B. Overlaet, P. Panagiotopoulou, K. Peltzer, L. R. Perez-Florizno, L. Ponomarenko, A. Realo, V. Schei, M. Schmitt, P. B. Smith, N. Soomro, E. Szabo, N. Taveesin, M. Toyama, E. Van de Vliert, N. Vohra, C. Ward, S. Yamaguchi. Differences Between Tight and Loose Cultures: A 33-Nation Study, <i>Science</i> , (05 2011): 1100. doi: 10.1126/science.1197754

- 08/03/2011 26.00 Ryan Fehr, Michele J. Gelfand, Monisha Na. The road to forgiveness: A Meta-Analytic Synthesis of its Situational and Dispositional Correlates. , Psychological Bulletin, (04 2010): 894. doi:
- 08/05/2011 39.00 Lynn Imai, Michele J. Gelfand. The culturally intelligent negotiator: The impact of cultural intelligence (CQ) on negotiation sequences and outcomes, Organizational Behavior and Human Decision Processes, (07 2010): 83. doi: 10.1016/j.obhdp.2010.02.001
- 08/12/2013 19.00 Molly Inman, Roudabeh Kishi, Jonathan Wilkenfeld, Michele Gelfand, Elizabeth Salmon. Cultural Influences on Mediation in International Crises, Journal of Conflict Resolution, (11 2013): 1. doi:
- 08/12/2013 35.00 Tim Baarslag, Katsuhide Fujita, Enrico H. Gerding Koen Hindriks, Takayuki Ito, Nicholas R. Jennings, Catholijn Jonker, Sarit Kraus, Raz Lin, Valentin Robu, Colin R. Williams. Evaluating Practical Negotiating Agents: Results and Analysis of the 2011 International Competition, Artificial Intelligence Journal, (05 2013): 78. doi:
- 08/12/2013 32.00 Stephanie Zajac , Megan E. Gregory, Wendy L. Bedwell, William S. Kramer , Eduardo Salas. The cognitive underpinnings of adaptive team performance in ill-defined task situations: A closer look at team cognition, Organizational Psychology Review, (07 2013): 1. doi:
- 08/12/2013 31.00 JENNIFER FEITOSA, REBECCA GROSSMAN, CHRIS W. COULTAS, MARITZA R. SALAZAR, EDUARDO SALAS. Integrating the Fields of Diversity and Culture: A Focus on Social Identity, Industrial and Organizational Psychology: Perspectives on Science and Practice, (09 2012): 365. doi:
- 08/12/2013 28.00 Michele J. Gelfand, Jeanne Brett, Brian C. Gunia, Lynn Imai, Tsai-Jung Huang, Bi-Fen Hsu. Toward a Culture-by-Context Perspective on Negotiation: Negotiating Teams in the United States and Taiwan, Journal of Applied Psychology, (06 2013): 504. doi:
- 08/12/2013 24.00 Jennifer Feitosa, Eduardo Salas, Maritza R. Salazar. Social Identity: Clarifying its Dimensions across Cultures, Psychological Topics, (12 2012): 527. doi:
- 08/12/2013 20.00 MICHELE J. GELFAND<sup>1</sup>, AYŞE BETÜL ÇELİK, SARIT KRAUS, ELIZABETH D. SALMON, JONATHAN WILKENFELD , MOLLY INMAN. Cultural contingencies of mediation: Effectiveness of mediator styles in intercultural disputes, Journal of Organizational Behavior, (11 2013): 0. doi:
- 08/13/2013 44.00 Avi Rosenfeld, Zevi Bareket, Claudia V. Goldman, Sarit Kraus, David J. LeBlanc, Omer Tsimhoni. Toward Adapting Cars to Their Drivers, AI Magazine, (12 2012): 46. doi:
- 08/13/2013 46.00 Wendy L. Bedwell, Jessica L. Wildman, Deborah DiazGranados, Maritza Salazar, William S. Kramer, Eduardo Salas. Collaboration at Work: An Integrative Multilevel Conceptualization, Human Resource Management Review, (12 2012): 128. doi:
- 08/13/2013 45.00 Avi Rosenfeld , Inon Zuckerman , Amos Azaria, Sarit Kraus. Combining psychological models with machine learning to better predict people's decisions, Synthese, (12 2012): 81. doi:
- 08/17/2011 53.00 Michael A. Rosen, Wendy L. Bedwell, Jessica L. Wildman, Barbara A. Fritzsche, Eduardo Salas, C. Shawn Burke. Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement, Human Resource Management Review, (06 2011): 107. doi: 10.1016/j.hrmr.2010.09.003
- 08/18/2011 66.00 Ya'akov Gala, Barbara Grosz, Sarit Kraus, Avi Pfeffer, Stuart Shieber. Agent Decision Making in Open and Mixed Networks, Artificial Intelligence Journal, (09 2010): 1460. doi:

- 08/18/2011 74.00 C. A. Fulmer, M. J. Gelfand, A. W. Kruglanski, C. Kim-Prieto, E. Diener, A. Pierro, E. T. Higgins. On "Feeling Right" in Cultural Contexts: How Person-Culture Match Affects Self-Esteem and Subjective Well-Being, *Psychological Science*, (09 2010): 1563. doi: 10.1177/0956797610384742
- 08/18/2011 73.00 Ryan Fehr, Michele J. Gelfand. When apologies work: How matching apology components to victims' self-construals facilitates forgiveness, *Organizational Behavior and Human Decision Processes*, (09 2010): 37. doi: 10.1016/j.obhdp.2010.04.002
- 08/18/2011 69.00 Inon Zuckerman , Sarit Kraus , Jeffrey S. Rosenschein. Using Focal Point Learning to Improve Human-Machine Tacit Coordination, *Autonomous Agent and Multi-Agent Systems*, (04 2011): 289. doi:
- 08/18/2011 67.00 HILAL KHASHAN, ELIZABETH SALMON, YA'AKOV GAL, SARIT KRAUS, MICHELE GELFAND. An Adaptive Agent for Negotiating with People in Different Cultures, *ACM Transactions on Intelligent Systems and Technology*, (10 2010): 1. doi:
- 08/18/2013 50.00 LAURA SEVERANCE , LAN BUI-WRZOSINSKA, MICHELE J. GELFAND, SARAH LYONS, ANDRZEJ NOWAK, WOJCIECH BORKOWSKI, NAZAR SOOMRO, NAUREEN SOOMRO, ANAT RAFAELI, DORIT EFRAT TREISTER, CHUN-CHI LIN, SUSUMU YAMAGUCHI. The psychological structure of aggression across cultures, *Journal of Organizational Behavior*, (04 2013): 835. doi:
- 08/19/2011 79.00 Iris Bohnet , Benedikt Herrmann, Richard Zeckhauser. Trust and the reference points for trustworthiness in Gulf and Western countries, *Quarterly Journal of Economics*, (05 2010): 811. doi:
- 08/19/2013 51.00 EDUARDO SALAS, MICHELE J. GELFAND. Introduction to the Special Issue: Collaboration in multicultural environments, *Journal of Organizational Behavior*, (07 2013): 735. doi:
- 08/20/2010 15.00 P. Dunne, S. Kraus, E. Manisterski, M. Wooldridge. Solving coalitional resource games, *Artificial Intelligence*, (01 2010): . doi:
- 08/20/2010 16.00 R. Lin, S. Kraus. Can Automated Agents Proficiently Negotiate With Humans?, *ACM Communications*, (01 2010): . doi:
- 08/21/2013 66.00 Alissa J. Mrazek, Joan Y. Chiao, Katherine D. Blizinsky, Janetta Lun, Michele J. Gelfand. The role of culture-gene coevolution in morality judgment: Examining the interplay between tightness-looseness and allelic variation of the serotonin transporter gene, *Culture and Brain*, (08 2013): 0. doi:
- 08/22/2013 69.00 RYAN FEHR, MICHELE J. GELFAND. THE FORGIVING ORGANIZATION:A MULTILEVEL MODEL OFFORGIVENESS AT WORK, *Academy of Management* , (12 2012): 664. doi:
- 08/22/2013 71.00 Avi Rosenfeld, Meirav Hadad, Sarit Kraus, Irith Ben-Arroyo Hartman. Group planning with time constraints, *Annals of Mathematics and Artificial Intelligence*, (08 2013): 0. doi:
- 08/22/2013 70.00 Michele J. Gelfand. Culture's Constraints : International Differences in the Strength of Social Norms, *Current Directions in Psychological Science*, (12 2012): 420. doi:
- 08/25/2009 6.00 Garry Shteynberg, Michele J. Gelfand, Kibum Kim. Peering into the "magnum mysterium" of culture, *Journal of Cross-Cultural Psychology*, ( 2009): . doi:
- 08/29/2011 08.00 Sarit Kraus, Michal Chalamish. AutoMed - An Automated Mediator for Bilateral Negotiations Under Time Constraints, *Journal of Autonomous Agent and Multi-Agent System*, (05 2012): 0. doi:

**TOTAL: 41**

**Number of Papers published in peer-reviewed journals:**

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**(b) Papers published in non-peer-reviewed journals (N/A for none)**

Received      Paper

**TOTAL:**

Number of Papers published in non peer-reviewed journals:

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**(c) Presentations**

\*See Appendix A

Feitosa, J., Cruz, D., Lacerenza, C. N., Moynihan, L. E., & Salas, E. (August, 2014). Ethnic identity: Measurement equivalence studies across ethnicities and time. Symposium conducted at the Academy of Management, Philadelphia PA. \* FINALIST of the 2014 Carolyn Dexter Best International Paper Award \*

Feitosa, J., Kreutzer, C., Kramperth, A., Kramer, W., & Salas, E. (August, 2014). Expatriate adjustment: Considerations for selection and training. Symposium conducted at the Academy of Management, Philadelphia, PA.

Gelfand, M. J. (April, 2014). Understanding cultural differences in a globalized world. Invited Keynote Address, Emerging Markets Forum, Smith School of Business.

Gelfand, M. J. (April, 2014). Culture's constraints: Differences between tight and loose cultures. Invited Talk, Department of Psychology, University of Virginia.

Wiese, C. W., Coultas, C. W., Burke, C. S., & Salas, E. (2014, April). Manipulating Power Distance: Towards an Adaptive Cultural Priming Methodology. Poster presented at the annual meeting of the Society for Industrial Organizational Psychology, Honolulu, Hawaii

Gelfand, M. J. (2014, April). Culture's constraints: Understanding the differences between tight and loose cultures. Invited Tedx Talk, Society for Industrial and Organizational Psychology, Honolulu, Hawaii.

Gelfand, M. J., (May, 2014). Culture's constraints: Differences between tight and loose cultures. Invited Talk, Department of Management, Washington University.

Gelfand, M. J., (February, 2014). The etiology of conflict cultures. Invited Talk, Culture Preconference, Society for Personality and Social Psychology.

Gelfand, M. J., (November, 2013). On the etiology of conflict cultures. Invited Keynote Address, Workplace Health Conference.

Gelfand, M. J., (October, 2013). Differences between tight and loose cultures. Invited Talk, EvOS, Binghamton University.

Antino, M., Rico, R., & Sánchez-Manzanares, M. (2013, May). How do faultline teams learn? Exploring the roles of climate for participative safety and change-oriented leadership. Paper presented to the 16th EAWOP conference, Münster: Germany.

Azaria, A., Richardson, A. & Kraus, S., (2013, May). Autonomous agent for deception detection, in Proc. Of HAIDM (In AAMAS).

Azaria, A., Richardson, A., Elmalech, A., Rosenfeld, A., Kraus, S. & Sarne, D. (2013, May). On Automated Agents Rationality, HAIDM (In AAMAS).

Azaria, A. & Kraus, S. (2013, May). Advice provision in multiple prospect selection problems, HAIDM (In AAMAS).

Burke, C. S., & Grossman, R. (Chairs) (2013, April). Examining shared leadership in virtual teams: Theoretical and empirical insights. Symposium presented at the 28th Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Burke, C. S., Shuffler, M. L., & Fiore, S. (2012, August). Leadership structure: Mitigation strategies for decrements in virtually distributed teams. In M. Shuffler, T. Koehler, & C. W.

Wiese (Chairs), Virtuality and cultural diversity in teams: Creating challenges or opportunities. Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA.

Burke, C.S., Shuffler, M.L., & Fiore, S. (2012, August). In M. Shuffler, C. Wiese, T. Koehler (Chairs), Virtuality & cultural diversity in teams: Creating challenges or opportunities? Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA.

Casper, C., Biemann, T., Rico, R., & Sánchez-Manzanares, M. (2013, May). I'm with you! Investigating the relationship between team situational models and performance. Paper presented to the 16th EAWOP conference, Münster: Germany.

Coultas, C., Salazar, M. R., Burke, C. S., & Salas, E. (2013, April). Effects of cultural values/norms on affective responses to incivility. In N. M. Ashkanasy, J. M., Diefendorff (Chairs), Context, emotions, and performance. Symposium presented at the 28th Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Fehr, R. and Gelfand, M. J. (2012, August). Forgiveness from the top: How leaders build forgiving organizations. Paper presented at the Annual Meeting of the Academy of Management, Boston, MA.



- Fehr, R., Zheng, M., Tai, K., Narayanan, J., & Gelfand, M. J. (2012, August). Forgiveness empowers victims after conflict. Paper presented at the Annual Meeting of the Academy of Management, Boston, MA.
- Feitosa, J., Moynihan, L. E., Lacerenza, C. N., Cruz, D., & Salas, E. (April, 2013). Examining the factor structure of the multigroup ethnic identity measure. Poster submitted to the 28th annual meeting of the Society of Industrial Organizational Psychology, Houston, TX.
- Fulmer, C.A., Lim, B. C., & Hanges, P. (2012, August). Trust at the team level: Characteristics of leaders and members. Paper presented at the annual conference of Academy of Management, Boston, MA.
- Gelfand, M. J., Brett, J. M., Imai, L., Tsai, H. H., Gunia, B. C. (2012, August). Where are two heads better than one? Teams and solos negotiating deals in the U.S. and Taiwan. Paper presented at the Annual Meeting of the Academy of Management, Boston, MA.
- Gelfand, M. J. (September, 2012). Culture's constraints: Differences between tight and loose cultures. Invited Address, Alexander von Humboldt foundation, Heidelberg, Germany.
- Gelfand, M. J., (October, 2012). Culture's constraints: Differences between tight and loose cultures. Invited Address, Conference of the Society of Experimental Social Psychology, Austin Texas.
- Gelfand, M. J. (October, 2012). Dynamic models of the effect of culture on collaboration and negotiation. Invited talk given to Alan Shaffer, Principal Deputy Assistant Secretary of Defense, Department of Defense, at the University of Maryland.
- Gelfand, M. J. (November, 2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational level consequences. Invited talk, John F. Kennedy School of
- Gelfand, M. J. (December, 2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational level consequences. Invited talk, FACE conference, Maui, Hawaii.
- Gelfand, M. J. (January, 2013). Dynamic models of the effect of culture and negotiation and collaboration, Invited Address, Pentagon, Alan Shaffer group.
- Gelfand, M. J., (March, 2013). Culture's constraints: Differences between tight and loose cultures. Invited Talk, Department of Management, University of Utah.
- Gelfand, M. J., (April, 2013). Culture's constraints: Differences between tight and loose cultures. Invited Talk, Fuqua School of Business, Duke University.
- Gelfand, M. J., (April, 2013). Culture's constraints: Differences between tight and loose cultures. Invited Talk, Department of Psychology, University of Kansas.
- Gelfand, M. J., Severance, L., Lee, T., Bruss, C. B., Latif, H., El Moghazy, A. A., Mustafa, S. (2013, June). Getting to Yes: Pathways of Reaching Integrative Agreements in Negotiations in Egypt and the U.S. Paper presented at the regional meeting of the International Association of Cross-Cultural Psychology, Los Angeles, CA.
- Gregory, M. E., Zajac, S., Bedwell, W. L., Kramer, W. S., & Salas, E. (2013, April). Culture and transactive memory systems. Poster presented at the 28th Annual Conference of the Society for Industrial-Organizational Psychology, Houston, TX.
- Grossman, R., Salazar, M. R., Salas, E., & Spencer, J. M. (August, 2012). Understanding collaboration across cultures: What matters? Poster presented at the American Psychological Association Annual Convention, Orlando, FL.
- Kim, R. & Coleman, P.T. (2013, July). Is being adaptive better than being cooperative all the time? Conflict tendencies at work in South Korea. International Association for Cross-Cultural Psychology. Los Angeles, California.
- Kishi, R., Quinn, D., Wilkenfeld, J., Gelfand, M., Eralp, P., Owens, D., & Salmon, E. (2013, July). Adapting Mediation to the Intrastate Crisis Context. Paper presented at the 26th annual International Association of Conflict Management conference, Tacoma, WA.
- Kramer, W. S., Savage, N. M., Davis, C., Shuffler, M. L., Burke, C. S., & Salas, E. (2013, April). Tolerance for ambiguity's impact on emergence of leadership and outcomes. In J. Hirshberg, W. S. Kramer, & N. M. Savage (Chairs), Team leadership in culturally diverse, virtual environments. Symposium presented at the 28th Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.
- Kraus, S. (2013). Culture sensitive negotiation agents (invited talk), Gaming and military simulations, Neeman Workshop of Science, Technology and Security, Tel-Aviv University.

Lee, T. L., Gelfand, M. J., & Kashima, Y. (2013, June). Perpetuation of intergroup conflict via biased communication and distortion of memory. Talk presented at the annual meeting of International Association for Cross-Cultural Psychology, Los Angeles, CA.

Leslie, L. M., Harrington, J. R., & Gelfand, M. J. (2013, April). Diversity in context: The multilevel consequences of conflict cultures. In J. L. Waldman, & A. L. Thayer (Co-chairs), The impact of culture on teams: Combining complementary research. Symposium conducted at the annual conference of the Society for Industrial and Organizational Psychology, Houston, TX.

Lun, J., Muhammad, R., Cameron, L., & Gelfand, M. (2013, June). The cultural psychology of social connections in the Middle East and the US. Poster presented at the International Association of Cross-Cultural Psychology regional conference, Los Angeles, CA.

Lun, J., Gelfand, M., & Mohr, R. (2013, January). Learning culture in everyday situations: Situational constraint and social perception. Talk given at the Society of Personality and Social Psychology meeting, New Orleans, LA.

Lyons, S., & Gelfand, M.J. (2013, January). The role of cultural models of self-worth in responses to ingroup transgressions. Poster presented at the Annual Meeting of the Society for Personality and Social Psychology (SPSP), New Orleans, LA.

Lyons, S., & Gelfand, M.J. (2013, June). The role of cultural models of self-worth in responses to ingroup transgressions. Poster presented at the Regional Conference of the International Association for Cross-Cultural Psychology, Los Angeles, CA.

Quinteiro, P.M., Curral, L., Passos, A.M. & Rico, R. (2013, May). Coordination in management teams: Do cohesion and virtuality really matter? Paper presented to the 16th EAWOP conference, Münster: Germany.

Rico, R. (2013, April). Unique Challenges of Distributed Multiteam System Processes and Performance. Panelist discussant at the 28th SIOP Meeting, 2013, Houston, TX. USA.

Roos, P., Gelfand, M. J., Nau, D., & Lun, J. (2013, June). Societal Threat Increases Evolved Punishment of Norm Violators in Cultural Groups. Poster presented at the regional conference of the International Association for Cross-Cultural Psychology in Los Angeles, California.

Salmon, E. D., Gelfand, M. J., Gal, K., Kraus, S., & Ting, H. (2013, June). When time is not money: Why Americans lose out at the negotiation table. Paper presented at the regional meeting of the International Association of Cross-Cultural Psychology, Los Angeles, CA.

Salmon, E. D., Gelfand, M. J., Çelik, A. B., Kraus, S., Wilkenfeld, J., & Inman, M. (2013, July). Cultural contingencies of mediation: Effectiveness of mediation styles in intercultural disputes. Paper presented at the 26th annual meeting of the International Association for Conflict Management, Tacoma, WA.

Shuffler, M. L., Burke, C. S., Fahey, R. J., & Salas, E. (2013, April). Collective orientation's influence on shaping leadership in virtually distributed teams. In J. L. Wildman & A. L. Thayer (Co-Chairs), The impact of culture on teams: Combining complementary research. Symposium presented at the 28th Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Shuffler, M. L., Burke, C. S., & Fiore, S. (2012, August). Leading distributed teams: The influence of composition and virtual tools. In K. M. Bartol, E. M. Campbell-Bush (Chairs), Advances in highly virtual teams: Key composition, leadership, and shared process components. Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA

Shuffler, M.L., Wiese, C.W., & Koehler, T. (2012, August). Virtuality & cultural diversity in teams: Creating challenges or opportunities? Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA.

Stillwell, A., Gelfand, M. J., Ting, H., Salmon, E. D., & Fulmer A. (2013, June). Correlates of national impatience. Paper presented at the regional meeting of the International Association of Cross-Cultural Psychology, Los Angeles, CA.

Wiese, C.W., Shuffler, M.L., & Horn, Z. (2013). The digital frontier: Facilitating teamwork through bits and bytes. Panel to be presented at the 28th Annual Conference of the Society for Industrial Organizational Psychology, Houston, TX.

Wildman, J. L., Thayer, A. L., Salas, E., & McDonald, D. P. (2013, April). The impact of cultural values on team mediators: A meta-analysis. In J. L. Wildman & A. L. Thayer (Co-Chairs), The impact of culture on teams:

Combining complementary research. Symposium conducted at the annual meeting of the Society for Industrial and Organizational Psychology, Houston, TX.

Chung, C., Coleman, P. T., & Gelfand, M. J. (2012, July). Conflict, culture, and complexity: The effects of simple versus complex rules in negotiation. Paper presented at the 25th annual conference of the International Association for Conflict Management in Stellenbosch, South Africa.

Cook, J., Davis, C., Sablon, K., Wiese, C.W., Shuffler, M.L., & Burke, C.S. (2012, March). Leadership across levels in multicultural collaborations. Presented at the annual meeting of Industrial Organizational and Organizational Behavior, Orlando, FL.

Coultas, C., Grossman, R., Feitosa, J., Salas, E., & Carter, N. (2012, April). Training for cultural competence: A meta-analysis. Poster presented at the 27th annual meeting of the Society of Industrial Organizational Psychology, San Diego, CA.

Coultas, C.W., Shuffler, M.L., Wiese, C.W., Burke, C.S., & Salas, E. (2012, April). Implicit functional leadership theories: Leader legitimacy given hierarchy and context. Poster presented at the 27th Annual Conference for the Society for Industrial and Organizational Psychology, San Diego, CA.

DiazGranados, D. (2012, May). The influence of social distance on multicultural teams. In C. S. Burke (Chair), Looking at the impact of culture on collectives. Invited presentation at the 24th Annual Convention of the Association of Psychological Science, Chicago, IL.

DiazGranados, D., Burke, C. S., Salas, E., & Smith-Jentsch, K. (2011, August). The influence of leader social distance in multicultural teams. In M. L. Shuffler & D. DiazGranados (Co-chairs), Leading across cultures: Emerging research trends from multiple levels. Symposium presented at the 71st Annual Conference of the Academy of Management, San Antonio, TX.

DiazGranados, D., Salas, E., Smith-Jentsch, K., & Burke, C. S. (2012, April). Can leaders influence the performance of multicultural teams? In D. DiazGranados & K. Smith-Jentsch (Co-chairs), How and when does team composition affect performance? Symposium presented at the 27th Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

Feitosa, J., Salazar, M. R., & Salas, E. (2012, March). Ethnic diversity in teams: Consequences to idea generation. Poster presented at the 33rd Annual Industrial-Organizational Psychology and Organizational Behavior (IOOB) conference, Orlando, FL.

Feitosa, J., Salazar, M. R., & Salas, E. (2012, March). The impact of superordinate and subgroup identities on creativity. Paper presented at the 33rd Annual Industrial-Organizational Psychology and Organizational Behavior (IOOB) conference, Orlando, FL.

Feitosa, J., Salazar, M. R., & Salas, E. (2012, May). Idea generation across ethnicities. Poster presented at the Congresso Brasileiro de Psicologia Organizacional e do Trabalho (CBPOT), Rio de Janeiro, RJ, Brazil.

Fulmer, C. A., & Gelfand, M. J. (2013, June). Collectivists' trust recovery depends on the severity of the violation. Paper presented at the annual conference of International Association for Conflict Management, Tacoma, WA.

Gelfand, M. J. (2012, March). Culture's constraints: Differences in tightness and looseness across 33 nations. Invited Talk, University of Michigan.

Gelfand, M. J. (2012, April). Culture's constraints: Differences in tightness and looseness across 33 nations. Invited Talk, Stanford University.

Gelfand, M. J. (2012, May). Culture's constraints: Differences in tightness and looseness across 33 nations. Invited Talk, Carnegie Mellon University.

Gelfand, M., & Lun, J. (2011, October). The structure of situation as a mediator of macro and micro cultural processes. Presentation given at the Society of Experimental Social Psychology conference. Washington DC.

Kim, R. & Coleman, P. T. (2012, July). Dialectics of culture and conflict: A dynamical reconceptualization and measure of individualism and collectivism. Paper presented at the 25th annual conference of the International Association for Conflict Management in Stellenbosch, South Africa.

Kraus, S. (2012, March). Computer agents for human persuasion: Sustainability, health applications and world peace. Invited talk at the AAAI Spring Symposium on Game Theory for Security, Sustainability and Health.

Lun, J., Gelfand, M., Bruss, B., Su, J., Al-Dabbagh, M., Aycan, Z., Dagher, M., Latif, H., Shabka, H., Khashan, H., & Soomro, N. (2012, June). The value of honor in the Middle East. Presentation at the conference "Culture, identity, and change in the Middle East: Implications for Conflict and Negotiation", organized by H. Bowles, Michele Gelfand, & May Al-Dabbagh, Harvard University.

- Lun, J., Gelfand, M., & Mohr, R. Attitudes toward deviance in tight and loose cultures (2012, January). Poster presented at the Culture Preconference at the Annual Meeting of the Society for Personality and Social Psychology (SPSP), San Diego, CA.
- Lyons, S., Lun, J., & Gelfand, M. (2012, January). Dual identities and intercultural cooperation. Poster presented at the Culture Preconference at the Annual Meeting of the Society for Personality and Social Psychology (SPSP), San Diego, CA.
- Nowak, A., Gelfand, M. J., & Borkowski, W. (2012, June). Computational models of culture and negotiation: Exploring emergent dynamics. Presentation at the conference "Culture, identity, and change in the Middle East: Implications for Conflict and Negotiation", organized by H. Bowles, Michele Gelfand, & May Al-Dabbagh, Harvard University.
- Severance, L., & Gelfand, M. J. (2012, April). The dynamics of dissent: Gender and status effects. In G. F. Fernandes (Chair). Deciphering gendered responses to organizational conflict. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology (SIOP), San Diego CA.
- Shuffler, M. L., Burke, C. S., & DiazGranados, D. (2011, August). Leading across cultures: Emerging research trends from multiple levels. Symposium at the Academy of Management Annual Conference, San Antonio, TX.
- Thayer, A. L., Shuffler, M. L., Salas, E., Kozlowski, S. W. J., Mathieu, J. E., Tannenbaum, S. I., Marks, M. A., & Rico, R. (2012, April). Critical considerations of teamwork research and practice: The next frontier. Panel presented at the 27th annual meeting of the Society for Industrial and Organizational Psychology, San Diego, CA.
- Wiese, C. W., Shuffler, M. L., Burke, C. S., & Salas, E. (2011, August). Leadership in multicultural collaborations: A review and future research agenda. Paper presented at the Annual Academy of Management Conference, San Antonio, TX.
- Wildman, J. L., Salazar, M. R., Qureshi, R., & Salas, E. (2012, April). Fatalism, trust repair, and revenge in a collaborative work context. Poster presented at the Annual Meeting of the Society for Industrial and Organizational Psychologists, San Diego, CA.
- Wildman, J. L., Thayer, A. L., Lazzara, E. H., Salazar, M., & Salas, E. (2012, July). Trust and distrust in teams: Empirical evidence for a new research paradigm. Poster presented at the Annual Meeting of the Interdisciplinary Network for Group Research, Chicago, IL.
- Bohnet, I. (2010, September). Complex negotiations: The role of culture. Presentation at the Said Business School, University of Oxford, Oxford Program on Negotiation, Oxford, UK.
- Bohnet, I. (2010, October). Behavioral economics, trust, culture and gender. Presentation at Harvard Kennedy School, Doctoral Seminar, Cambridge, MA.
- Bohnet, I. (2011, January). The role of trust in negotiation. Paper presented in the Merchants Leasing Negotiation Workshop, Boston, MA.
- Chung, C. (2011, July). Dynamical systems approach to conflict communications assessments. Paper presented at the regional conference of the International Association for Cross-Cultural Psychology in Istanbul, Turkey.
- Chung, C., Coleman, P. T., & Gelfand, M. (2011, July). Conflict, culture, and complexity: The effects of simple versus complex rules in negotiation. Paper presented at the 24th annual conference of the International Association for Conflict Management in Istanbul, Turkey.
- Coleman, P. T. & Kugler, K. (2011, July). Tracking adaptivity: Developing a measure to assess adaptive conflict orientations in organizations. Poster presented at the 24th annual conference of the International Association for Conflict Management in Istanbul, Turkey.
- Coleman, P. T., Kugler, K., & Vallacher, R. (2011, July). Regulatory focus dynamics and conflict: Investigating the relationship and ratios of prevention and promotion orientations to social conflict. Paper presented at the 24th annual conference of the International Association for Conflict Management in Istanbul, Turkey.
- Coultas, C., Bedwell, W. L., Salas, E., Burke, S. (2011, April). Scalpels, not hacksaws: Culturally competent coaching. Presented at the 26th annual meeting of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Coultas, C. W., Grossman, R., Feitosa, J. F., & Salas, E. (2011, July). Training for differences: A meta-analysis exploring what works and what doesn't in cross-cultural training. Presentation at the INGRoup conference in Minneapolis, MN.
- Coultas, C. W., Wiese, C. W., Shuffler, M. L., Burke, C. S., & Salas, E. (2011, July). Contextual leadership: The impact of team type and leader role on followers' perceptions of leader effectiveness. Poster presented at the 2011 INGRoup conference, Minneapolis, MN.
- Efrat-Treister, D., Severance, L., Gelfand, M. J., Lyons, S., Rafaeli, A., Nowak A., et al. (2011, July). Understanding aggression through the lens of cultural values of honor and dignity. Poster presented at the annual meeting of the European Congress of Psychology, Istanbul,

Turkey.

Fehr, R. & Gelfand, M. J. (2010, August). Hedonic for some? Culture of honor and the affective consequences of revenge. Presentation at the Academy of Management conference, Montreal, Canada.

Fehr, R. (2010, August). On the (un)intended consequences of forgiveness: Creativity after conflict. Presentation at the Academy of Management conference, Montreal, Canada.

Fehr, R. (2011, April). Cultural intelligence abroad: Goal attainment during international sojourns. Presentation at the Society for Industrial and Organizational Psychology (SIOP) conference, Chicago, Illinois.

Fulmer, C. A., & Gelfand, M. J. (2011, June). Trust after violations: Cultural orientation and dynamic patterns. Paper presented at the International Association for Cross-Cultural Psychology Conference, Istanbul, Turkey.

Fulmer, C. A., & Gelfand, M. J. (2011, July). How do I trust thee? Dynamic trust profiles and their individual and social contextual determinants. Paper presented at the annual International Association for Conflict Management, Istanbul, Turkey.

Fulmer, C. A., & Gelfand, M. J. (2011, July). Trust across multiple organizational levels: A review and analysis of progress and future directions. Paper presented at the annual International Association for Conflict Management, Istanbul, Turkey.

Fulmer, C. A., et al. (2011, July). Trust and trust violation in negotiation: A cross-cultural qualitative comparison. In Hollingshead, A. & Kim, P. (Chairs), Trust violations across contexts: From cross-cultural negotiations to brand communities on Facebook. Symposium conducted at the annual International Association for Conflict Management, Istanbul, Turkey.

Gelfand, M. J. (2010, December). Culture as affordances and constraints. A multilevel analysis of situational constraint across 33 nations. Invited Departmental Colloquium, Department of Psychology, University of Waterloo.

Gelfand, M. J. (2011, May). Culture's constraints: Differences in tightness and looseness across 33 nations. Invited Departmental Colloquium, Department of Psychology, Northwestern University.

Gelfand, M. J. (2011, June). Culture's constraints: Differences in tightness and looseness across 33 nations. Invited C Colloquium, Sabanci University, Istanbul, Turkey.

Gelfand, M. J. (2011, June). Culture's constraints: Differences in tightness and looseness across 33 nations. Invited Keynote Address, International Association for Cross-Cultural Psychology, Istanbul, Turkey.

Gelfand, M. J. (2011 June). Culture and identity motives symposium. Invited Discussant. International Association for Cross-Cultural Psychology, Istanbul, Turkey.

Gelfand, M. J., Fulmer, C. A., Kruglanski, A. W., Abdel-Latif, A. H., Khashan, H., Shabka, H., & Moaddel, M. (2011, June). Fatalism and risky outcomes: Cultural and individual levels of analysis. Paper presented at the International Association for Cross-Cultural Psychology conference, Istanbul, Turkey.

Gelfand, M., Shteynberg, G., Bell, C., Lyons, S., & Lee, T. (2011, January). Culture and conflict contagion: The role of vertical collectivism in the spread of social conflict. Poster presented at the annual meeting of the Society for Personality and Social Psychology (SPSP), San Antonio, TX.

Hanges, P.J. & Kyrillidou, M. (2011, March). Organizational climate and diversity assessment: A value-based approach manifested through the ARL ClimateQUAL assessment protocol. In S. Town (Chair). Managing Change in Academic Libraries in a Strategic Way: The Nature of Evidence for Change Management. Symposium presented at the third annual conference of the Qualitative and Quantitative Methods in Libraries, Athens, Greece.

Inman, M., Kishi, R., & Wilkenfeld, J. (2011, March). Cultural heterogeneity and the mediation of interstate crises. Paper presented at the 52nd annual convention of the International Studies Association, Montréal, Québec, Canada.

Inman, M., Kishi, R., & Wilkenfeld, J. (2011, April). Culture and international crisis mediation. Paper presented at the UMD International Relations Workshop, College Park, MD.

Kim, R., Coleman, P. T., Chung, C., & Kugler, K. (2011, July). Culture and conflict landscapes in organizations. Paper presented at the 24th annual conference of the International Association for Conflict Management in Istanbul, Turkey.

Kishi, R., Inman, M. & Wilkenfeld, J. (2011, July). Culture and mediation in international crises. Paper presented at the 24th annual International Association of Conflict Management conference, Istanbul, Turkey.

- Kraus, S. (2010, December). Agents that negotiate proficiently with people. Invited talk at the 8th European Workshop on Multi-Agent Systems, Paris, France.
- Kraus, S. (2011, March). Agents that negotiate proficiently with people. Keynote talk at Social Computing, Behavioral-Culture Modeling conference (SBP), Maryland, USA.
- Kraus, S. (2011, May). Automated agents for human persuasion. Invited talk at the Agent-based Complex Automated Negotiations Workshop at AAMAS, Taipei, Taiwan.
- Kraus, S. (2011, June). Automated agents for human persuasion. Key note speaker at the Bar-Ilan Symposium on Foundations of Artificial Intelligence BISFAI, Ramat-Gan, Israel.
- Kugler, K. & Coleman, P. T. (2011, July). Moral conflict and complexity: The dynamics of constructive versus destructive discussions over polarizing issues. Paper presented at the 24th annual conference of the International Association for Conflict Management in Istanbul, Turkey.
- Lin, R., Gev, Y., & Kraus, S. (2011, May). Facilitating better negotiation solutions using AniMed. In Proceedings of the Fourth International Workshop on Agent-based Complex Automated Negotiations (ACAN'11), Taipei, Taiwan.
- Lun, J., Gelfand, M. J., Bruss, C. B., et al. (2011, June). The cultural psychology of honor: Evidence from 8 nations. Presentation given at the International Association of Cross-Cultural Psychology regional conference, Istanbul, Turkey.
- Lyons, R., Shuffler, M.L., & DeChurch, L. (Co-Chairs). (2011, April). Understanding the implications of modern organizational changes for team leadership. Panel presented at the 26th annual meeting of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Salazar, M., Coultas, C. W., Grossman, R., & Feitosa, J. (Co-Chairs) (2011, April). Culture and diversity: Current and future theoretical and practical approaches. Panel held at the 2011 Society for Industrial and Organizational Psychology (SIOP) conference, Chicago, IL.
- Severance, L., Lyons, S., Gelfand, M. J., Nowak, A., Bui-Wrzosinska, L., Rafaeli, A., et al. (2011, April). Mapping the structure of aggression across cultures. In J. Huang & A. M. Ryan (Chairs). One brick at a time: Cultural context effects at work. Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Shuffler, M. L. & Hunter, A. (2011, April). Developing culturally competent leaders: Current theory, research, & lessons learned. A symposium accepted to the 26th annual conference of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Wildman, J. L., Shuffler, M. L., Burke, C. S., & Salas, E. (2010, August). Trust and distrust in multicultural teams: A theoretical framework. Paper presented at the annual meeting of the Academy of Management, Montreal, Canada.
- Bedwell, W. L., DiazGranados, D., Salas, E., & Burke, C. S. (2010, April). Bridging the cultural divide: Towards intercultural collaboration effectiveness. Paper presented at the 25th Annual Conference for the Society of Industrial and Organizational Psychology (SIOP), Atlanta, GA.
- Bohnet, I. (2010, July). Incentives and trust. Presentation at Humboldt University, Economics Seminar, Berlin, Germany.
- Bohnet, I. (2010, June). Why women and men trust others. Presentation at the annual International Association for Conflict Management, Cambridge, MA.
- Bohnet, I. (2010, March). The role of trust in decision making. Panel presentation at the Deutsche Bank Women in Business conference, Frankfurt, Germany.
- Bohnet, I. (2010, January). Fostering trust. Presentation at HBS, Seminar on Behavioral Decision Making, Cambridge, MA.
- Bohnet, I. (2009, December). The elasticity of trust. Presentation at INSEAD, Decision Making Seminar, Fontainebleau, France.
- Bohnet, I. (2009, September). How to promote trust. Presentation at the 100th anniversary celebrations of the Stockholm School of Economics, Stockholm, Sweden.
- Fehr, R., Gelfand, M. J., & Nag, M. (2010, June). The road to forgiveness: A meta-analytic synthesis of its situational and dispositional correlates. Paper presented at annual conference of the International Association of Conflict Management, Boston, MA.

Fulmer, C. A., & Gelfand, M. J. (2010, June). Dynamic trust processes: Trust dissolution, recovery, and stabilization. Paper presented at the annual conference of International Association for Conflict Management, Boston, MA.

Fulmer, C. A., Gelfand, M. J., & Hanges, P. J. (2010, April). Modeling trust as a growth mixture model. In P. J. Hanges & C. A. Fulmer (Chairs), *New developments in modeling longitudinal and dynamic data*. Symposium conducted at the annual conference of Society for Industrial and Organizational Psychology (SIOP), Atlanta, GA.

Gelfand, M. J. (2010, June). Intersections between culture and gender in negotiations and decision-making: New theoretical and methodological perspectives. Discussant at annual conference of the International Association of Conflict Management, Boston, MA.

Gelfand, M. J. (2010, April). Dynamical models of culture and collaboration and negotiation. Briefing given to the L3 Associates, Simons Hall, University of Maryland.

Gelfand, M. J. (2010, March). Culture as constraints and affordances: A multilevel analysis of situational constraint across 35 nations. Invited Departmental Colloquium at the MIT Sloan School of Management, Cambridge, MA.

Gelfand, M. J. (2010, January). Culture as constraints and affordances: A multilevel analysis of situational constraint across 35 nations. Invited Departmental Colloquium at the Singapore Management University, Singapore.

Gelfand, M. J. (2009, October). Lessons learned on managing large scale cross-cultural research projects. Invited keynote address at the Multicultural Psychology Consortium, Michigan State University, East Lansing, MI.

Gelfand, M. J. (2009, November). The world is not flat: How culture shapes mind, behavior, and society. Invited keynote presentation at the Distinguished University Scholar Teacher Lecture Series, University of Maryland, College Park, MD.

Gelfand, M. J., Fulmer, C. A., Kruglanski, A. W., Abdel-Latif, A. H., Khashan, H., Shabka, H., & Moaddel, M. (2010, July). Cultures of fate: Implications for risk-taking. In C. S. Burke & M. Salazar (Chairs), *Impact of culture on collaboration and negotiation*. Symposium conducted at the 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.

Gelfand, M., Lun, J., Bruss, C. B., Al-Dabbagh, M., Aycan, Z., Daghir, M., Abdel-Latif, A. H., Shabka, H., Khashan, H., Soomro, N., Severance, L., Fulmer, A., Salmon, E., Lyons, S., Minacapelli, L., Sharvit, K., & Kruglanski, A. (2010, May). The cultural psychology of honor: Evidence from 8 nations. In M. Moaddel & M. J. Gelfand (Co-organizers), *Workshop on theoretical and methodological issues in the study of values in Islamic countries*, Cairo, Egypt.

Gelfand, M. J., Lun, J., & Feinberg, E. (2009, November). Culture and extremism. In M. Hogg, A. Kruglanski, & K. van den Bos (Organizers), *Conference on Uncertainty and Extremism*, Claremont Graduate University, Los Angeles, CA.

Hanges, P. J. (2009, October). Managing a multi-national team: Lessons from project GLOBE. Invited keynote address at the Multicultural Psychology Consortium, Michigan State University, East Lansing, MI.

Kraus, S. (2010, August). Automated negotiation. Invited tutorial at the 19th European Conference on Artificial Intelligence August, Lisbon, Portugal.

Kraus, S. (2010, July). Automated negotiation. Invited tutorial at the South Eastern European Multi-Agent Systems Summer School, Bucharest, Romania.

Kraus, S. (2010, May). Human-computer negotiation: Learning from different cultures. Presentation at the 8th International Workshop on Programming Multi-Agent Systems, Toronto, Canada.

Kraus, S. (2010, May). General opponent modeling for improving agent-human interaction. Presentation at the 12th International Workshop on Agent-Mediated Electronic Commerce, Toronto, Canada.

Lafree, G., Gelfand, M. J., Feinberg, E., & Fahey, S. (2010, June). Culture and terrorism. Paper presented at the European Association of Psychology and Law, Gothenberg, Sweden.

Liu, L., Friedman, R., Barry, B., Gelfand, M. J., & Zhang, Z. (2010, July). How to build consensus in negotiation? A dynamic theory of mental models within and across cultures. In C. S. Burke & M. Salazar (Chairs), *Impact of culture on collaboration and negotiation*. Symposium conducted at the 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.

Lyons, S., Lun, J., & Gelfand, M. J. (2010, June). The interplay of cultural and shared identities in intercultural negotiations. Paper presented at the annual conference of International Association of Conflict Management, Boston, MA.

- Salazar, M. R., Grossman, R., & Riches, O. (2010, July). Creativity across cultures: The role of power distance and team norms on creative task performance. Paper presented at the 5th Annual Meeting of the Interdisciplinary Network for Group Research, Washington, DC.
- Shuffler, M. L., Burke, C. S., Salas, E., & Gelfand, M. J. (2010, July). Multicultural teams: Critical team processes and guidelines. In C. S. Burke & M. Salazar (Co-Chairs), The impact of culture on collaboration and negotiation. Symposium presented at the 3rd International Applied Human Factors and Ergonomics Conference, Miami, FL.
- Shuffler, M. L., Burke, C. S., Salas, E., & Gelfand, M. J. (2010, July). Creating synergy in multicultural teams: Critical team processes. Poster presented at the 5th Annual Meeting of the Interdisciplinary Network for Group Research, Washington DC.
- Shytenberg, G., Gelfand, M. J., Imai, L., Mayer, D., & Bell, C. (2010, June). Individual differences in the social contagion of justice: Who is most influenced by the (un)just treatment of another? Paper presented at annual conference of the International Association of Conflict Management, Boston, MA.
- Ting, H., Gelfand, M. J., & Leslie, L. M. (2010, July). Culture and escalation of commitment. In C. S. Burke & M. Salazar (Chairs), Impact of culture on collaboration and negotiation. Symposium conducted at the 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.
- Wildman, J. L., Lazzara, E. H., Salazar, M., & Salas, E. (2010, July). Trust repair in intercultural teams: A review and propositions. Paper presented at the 5th Annual Meeting of the Interdisciplinary Network for Group Research, Washington, DC.
- Wildman, J. L., & Salas, E. (2010, July). The effect of ethnic diversity on perceived similarity, trust, and collaboration. Paper presented at the 5th Annual Meeting of the Interdisciplinary Network for Group Research, Washington, DC.
- Wilkenfeld, J. (2009, October). When things break down: Myth and reality in international politics. Invited keynote presentation at the Distinguished University Scholar Teacher Lecture Series, University of Maryland, College Park, MD.
- Al-Issis, M., & Bohnet, I. (2008, October). Does insurance increase trust? Institutional design in Jordan. Paper presented at the Workshop on Economic Experiments in Developing Countries at CIRANO, McGill, Montreal, Canada.
- Barnhard, A. M., Wildman, J. L., Bedwell, W. L., Diaz-Granados, D., Lazzara, E. H., Porter, M. S., Xavier, L., et al. (2009, March). What is collaboration? A multidisciplinary review. Poster presented at the annual Human Factors and Applied Psychology Florida Student Conference, Daytona Beach, FL.
- Bedwell, W. L., & DiazGranados, D. (Co-Chairs). (2009, July). Interdisciplinary perspectives on collaboration: A panel discussion. Panel discussion held at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.
- Bohnet, I. (2009, March). Incentives and trust—Insights from behavior economics. Presentation at the Center for Public Leadership conference on Building Trust at the Harvard Kennedy School, Cambridge, MA.
- Bohnet, I. (2009, March). Incentives and trust—Insights from behavior economics. Presentation at the 2008-2009 exploratory seminar series on Cooperation and Human Systems Design at the Radcliff Institute for Advanced Study, Cambridge, MA.
- Bohnet, I. (2009, February). Trust and insurance. Paper presented at the Program on Negotiation, Harvard Law School, Cambridge, MA.
- Bohnet, I. (2008, December 22). Trust—Insights from behavioral economics. Key note address at the conference of Swiss Economists at the University of Zurich.
- Bedwell, W. L., Wildman, J. L., DiazGranados, D., Lazzara, E. H., Shuffler, M. L., Xavier, L., et al. (2009, July). What is collaboration? A multidisciplinary review. Poster presented at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.
- Burke, C. S., Salas, E., & Gelfand, M. (2009, April). Effective teamwork in multicultural organizations: An obtainable goal? In K. Lundby & J. Jolton (Chairs), Going global: A new volume from SIOP's professional practice series. Paper presented at the 24th Annual Conference for the Society of Industrial and Organizational Psychology, New Orleans, LA.
- Cohen, D. (2008, July). Honor, dignity, and face cultures. Presentation given at the JFK School of Government, Harvard University.
- Coleman, P. (2009, June). Navigating power and conflict: Lessons from the laboratory. Invited presentation at Kyushu Law School, Kyushu University, Fukuoka, Japan.
- Coleman, P.T., Bartoli, A., Chung, C., Nets, R., Gelfand, M. (2009, June). Surveying Attractor Landscapes for Conflict: Investigating the



Relationship between Conflict, Culture and Complexity. Paper presented at the 22nd Annual Conference of the International Association for Conflict Management in Kyoto, Japan.

Coleman, P. T., Mitchinson, A., & Kugler, K. (2009, June). Adaptation, integration, and learning: The three legs of the steady stool of conflict resolution. Paper presented at the 22nd Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

DiazGranados, D., Bedwell, W. L., Wildman, J. L., Xavier, L. F., Lazzara, E. H., Shuffler, M. L., & Salas, E. (2009, July). Multicultural collaboration: What makes it work? Poster presented at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.

Gelfand, M. J. (2008, Spring). Project INTERACTION: Dynamical models of culture and collaboration and negotiation. Presentation given at the Vice President for Research Office, University of Maryland. Guest: John Miller.

Gelfand, M. J. (2009, Spring). Project INTERACTION: Dynamical models of culture and collaboration and negotiation. Presentation given at the Vice President for Research Office, University of Maryland. Guest: Robin Staffin.

Gelfand, M. J. (2009, June). Discussant: The frontiers of culture and negotiation research. In J. M. Brett (Chair), The third generation of culture and negotiation research. Symposium presented at the 22nd Annual Conference of the International Association of Conflict Management, Kyoto, Japan.

Kugler, K., & Coleman, P. T. (2009, June). Moral conflict and complexity: The dynamics of constructive versus destructive discussions over polarizing issues. Paper presented at the 22nd Annual Conference of the International Association of Conflict Management, Kyoto, Japan.

Lazzara, E. H., Bedwell, W. L., Wildman, J. L., DiazGranados, D., Shuffler, M. L., Xavier, L., et al. (2009, July). Collective orientation and team performance. Poster presented at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.

Mitchinson, A., & Coleman, P. T. (2009, June). Attribution and conflict: A vicious cycle driven by complexity. Paper presented at the 22nd Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

Mitchinson, A., Coleman, P. T., Bui-Wrzosinska, L., & Nowak, A. (2009, June). The nature of adaptivity: A theoretical discussion. Paper presented at the 22nd Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

Musallam, N., & Coleman, P. T. (2009, June). Understanding the spread of malignant conflict: A dynamical systems perspective. Paper presented at the 22nd Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

Rosen, M. A., Wildman, J. L., Bedwell, W. L., Fritzsche, B. A., Burke, C. S., & Salas, E. (2008, September). Diagnosing friction points in multicultural performance: A rationale and measurement approach. Paper presented at the 52nd Annual Human Factors and Ergonomics Society Conference, New York, NY.

#### PROJECT INTERACTION MURI Virtual Brownbag Series

The MURI Virtual Brownbag Series invites researchers who are involved in MURI and leading scholars in related fields to give virtual presentations of recent theories and findings to facilitate collaborations and research progress.

Klafehn, J. (2014, April 30). In search of the magic bullet: Assessing cross-cultural competence in the U.S. Army. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Vallacher, R. (2014, April 2). Who should suffer? Consistency and compensation as competing attractors in justice dilemmas. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Han, S (2014, November 8). In-group favoritism in brain activity to others' suffering: what, why and how. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Graham, J. (2013, March 27). What can political ideology reveal about human morality? Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Erez, M. (2013, April 22). Global and local Identities: Implications for leadership, reward allocation, emotion display norms and creativity. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Traum, D. (2013, May 23). Cultural Models for Virtual Human Dialogue. Presentation at the MURI Virtual Brownbag Series, University of

Maryland, College Park.

Rand, D (2011, October 5). Punishment, reward, and the evolution of cooperation. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Geller, A. (2012, November 1). Using Computational Social Science for Analytics and Decision Support in Afghanistan. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Stephens, N. (2012, November 7). Social class, choice, and agency. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Khashan, H. (2011, December 19) The decline of Arab authoritarianism and the challenge of popular sovereignty. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Schug, J. (2012, March 2). Culture, friendship, and relational mobility. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Golbeck, J. (2012, April 9). Computing trust in social networks. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Sullivan, D. (2012, May 10). Collectivism and the meaning of suffering. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Bar-Tal, D. (2010, November 18). Culture of conflict: Development and consequences. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Cioffi-Revilla, C. (2010, December 9). Agent-based models of conflict with radicalization. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Ginges, J. (2011, May 19). Moral barriers to cooperative outcomes in inter-cultural interactions. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Hong, Y.-Y. (2011, March 9). Cultural neuroscience: Examples and reflections. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Paluck, E. (2010, October 14). Deference, dissent, and dispute resolution: An experimental intervention using mass media to change norms and behavior in Rwanda. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Salazar, M., Salas, E., Burke, S. & Feitosa, J. (2011, April 20). The effect of cultural diversity on team processes and performance. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Benoit, T. S. (2010, February 16). High risk ethnography. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Lewis, M. (2010, January 12). Modeling observer attributions. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Gratch, J. (2009, October 22). Emotions in human-agent interactions. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Artstein, R. (2009, April 23). Affecting the perception of personality and culture in virtual humans. Paper presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Kraus, S., & Gal, K. (2009, March 31). Automated agents for human-computer decision-making. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Moaddel, M. (2009, February 12). Religious regimes, liberal values, political violence, and the donkey in the mud: Findings from values surveys. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Nowak, A., & Bui-Wrzosinska, L. (2008, November 26). Identifying trajectories in conflict escalation: Presenting a research paradigm for the study of conflict reaction patterns over time. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Bohnet, I., & Al-Issis, M. (2008, October 23). Vulnerability and trust: Experimental evidence from Jordan. Presented at the MURI Virtual

Brownbag Series, University of Maryland, College Park.

## WORKSHOPS AND CONFERENCES HOSTED

Goldman, B., Gelfand, M. J., & Shapiro, D. (2013, February). Toward a multi-level perspective in negotiation and conflict research in organizations, Conference hosted by University of Arizona.

Bowles, H., Gelfand, M. J., & Al-Dabbagh (2012, June). Culture, identity, and change in the Middle East: Implications for Conflict and Negotiation, Conference hosted at the John F. Kennedy School of Government, Harvard University (with a keynote address from the Nobel Peace Laureate Tawakel Karman).

Gelfand, M. J., & Lun, J. (2011, June). Qualitative and quantitative methods in cross-cultural research. Workshop presented at the International Association for Cross-Cultural Psychology.

Bohnet, I. (2010, April). Negotiating for leadership: An executive program for women in senior positions. Workshop presented at the Dubai School of Government, UAE.

Hanges, P. J. (2010, January). Neural Network and Adaptive Systems. Workshop presented to the Police Psychological Services Division, Singapore.

Moaddel, M. & Gelfand, M. J. (2010, May). Theoretical and Methodological Issues in the Study of Values in Islamic Countries. Workshop conducted in Cairo, Egypt.

Bohnet, I. (2009, January). Negotiation and leadership for Middle Eastern women leaders. Executive program at the Dubai School of Government, Dubai, UAE.

Hanges, P. (2009, May). Nonlinear dynamic models: Neural network and agent based analysis. Workshop delivered to the Center for Advancement in Research Methods and Analysis, Virginia Commonwealth University, Richmond, VA.

Sycara, K. P., Gelfand, M. J., & Abbe, A. (2009, July). Modeling intercultural collaborations and negotiation (MICON). Workshop conducted in conjunction with the 21st International Joint Conference on Artificial Intelligence, Pasadena, CA.

### Panel Activities:

Gelfand, M. J. (April, 2013). Panelist, Digital frontier: The future of culture and virtuality research, W. Kramer & N. Savage (Chairs), Society for Industrial and Organizational Psychology, Houston Texas.

Fehr, R. (2012, August). Restorative justice: Integrating multidisciplinary perspectives on research and practice. Professional development workshop panelist. Academy of Management Conference, Boston.

Gelfand, M. J. (2012, June). Values and value change. Panel chaired at the conference on Conference on Culture, identity, and change in the Middle East: Implications for conflict and negotiation, organized by H. Bowles, Michele Gelfand, & May Al-Dabbagh, Harvard University.

Kraus, S. (2012, March). Fundamental challenges of applying game theory for security, sustainability and health. Panelist at the AAI Spring Symposium on Game Theory for Security, Sustainability and Health.

Salmon, E. D. (2012, April). Panelist. Errors in organizations. Panel at the Annual Meeting of the Society for Industrial and Organizational Psychology, San Diego, CA.

Burke, C. S. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), Interdisciplinary research: Challenges and solutions. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Fulmer, C. A. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), Interdisciplinary research: Challenges and solutions. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Gal, K., & Gelfand, M. J. (2010, June). Panelists. In M. J. Gelfand & L. Weingart (Co-Chairs), Combining and social science approaches to negotiation: Opportunities and challenges. Panel conducted at the annual conference of the International Association for Conflict Management, Boston, MA.

Gelfand, M. J. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), Interdisciplinary research: Challenges and solutions. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Nowak, A., & Gelfand, M. J. (2010). Panelists. In M. J. Gelfand & L. Weingart (Co-Chairs), Combining and social science approaches to

negotiation: Opportunities and challenges. Panel conducted at the annual conference of the International Association for Conflict Management, Boston, MA.

Salmon, E. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), Interdisciplinary research: Challenges and solutions. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Severance, L. S. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), Interdisciplinary research: Challenges and solutions. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Gelfand, M. J. (2009, July). Panelist in "Looking ahead: Synergizing computational and social science approaches" in IJCAI workshop on Modeling Intercultural Collaboration and Negotiation (MICON).

Kraus, S. (2009, July). Panelist in "Looking ahead: Synergizing computational and social science approaches" in IJCAI workshop on Modeling Intercultural Collaboration and Negotiation (MICON).

Kruglanski, A. (2009, July). Panelist in "Looking ahead: Synergizing computational and social science approaches" in IJCAI workshop on Modeling Intercultural Collaboration and Negotiation (MICON).

**Number of Presentations:** 240.00

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### **Non Peer-Reviewed Conference Proceeding publications (other than abstracts):**

Received

Paper

07/23/2012 78.00 Sarit Kraus, panelist. Panel: Fundamental Challenges of Applying Game Theory for Security, Sustainability and Health, Fundamental Challenges of Applying Game Theory for Security, Sustainability and Health. 26-MAR-12, . :

**TOTAL: 1**

**Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):**

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**Peer-Reviewed Conference Proceeding publications (other than abstracts):**

<u>Received</u>	<u>Paper</u>
07/20/2012 74.00	Amos Azaria, Zinovi Rabinovich, Sarit Kraus, Claudia V. Goldman, Ya'akov Gal. Strategic Advice Provision in Repeated Human-Agent Interactions, Association for the Advancement of Artificial Intelligence. 26-MAR-12, . . . ,
07/20/2012 76.00	Galit Haim, Ya'akov (Kobi) Gal, Sarit Kraus, Michele Gelfand. A Cultural Sensitive Agent for Human-Computer Negotiation, International Conference on Autonomous Agents and Multiagent Systems. 04-JUN-12, . . . ,
07/20/2012 75.00	Maier Fenster, Inon Zuckerman, Sarit Kraus. Guiding User Choice During Discussion by Silence, Examples and Justifications, European Conference on Artificial Intelligence 2012. 27-AUG-12, . . . ,
07/20/2012 73.00	Amos Azaria, Yonatan Aumann, Sarit Kraus. Automated Strategies for Determining Rewards for HumanWork, Association for the Advancement of Artificial Intelligence. 26-MAR-12, . . . ,
07/25/2012 86.00	N. Peled, Y. Gal, S. Kraus. Learning to Reveal Information in Repeated Human-Computer Negotiation, Human-Agent Interaction Design and Models (HAIDM) workshop. 04-JUN-12, . . . ,
08/08/2012 88.00	Moshe Bitan, Ya'akov (Kobi) Gal, Sarit Kraus, Elad Dokow. Social Rankings in Human-Computer Committees, Human-Agent Interaction Design and Models (HAIDM) workshop. 04-JUN-12, . . . ,
08/09/2012 95.00	Patrick Roos, Paulo Shakarian. FAST AND DETERMINISTIC COMPUTATION OF FIXATION PROBABILITY IN EVOLUTIONARY GRAPHS, Sixth IASTED International Conference on Computational Intelligence and Bioinformatics. 07-NOV-12, . . . ,
08/12/2013 37.00	Amos Azaria, Ariella Richardson, Sarit Kraus. Autonomous Agent for Deception Detection, Conference on Autonomous Agents and Multiagent Systems. 06-MAY-13, . . . ,
08/12/2013 42.00	Noam Hazon, Raz Lin, Sarit Kraus. How to Change a Group's Collective Decision?, Proceedings of International Joint Conferences on Artificial Intelligence. 03-AUG-13, . . . ,
08/12/2013 40.00	Samuel Barrett , Peter Stone, Sarit Kraus, Avi Rosenfeld. Teamwork with Limited Knowledge of Teammates, AAAI CONFERENCE ON ARTIFICIAL INTELLIGENCE. 14-JUL-13, . . . ,
08/12/2013 38.00	Amos Azaria, Ariella Richardson, Avshalom Elmalech, Avi Rosenfeld, Sarit Kraus, David Sarne. On Automated Agents' Rationality, Conference on Autonomous Agents and Multiagent Systems. 06-MAY-13, . . . ,
08/13/2013 43.00	Noam Peled, Ya'akov (Kobi) Gal, Sarit Kraus. An Agent Design for Repeated Negotiation and Information Revelation with People, National Conference on Artificial Intelligence . 14-JUL-13, . . . ,
08/18/2011 70.00	Raz Lin, Sarit Kraus, Noa Agmon, Samuel Barrett, Peter Stone. Comparing Agents' Success against People in Security Domains, Proc of AAAI. . . . ,

- 08/18/2011 72.00 Sarit Kraus, Avi Rosenfeld. Using Aspiration Adaptation Theory to Improve Learning, Proc. of Ninth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), Taipei, Taiwan. , . : ,
- 08/18/2011 71.00 Noam Peled, Ya'akov (Kobi) Gal, Sarit Kraus. A Study of Computational and Human Strategies in Revelation Games, Ninth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), Taipei, Taiwan. , . : ,
- 08/18/2013 48.00 Amos Azaria, Sarit Kraus. Advice Provision in Multiple Prospect Selection Problems, Conference on Autonomous Agents and Multiagent Systems. 06-MAY-13, . : ,
- 08/18/2013 49.00 Moshe Bitan, Ya'akov Gal, Sarit Kraus<sup>L</sup>, Elad Dokow, Amos Azaria. Social Rankings in Human-Computer Committees, Conference on Autonomous Agents and Multiagent Systems. 06-MAY-13, . : ,
- 08/24/2011 90.00 Wendy L. Bedwell, Jessica L. Wildman, Deborah DiazGranados, Marissa Shuffler, Eduardo Salas, C. Shawn Burke. Towards a theoretical framework of intercultural collaboration, Modeling Intercultural Collaboration and Negotiation Workshop. , . : ,
- 08/24/2011 97.00 Yinon Oshrat, Raz Lin, Sarit Kraus. Facing the Challenge of Human-Agent Negotiations via Effective General Opponent Modeling, the 8th international conference on Autonomous Agents and Multiagent Systems, 337-384. , . : ,
- 08/24/2011 96.00 Raz Lin, Yinon Oshrat, Sarit Kraus. Investigating the Benefits of Automated Negotiations in Enhancing People's Negotiation Skills, the 8th international conference on Autonomous Agents and Multiagent Systems, 345-352. , . : ,
- 08/24/2011 95.00 Peter Stone, Sarit Kraus. To Teach or not to Teach? Decision Making Under Uncertainty in Ad Hoc Teams, 9th International Conference on Autonomous Agents and Multi-agent Systems. , . : ,
- 08/24/2011 94.00 Raz Lin, Sarit Kraus. Designing Automated Agents Capable of Efficiently Negotiating with People - Overcoming the Challenge, 7th European Workshop on Multi-Agent Systems. , . : ,
- 08/24/2011 92.00 Sarit Kraus, Raz Lin, Yinon Oshrat. Facilitating the Evaluation of Automated Negotiators Using Peer Designed Agents, Proceedings of the 24th Advancement of Artificial Intelligence Conference. , . : ,
- 08/24/2011 93.00 Raz Lin, Yinon Oshrat, Sarit Kraus. Automated Agents that Proficiently Negotiate with People: Can We Keep People out of the Evaluation Loop?, ? Proceedings of the 3rd International Workshop on Agent-Based Complex Automated Negotiations. , . : ,
- 08/24/2011 91.00 G. Haim, Y. Gal, S. Kraus, Y. Blumberg. Learning Human Negotiation Behavior Across Cultures, 11th Annual Conference of Group Decision and Negotiation. , . : ,
- 08/25/2011 98.00 Raz Lin, Sarit Kraus, Dmytro Tykhonov, Koen Hindriks, Catholijn M. Jonker. Supporting the Design of General Automated Negotiators, Proceeding of ACAN2009: The 2nd International Workshop on Agent-based Complex Automated Negotiations, 32-39. , . : ,
- 08/25/2011 00.00 Tammar Shrot, Yonatan Aumann, Sarit Kraus<sup>†</sup>, ◀. On Agent Types in Coalition Formation Problems, . Proceedings of the 9th International Conference on Autonomous Agents and Multi-agent Systems. , . : ,
- 08/25/2011 99.00 Peter Stone, Gal A. Kaminka, Sarit Kraus, Jeffrey S. Rosenschein. Ad Hoc Autonomous Agent Teams: Collaboration without Pre-Coordination, Proceedings of the 24th Advancement of Artificial Intelligence Conference. , . : ,

- 08/28/2009 9.00 C. Ashley Fulmer, Michele J. Gelfand. Are all trust violations the same? A dynamical examination of culture, trust dissolution, and trust recovery, . . . ,
- 08/28/2009 10.00 Lan Bui-Wrzosinska, Michele Gelfand, Andrzej Nowak, Laura Severance, Urszula Strawinska, Magda Formanowicz, Aleksandra Cichocka. A dynamical tool to study the cultural context of conflict escalation, . . . ,
- 10/10/2014 84.00 Samuel Barrett, Noa Agmon, Noam Hazon, Sarit Kraus, Peter Stone. Communicating with Unknown Teammates, international conference on Autonomous agents and multi-agent systems. 01-MAY-14, . . . ,
- 10/10/2014 85.00 Liat Sless, Noam Hazon, Michael Woodridge, Sarit Kraus. Forming Coalitions and Facilitating Relationships for Completing Tasks in Social Networks, International Conference on Autonomous Agents and Multiagent Systems. 05-MAY-14, . . . ,

**TOTAL: 32**

**Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):**

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**(d) Manuscripts**

<u>Received</u>	<u>Paper</u>
02/04/2009 3.00	Raz Lin, Sarit Kraus. Automated Negotiations, ( )
02/04/2009 5.00	Yinon Oshrat, Raz Lin, Sarit Kraus. Facing the Challenge of Human Agent Negotiations via Effective General Opponent Modeling, ( )
02/04/2009 4.00	Raz Lin, Yinon Oshrat, Sarit Kraus. Investigating the Benefits of Automated Negotiations in Enhancing Negotiation Skills of People, ( )
07/09/2012 42.00	Gary LaFree, Susan Fahey, Emily Feinberg, Michele J. Gelfand. Cultural Factors in Extremism, Journal of Social Issues ( )
07/10/2012 58.00	Ryan Fehr, Michelle Zheng, Kenneth Tai, Jayanth Narayanan, Michele Gelfand. Forgiveness Empowers Victims After Conflict, Journal of Personality and Social Psychology (02 2012)
07/13/2012 62.00	Michele Gelfand, Dana Nav, Inon Zuckerman, Patrick Roos, Janetta Lun. Societal Threat and the Evolution of Punishment Differences across Cultural Groups, Journal for Artificial Societies and Social Simulation (JASSS) (07 2012)
07/19/2012 66.00	Wendy L. Bedwell, Jessica L. Wildman, Barbara A. Fritzsche, Michael A. Rosen, Eduardo Salas. Harmonizing the Global Team: Effective & Adaptive Multicultural Teams, Under preparation (06 2012)
07/19/2012 69.00	Coultas, C., Bedwell, W., Burke, C. S., Salas, E. Scalpels, not hacksaws: Leadership as diagnosing and treating motivational ailments, Under review at Leadership Quarterly (05 2012)
07/23/2012 84.00	Regina Kim, Peter T. Coleman. Dialectics of Culture and Conflict:A Dynamical Reconceptualization and Measure of Individualism and Collectivism, Under preparation (07 2012)
07/26/2012 87.00	Jessica L. Wildman, Maritza R. Salazar, Rubina Qureshi, Nathan T. Carter, Eduardo Salas. The Impact of Fatalism on Trust and Distrust in a Collaborative Work Context, Under preparation (08 2012)
07/30/2012 91.00	Ryan Carr <sup>†</sup> , Eric Raboin <sup>†</sup> , Austin Parker <sup>†</sup> , Dana Nau. Theoretical and Experimental Analysis of an Evolutionary Social-Learning Game, Autonomous Agents and Multi-Agent Systems (05 2012)
08/03/2012 93.00	Janetta Lun, Michele Gelfand, C. Bayan Bruss, May Al-Dabbagh, Zeynep Aycan, Munqith Dagher, Hamid Latif, Hilal Khashan, Nazar Soomro, Laura Severance, Ashley Fulmer, Elizabeth Salmon, Sarah Lyons. CHAPTER TITLE: Qualitative Analysis of Subjective Culture in the Middle East: Strategies, Processes and Challenges, Under Review (07 2012)
08/03/2012 94.00	Janetta Lun, Tiane Lee . Individualism and collectivism, Wiley Encyclopedia of Management 3rd Edition (07 2012)



- 08/04/2011 27.00 Michele Gelfand, Ann Marie Ryan. Going Global: Internationalizing the Organizational Psychology Curriculum,  
Internationalizing the psychology curriculum in the United States: Meeting the challenges of globalization. (01 2011)
- 08/04/2011 34.00 Michele J. Gelfand, Laura Severance, C. Ashley Fulmer, May Al Dabbagh. Explaining and Predicting Cultural Differences in Negotiation,  
Book: "Handbook of negotiation: Experimental economic perspectives" (08 2011)
- 08/04/2011 33.00 Michele J. Gelfand, Ya'akov (Kobi) Gal. Negotiating in a Brave New World: Challenges and Opportunities for the Field of Negotiation Science,  
Book: "The psychology of negotiations in the 21st Century workplace" (08 2011)
- 08/04/2011 31.00 Maritza R. Salazar, Marissa L. Shuffler , Wendy L. Bedwell , Eduardo Salas. Toward A Contextualized Cultural Framework,  
Book: "Models for intercultural collaboration and negotiation" (08 2011)
- 08/04/2011 30.00 Wouter E. de Raad, Andrzej Nowak, Wojciech Borkowski. Modeling Dynamics of Multicultural Integration and Conflict,  
Book: "Models for intercultural collaboration and negotiation" (08 2011)
- 08/04/2011 29.00 C. A. Fulmer, M. J. Gelfand. How Do I Trust Thee? Dynamic Trust Patterns and Their Individual and Social Contextual Determinants,  
Book: "Models for intercultural collaboration and negotiation" (08 2011)
- 08/04/2011 28.00 Lan Bui-Wrzosinska , Michele Gelfand, Andrzej Nowak , Laura Severance. Studying Trajectories of Conflict Escalation,  
Book: "Models for intercultural collaboration and negotiation." (08 2011)
- 08/05/2011 35.00 Wojciech Borkowski, Andrzej Nowak, Wouter de Raad. Culture Change: The Perspective of Dynamical Minimalism,  
Advances in Culture and Psychology: Volume 2 (08 2011)
- 08/05/2011 44.00 Lisa M. Leslie , Michele J. Gelfand. The Cultural Psychology of Social Influence: Implications for Organizational Politics,  
To appear in G. R. Ferris & D. C. Treadway (Eds.), Politics in organizations: Theory and research considerations. New York: Taylor and Francis Publishing. (SIOP Frontier Series). (08 2011)
- 08/05/2011 42.00 L. A. Liu, R. Friedman, B. Barry , M. J. Gelfand, Y. Zhang. How to Build Consensus in Negotiation? A Dynamic Theory of Mental Models within and across Cultures,  
Administrative Science Quarterly (08 2011)
- 08/05/2011 37.00 Michele J. Gelfand, Janetta Lun, Sarah Lyons, Garry Shteynberg. Descriptive Norms as Carriers of Culture in Negotiation ,  
Journal of International Negotiation (08 2011)
- 08/05/2011 41.00 Michele J. Gelfand, Jeanne M. Brett, Lynn Imai, Hwa-Hwa Tsai, Daphne Huang. When and Where Are Two Heads Better than One? Teams and Solos Negotiating Deals and Disputes in the U.S. and Taiwan,  
Journal of Applied Psychology (08 2011)
- 08/05/2011 40.00 Ryan Fehr, Michele J. Gelfand. The Forgiving Organization: A Multilevel Model of Forgiveness at Work,  
Academy of Management Review (08 2011)
- 08/05/2011 38.00 Zeynep Aycan , Michele J. Gelfand. Cross-cultural organizational psychology,  
Oxford industrial and organizational psychology handbook (08 2011)
- 08/05/2011 36.00 Munqith Dagher, Nazar Soomro, Hilal Khashan, Michele Gelfand, Garry Shteynberg, Tiane Lee, Janetta Lun, Chris Bell, Sarah Lyons, Joan Y. Chiao, C. Bayan Bruss, May Al Dabbagh, Zeynep Aycan, Abdel-Hamid Abdel-Latif. The Cultural Transmission of Intergroup Conflict,  
Philosophical Transactions of the Royal Society(London) (08 2011)

- 08/06/2011 46.00 Raz Lin, Yehoshua Gev, Sarit Kraus. Facilitating Better Negotiation Solutions using AniMed, [objeProceedings of the Fourth International Workshop on Agent-based Complex Automated Negotiationsct Object] (05 2011)
- 08/09/2013 15.00 Christine T. Chung, Peter T. Coleman, Michele Gelfand. Conflict, Culture, and Complexity:The Effects of Simple versus Complex Rules in Negotiation, IN PREP (08 2013)
- 08/09/2013 17.00 Regina Kim, Peter T. Coleman, Christine T. Chung, Katharina G. Kugler. Are Cooperation and Adaption in Conflict Worth the Effort?A Comparison of U.S. and Korean Conflict Tendencies at Work, IN PREP (08 2013)
- 08/09/2013 16.00 Regina Kim, Peter T. Coleman. Dialectics of Culture and Conflict: The Combined effect of Individualism – Collectivism on Conflict Styles, IN PREP (08 2013)
- 08/12/2013 22.00 Michele Gelfand, Dana Nau, Inon Zuckerman , Janetta Lun, Patrick Roos. Societal Threat and the Evolution of Punishment of Norm Violators Across Cultural Groups, Organizational Behavior and Human Decision Processes (07 2013)
- 08/12/2013 33.00 Eduardo Salas, Maritza R. Salazar, Jennifer Feitosa , William S. Kramer. Collaboration and Conflict in Work Teams, IN PREP (06 2013)
- 08/12/2013 23.00 Patrick Roos<sup>L</sup> , Michele Gelfand, Dana Nau , Ryan Carr. High Strength-of-Ties and Low Mobility Enable theEvolution of Third-Party Punishment, Proceedings of the Royal Society B (06 2013)
- 08/13/2012 96.00 Tiane Lee , Michele J. Gelfand. Culture, Group Entitativity, and the Contagion of Conflict , Under preparation (08 2012)
- 08/13/2012 99.00 Laura Severance, Lan Bui-Wrzosinska, Michele J. Gelfand, Sarah Lyons, Andrzej Nowak, Wojciech Borkowski, Nazar Soomro, Anat Rafaeli, Dorit Efrat Treister, Chunchi Lin, Susumu Yamaguchi. The Psychological Structure of Aggression Across Cultures, Under preparation (08 2012)
- 08/13/2012 97.00 Michele J. Gelfand , Jesse Harrington, Lisa M. Leslie. CONFLICT CULTURES:A NEW FRONTIER FOR CONFLICT MANAGEMENT RESEARCH AND PRACTICE, Handbook of Conflict Management (08 2012)
- 08/14/2012 00.00 Elizabeth D. Salmon, Michele J. Gelfand, Ay?e Betül Çelik, Sarit Kraus, Jonathan Wilkenfeld, Molly Inman. Cultural Contingencies of Mediation:Effectiveness of Mediator Styles in Intercultural Disputes, Under review at Journal of Organizational Behavior (06 2012)
- 08/17/2011 55.00 Marissa L. Shuffler, C. Shawn Burke, William S. Kramer, Eduardo Salas. CHAPTER TITLE: Leading Teams: Past, Present, and Future Perspectives BOOK TITLE: Oxford Handbook of Leadership, In M. Rumsey (Ed.), Under Review, Oxford Handbook of Leadership (08 2011)
- 08/17/2011 63.00 Peter T. Coleman, Michele Gelfand, Christine T. Chung. Conflict, Culture, and Complexity: The Effects of Simple versus Complex Rules in Negotiation, Manuscript in preparation for submission to a journal (08 2011)
- 08/17/2011 52.00 A. L. Thayer, C.W. Coultas, J. L. Wildman, E. H. Lazzara, M. R. Salazar, E. Salas . Untangling the Nomological Net: A Review and Theoretical Framework of Trust and Organizational Justice, Journal of Management (08 2011)
- 08/17/2011 50.00 Wendy L. Bedwell, Jessica L. Wildman, Deborah DiazGranados, Maritza Salazar, William S. Kramer, Eduardo Salas. Collaboration at Work: An Integrative Multilevel Conceptualization, Human Resource Management Review (05 2011)
- 08/17/2011 47.00 Mohamad Al-Ississ, Iris Bohnet. Does Insurance Increase Trust? Experimental Evidence on Institutional Design in Jordan and the United States, Journal of Public Economics (01 2011)

- 08/18/2011 64.00 Regina Kim, Peter T. Coleman, Christine T. Chung, Katharina G. Kugler. Are Cooperation and Adaption in Conflict Worth the Effort? A Comparison of U.S. and Korean Conflict Tendencies at Work, Currently in preparation. Has not be submitted yet. (08 2011)
- 08/18/2011 77.00 Yoshihisa Kashima, Michele J. Gelfand. CHAPTER TITLE: A history of culture in psychology BOOK TITLE: InW. Stroebe & A. Kruglanski (Eds.), History of social psychology. , (03 2012)
- 08/18/2011 75.00 Michele J. Gelfand. The Trials and Tribulations of Cross-Cultural Research, In F. Leong & A. Ryan (Eds.), Conducting multinational research projects in organizational psychology: Challenges and opportunities. (08 2011)
- 08/18/2011 68.00 Raz Lin, Yehoshua Gev, Sarit Kraus. Bridging the Gap: Face-to-Face Negotiations with Automated Mediator, IN PRESS IEEE intelligent systems. Special issue on Social and Economic Computing. (11 2011)
- 08/18/2011 65.00 Sarit Kraus, Michal Chalamish. AutoMed - An Automated Mediator for Multi-Issue Bilateral Negotiations, IN PRESS Journal of Autonomous Agents and Multi-Agent System (12 2010)
- 08/20/2010 17.00 I. Zuckerman, S. Kraus, J. S. Rosenschein. Using focal points learning to improve human-machine tactic coordination, (04 2010)
- 08/20/2011 80.00 M. Salazar, W. Kramer, S. Burke. Making Sense of the Sensemaking Construct: A Review of the Last 27 Years, Under Review with the Journal of Management (08 2011)
- 08/20/2011 82.00 J. M. Spencer, J. Feitosa, M. Salazar, E. Salas. The Role of Culture in Team Creativity: A Review of Current Research., Under Review with Journal of Management (08 2011)
- 08/20/2011 81.00 M. Salazar, J. Spencer, E. Salas . Employee voice: Going beyond the Western perspective, Revised and resubmitted to Groups and Organizational Management (02 2011)
- 08/21/2012 02.00 Molly Inman, Roudabeh Kishi, Jonathan Wilkenfeld, Michele Gelfand, Elizabeth Salmon. Cultural Difference in InternationalCrisisMediation, Manuscript under revision for Journal of Conflict Resolution (07 2012)
- 08/21/2012 01.00 Michele J. Gelfand. Culture's Constraints: International Differences in the Strength of Social Norms, Under review at Current Directions n Psychological Science (07 2012)
- 08/22/2011 83.00 Paul J. Hanges, Mo Wang. Seeking the Holy Grail in Organizational Science: Uncovering Causality through Research Design, The Oxford handbook of organizational psychology. New York: Oxford University Press. (08 2011)
- 08/22/2011 87.00 Editors:, E. Salas, M. J. Gelfand. Collaboration and Negotiation in Multi-Cultural Environments , Journal of Organizational Behavior (05 2012)
- 08/22/2011 85.00 Editors:, K. Sycara, M. J. Gelfand, A. Abbe. Models for Intercultural Collaboration and Negotiation, (05 2012)
- 08/24/2010 20.00 C. Ashley Fulmer, Michele J. Gelfand, Arie W. Kruglanski, Chu Kim-Prieto, Ed Diener, Antonio Pierro, E. Tory Higgins. On Feeling Right" in Cultural Contexts: How Person-Culture Match Affects Self-Esteem and Subjective Well-Being , (08 2010)
- 08/24/2012 04.00 Chris W. Coultas, Maritza Salazar, C. Shawn Burke , Eduardo Salas. Unintentionally unethical: How uncivil leaders violate norms and hurt group performance, Under review with Organizational Behavior and Human Decision-Making Processes (07 2012)

- 08/24/2012 05.00 Edward Orehek, Jo A. Sasota, Arie W. Kruglanski, Leianna Ridgeway, Mark Dechesne. Interdependent Self-Construals Mitigate the Fear of Death, Augment the Willingness to become a Martyr, and Increase the Readiness for Altruistic Suicide,  
Under review at the Journal of Personality and Social Psychology (07 2012)
- 08/25/2011 02.00 Elizabeth Salmon , Michele J. Gelfand. Community disputing: An intercultural case,  
This is a case study. (08 2011)
- 08/26/2009 7.00 Iris Bohnet, Benedikt Herrmann, Richard Zeckhauser. Trust and the Reference Points for Trustworthiness in Gulf and Western Countries,  
Quarterly Journal of Economics ( 2009)
- 08/26/2011 03.00 Garry Shteynberg, Michele J. Gelfand, Lynn Imai, David M. Mayer, Chris Bell. When others' injustices matters: The role of collectivism and epistemic needs.,  
Manuscript in preparation for submission to a journal (08 2011)
- 08/28/2009 11.00 Lynn Imai, Michele J. Gelfand. The Culturally Intelligent Negotiator: The Impact of Cultural Intelligence (CQ) on Negotiation Sequences and Outcomes  
,  
Organizational Behavior and Human Decision Processes ( )
- 08/28/2011 04.00 Hsueh Ting, Michele J. Gelfand, Lisa M. Leslie, Brian C. Gunia , C. Ashley. Fulmer, Adam D. Galinsky. Culture and Escalation of Commitment,  
Manuscript in preparation (08 2011)
- 08/28/2011 05.00 Michele J. Gelfand, Sarah L. Lyons, Janetta Lun. Toward a Psychological Science of Globalization ,  
Invited paper, Journal of Social Issues. Manuscript in preparation. (08 2011)
- 08/30/2011 32.00 Michele J. Gelfand , C. Ashley Fulmer, Arie W. Kruglanski. The Unintended Consequences of Leaving It to Fate: Predestination Beliefs, Risky Health Behaviors, and Mortality,  
Manuscript in preparation (08 2011)
- 09/03/2009 12.00 Y. Oshrat, R. Lin, S. Kraus. Facing the Challenge of Human-Agent Negotiations via Effective General Opponent Modeling,  
( )
- 09/04/2009 13.00 R. Lin, Y. Oshrat, S. Kraus. Investigating the Benefits of Automated Negotiations in Enhancing People's Negotiation Skills,  
( )
- 09/04/2009 14.00 R. Lin, S. Kraus, D. Tykhonov, K. Hindriks, C. Jonker. Supporting the Design of General Automated Negotiators,  
( )
- 10/08/2014 72.00 Tiane Lee, Michele Gelfand, Yoshihisa Kashima. The serial reproduction of conflict: Third parties escalate conflict through communication biases,  
Journal of Experimental Social Psychology (04 2014)
- 10/08/2014 75.00 Molly Inman, Roudabeh Kishi, Jonathan Wilkenfeld, Michele Gelfand, Elizabeth Salmon. Cultural Influences on Mediation in International Crises,  
Journal of Conflict Resolution (03 2013)
- 10/08/2014 74.00 Patrick Roos, Michele Gelfand, Dana Nau, Ryan Carr. High strength-of-ties and low mobility enable evolution of third-party punishment,  
Proceedings of the Royal Society B (10 2013)
- 10/08/2014 73.00 Jesse Harrington, Michele Gelfand. Tightness-looseness across the 50 states,  
Proceedings of the National Academy of Sciences (09 2013)
- 10/09/2014 77.00 Ashley Fulmer, Michele Gelfand. Trust after violations: Are collectivists more or less forgiving,  
Under Review (second round after minor revision) (09 2014)

- 10/10/2014 93.00 Jessica Wildman, Stephen Fiore, Eduardo Salas. Are trust and distrust same-same- but different? Scale validation and theoretical explanation, Under Review (08 2014)
- 10/10/2014 90.00 Christopher Wiese, Marissa Shuffler, Shawn Burke, Eduardo Salas. leadership in multicultural teams: a review and multilevel framework, Under Review (07 2014)
- 10/10/2014 91.00 William Kramer, Marissa Shuffler, Christopher Wiese. Multicultural teamwork: creating challenges or opportunities?, Under Review (07 2014)
- 10/10/2014 92.00 Christopher Wiese, William Kramer, Marissa Shuffler. An Inconvenient Truth: The Challenges of Culture Change in Multicultural Teams, Under Review (06 2014)
- 10/10/2014 80.00 Peter Stone, Gal Kaminka, Sarit Kraus, Jeffrey Rosenschein, Noa Agmon. Teaching and leading an ad hoc teammate: , Artificial Intelligence (08 2013)
- 10/10/2014 79.00 Avi Rosenfield, Inon Zuckerman, Osnat Erel Segal-Halevi. Negochat: A chat-based negotiation agent, Proceedings of the 2014 international conference on Autonomous agents and multi-agent systems (05 2014)
- 10/10/2014 81.00 Rina Azoulay, Ron Katz, Sarit Kraus. Efficient bidding strategies for cliff-edge problems, Autonomous Agents and Multi-Agent Systems (04 2013)
- 10/10/2014 83.00 Galit Haim, Ya'akov Gal, Sarit Kraus, Bo An. Human-computer negotiation in three-player market settings, Under Review (06 2014)
- 10/10/2014 86.00 Noam Peled, Ya'akov Gal, Sarit Kraus. A study of computational and human strategies in revelation games, Autonomous Agents and Multi-Agent Systems (02 2014)
- 10/10/2014 87.00 Jennifer Feitosa, Christine Kreutzer, Angela Kramperth, William Kramer, Eduardo Salas. Expatriate adjustment: considerations for selection and training, Journal of Global Mobility (07 2014)

**TOTAL: 86**

**Number of Manuscripts:**

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**Books**

<u>Received</u>	<u>Book</u>
06/13/2012 33.00	Michele J. Gelfand, Laura Severance , C. Ashley Fulmer, May Al Dabbagh . CHAPTER TITLE: Explaining and Predicting Cultural Differences in Negotiation, Book: "Handbook of negotiation: Experimental economic perspectives" , New York, New York: Oxford University Press, (04 2012)
06/13/2012 35.00	Yoshihisa Kashima, Michele J. Gelfand. CHAPTER TITLE: A History of Culture in Psychology BOOKTITLE: History of Social Psychology, Florence, KY: Psychology Press, Taylor and Fisk, (11 2011)
06/13/2012 36.00	Lisa M. Leslie, Michele J. Gelfand. CHAPTER TITLE: The Cultural Psychology of Social Influence: Implications for Organizational Politics BOOK TITLE: Politics in organizations, New York, New York: Taylor and Francis Publishing, (02 2012)
06/13/2012 38.00	Harry C. Triandis, Michele J. Gelfand. A Theory of Individualism and Collectivism, London, England: Sage Publications , (02 2012)
06/13/2012 34.00	Zeynep Aycan, Michele J Gelfand . CHAPTER TITLE: Cross-Cultural Organizational Psychology BOOK: Oxford Industrial and Organizational Psychology Handbook, New York: New York: Oxford University Press, (04 2012)
06/19/2012 47.00	Michele J. Gelfand. CHAPTER TITLE: The Trials and Tribulations of Cross-Cultural Research BOOK TITLE: Conducting multinational research projects in organizational psychology: Challenges and Opportunities, Washington. D.C. : American Psychological Association, (04 2012)
06/27/2012 44.00	C. Ashley Fulmer, Michele J. Gelfand. CHAPTER TITLE: How do I Trust Thee? Dynamic Trust Patternsand their Individual and Social Contextual Determinants BOOK TITLE: Models for intercultural collaboration and negotiation, New York, New York: Springer, (11 2012)
07/09/2012 48.00	Anne Marie Ryan, Michele Gelfand. CHAPTER TITLE: Going Global: Internationalizing the Organizational Psychology Curriculum BOOK TITLE: Internationalizing the Psychology Curriculum in the United States, New York: Springer, (04 2012)
07/09/2012 54.00	Michele J. Gelfand, Ya'akov (Kobi) Gal. CHAPTER TITLE: Negotiating in a Brave New World: Challenges and Opportunities for the Field of Negotiation Science BOOK TITLE: The psychology of negotiations in the21st Century workplace. (a volume in the SIOP Organizational Frontier series), New York, New York: Psychology Press/Routledge, , (11 2012)
07/09/2012 52.00	P. J. Hanges, Mo Wang. CHAPTER TITLE: Seeking the Holy Grail in Organizational Science: Uncovering Causality through Research Design Book Title: The Oxford Handbook ofOrganizational Psychology, New York, New York: Oxford University Press, (05 2012)
07/19/2012 67.00	Eduardo Salas, Maritza R. Salazar, Michele J. Gelfand. CHAPTER TITLE: Understanding Diversity as Culture, Manuscript in preparation: Oxford University Press, (08 2012)
07/19/2012 68.00	Marissa L. Shuffer, C. Shawn Burke, William S. Kramer, Eduardo Salas. CHAPTER TITLE: Leading Teams: Past, Present, and Future Perspectives BOOK TITLE: Oxford Handbook of Leadership, New York: Oxford University Press, (05 2012)
07/20/2012 72.00	Raz Lin, Yinon Oshrat, Sarit Kraus. CHAPTER TITLE: Automated Agents that Proficiently Negotiatewith People: Can We Keep People out of theEvaluation Loop BOOK TITLE: New Trends in Agent-Based Complex Automated NegotiationsNew Trends in Agent-Based Complex Automated Negotiations, Berlin: Springer-Verlag, (05 2012)

- 07/31/2013 13.00 Michele Gelfand, Jesse Harrington, Lisa Leslie. Chapter Title: CONFLICT CULTURES:A NEW FRONTIER FOR CONFLICT MANAGEMENT RESEARCH AND PRACTICE Book Title: Handbook of Conflict Management, United Kingdom: Edward Edgar Publishing, (06 2013)
- 08/12/2013 18.00 Tiane L. Lee, Michele J. Gelfand, Garry Shteynberg. CHAPTER TITLE: Culture and the Contagion of Conflict BOOK TITLE: Culture and Group Processes, United States of America: Oxford University Press, (12 2013)
- 08/12/2013 34.00 Alicia M. Phebus, Beth Gitlin, Marissa L. Shuffler, Jessica L. Wildman. CHAPTER TITLE: Leading Global Virtual Teams: The Supporting Role of Trust and Team Cognition BOOK TITLE: Collaborative communication and decision making in organizations, Hershey, PA: IGI Global, (07 2013)
- 08/12/2013 30.00 Eduardo Salas, Maritza R. Salazar , Michele J. Gelfand. CHAPTER TITLE: Understanding Diversity as Culture BOOK TITLE: The Oxford Handbook of Leadership, New York: Oxford University Press, (06 2013)
- 08/12/2013 29.00 Marissa L. Shuffler, C. Shawn Burke, William S. Kramer, Eduardo Salas. CHAPTER TITLE: Leading Teams: Past, Present, and Future Perspectives BOOK TITLE: , New York: Oxford University Press, (07 2013)
- 08/12/2013 27.00 Lan Bui-Wrzosinska, Michele Gelfand, Andrzej Nowak, Laura Severance. CHAPTER TITLE: Studying Trajectories of Conflict Escalation BOOK TITLE: Models for Intercultural Collaboration and Negotiation, New York: Springer Press, (06 2013)
- 08/12/2013 26.00 Wouter E. de Raad, Andrzej Nowak, Wojciech Borkowski. CHAPTER TITLE: Modeling Dynamics of Multicultural Integration and Conflict BOOK TITLE: Advances in Group Decision and Negotiation , New York: Springer Press, (06 2013)
- 08/12/2013 25.00 Maritza R. Salazar, Marissa L. Shuffler, Wendy L. Bedwell, Eduardo Salas. CHAPTER TITLE: Toward a Contextualized Cultural Framework BOOK TITLE: Advances in Group Decision and Negotiation, New York: Springer Press, (06 2013)
- 08/13/2012 98.00 Michele J. Gelfand, Michael Frese, Elizabeth Salmon. Cultural Influences on Errors: Prevention, Detection, and Management, New York: Routledge, (06 2011)
- 08/17/2011 56.00 C. Shawn Burke, Deborah DiazGranados, Eduardo Salas. Team Leadership: A Review and Look Ahead, United Kingdom: Sage Publications Ltd, (03 2011)
- 08/17/2011 57.00 M. L. Shuffler, E. Salas, M. J. Gelfand, C. S. Burke . CHAPTER TITLE: Multicultural Teams: Critical Team Processes and Guidelines BOOK TITLE: Going Global: Practical Applications and Recommendations for HR and OD Professionals in the Global Workplace , New York: Routledge Academic, (10 2010)
- 08/17/2011 51.00 Jessica L. Wildman, Luiz F. Xavier, Mitch Tindall, Eduardo Salas. CHAPTER TITLE: Best Practices for Training Intercultural Competence in Global Organizations BOOK NAME: Going Global: Practical Applications and Recommendations for HR and OD Professions in the Global Workplace. , New York: Routledge Academic, (01 2011)
- 08/18/2011 76.00 . CHAPTER TITLE: Negotiation and mediation. BOOK TITLE: In S. Zedeck (Ed.), Handbook of industrial and organizational psychology. , Washington D.C. : American Psychological Association, (01 2011)
- 08/21/2013 65.00 C. Ashley Fulmer, Brandon Crosby, Michele J. Gelfand. CHAPTER TITLE: Cross-Cultural Perspectives and Time BOOK TITLE: Time and work: How time impacts groups, organizations, and methodological choices, East Sussex, UK: Psychology Press, (08 2013)
- 08/28/2009 8.00 Lynn Imai, Michele J. Gelfand. Interdisciplinary perspectives on culture, conflict, negotiation, : Cambridge University Press, ( 2009)
- 08/30/2011 28.00 Wouter de Raad, Wojciech Borkowski, Andrzej Nowak. CHAPTER TITLE: Culture Change: The Perspective of Dynamical Minimalism BOOK TITLE: Advances in Culture and Psychology: Volume 2, New York: Oxford University Press, (05 2012)
- 10/10/2014 89.00 Eduardo Salas, Maritza Salazar, Jennifer Feitosa, William Kramer. Collaboration and Conflict in Work Teams, New York, NY: Oxford Handbook of Organizational Climate and Culture, (06 2014)

**TOTAL: 30**

Received      Book Chapter

10/08/2014 76.00 Michele Gelfand, Jesse Harrington, Lisa Leslie. Conflict cultures: a new frontier for conflict management research and practice, Northampton: Edward Elgar, (07 2014)

10/09/2014 78.00 Ashley Fulmer, Brandon Crosby, Michele Gelfand. Time and Culture, New York: Psychology Press, (02 2014)

10/10/2014 82.00 Yaakov Gal, Avi Rosenfeld, Sarit Kraus, Michele Gelfand, Bo An, Jun Lin. A new paradigm for the study of corruption in different cultures, Berlin, Germany: Springer International, (03 2011)

10/10/2014 88.00 Stephanie Miloslavic, Jessica Wildman, Amanda L. Thayer. Structuring Successful Global Virtual Teams, New York: Springer Science, New York Business Media, (01 2015)

**TOTAL: 4**

**Patents Submitted**

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**Patents Awarded**

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## Awards

Kraus, S. (2014). IFAAMAS Influential Paper Award, 2014, for Onn Shehory and Sarit Kraus. Methods for task allocation via agent coalition formation. *Artificial Intelligence*, 101(1-2): 165-200, 1998

Feitosa, J., Cruz, D., Lacerenza, C. N., Moynihan, L. E., & Salas, E. (August, 2014). Ethnic identity: Measurement equivalence studies across ethnicities and time. Presented at the Academy of Management, Philadelphia PA. \* FINALIST of the 2014 Carolyn Dexter Best International Paper Award \*

Gelfand, 2014 William A. Owens Scholarly Achievement Award, Society for Industrial Organizational Psychology, best paper published in 2013 (for Gelfand, Leslie, Keller, & De Dreu, Conflict Cultures in the *Journal of Applied Psychology*)

Gelfand, Keynote Address, 2014, Emerging Markets Forum, Negotiating History, Culture, and Institutions in Foreign Markets.

Wheeler, J. Awarded National Science Foundation Graduate Fellowship. \$90,000 total, 2014.

Gelfand, M. J., and co-authors. Winner, Gordon Allport Intergroups Relations Prize (\$500.00) for best published paper in 2011. Society for the Psychological study of Social Issues, 2012.

Gelfand, M. J., Elected fellow, Academy of Management, 2013

Gelfand, M. J., Keynote address. International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, January 2013.

Gelfand, M. J. Named one of 20 top psychology professors in Maryland. <http://onlineschoolsmaryland.com/top-college-professors-in-maryland/psychology/>, 2013.

Harrington, J. Awarded National Science Foundation Graduate Fellowship. \$90,000 total, 2013.

Kishi, R. Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM), 2013.

Kishi, R. Jennings Randolph Peace Scholarship, United States Institute of Peace, 2013.

Kishi, R. Graduate Student Summer Research Fellowship, University of Maryland, College Park, 2012.

Lun, J. American Association for the Advancement of Science (AAAS) Science and Policy Fellowship 2013-2014.

Salas, E. Recipient, Losey Award from the Society for Human Resource Management, 2012.

Salmon, E., Recipient, Phi Delta Gamma Graduate Fellowship for Interdisciplinary Research, University of Maryland, 2013.

Wilkenfeld, J. BSOS Dean's Medal, University of Maryland, College Park, 2012.

Wilkenfeld, J. Gerner Award for Innovation in Teaching in International Studies, International Studies Association, 2012.

Wilkenfeld, J. Folke Bernadotte Academy (Sweden), Program in Conflict Prevention, "Mediating Intrastate Crises", 2007-2012.

Crosby, B. (2012). Diversity fellowship, University of Maryland, College Park.

Crosby, B. Invitee, The Odum institute intermediate statistical workshop, University of North Carolina, Chapel Hill.

Gelfand, M. J. (2012). Featured in career profiles in *Science* (M. Price, May 18, 2012) ([http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2012\\_05\\_18/carecredit.a1200055](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2012_05_18/carecredit.a1200055)).

Gelfand, M. J. (2011). Won the new Anneliese Maier Research Award from the Alexander von Humboldt Foundation in Germany (Prize is \$335,000) (<http://www.newsdesk.umd.edu/uniini/release.cfm?ArticleID=2577>).

Lyons, S. (2012). START Research Award, \$5,000.

Lyons, S. (2011). National Science Foundation Summer Travel Award, Japan, Hokkaido University and University of Tokyo.

Lyons, S. (2011). Psi Chi Psychology Honor Society Graduate Research Grant (\$1500).

Salas, E. (2012). Received the Distinguished Professional Contributions Award (awarded by the Society of Industrial and Organizational Psychology).

Salas, E. (2012). Received Scholarship of Teaching and Learning Award (University of Central Florida).

Salas, E. (2012). Joseph E. McGrath Award for Lifetime Achievement in the Study of Groups (awarded by the Interdisciplinary Network of Group Research).

Salas, E. (2011). Elected President of the Human Factors and Ergonomics Society.

Salas, E. (2011). Awarded the Friends of INGroup Award (award by the Interdisciplinary Network of Group Research for professional contribution to the network), 2011.

Salas, E. Inducted in UCF's Millionaire's Club (Research Funding Recognition).

Bohnet, I. (2011). Elected Dean of the John F. Kennedy School of Government.

Chung, C. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Fehr, R. (2011). Academy of Management Best New Directions Paper Award, Conflict Management Division. The forgiving organization: Building and benefiting from a culture of forgiveness.

Fehr, R. (2011). The International Association for Conflict Management Outstanding Dissertation Award (for a dissertation published in 2009 or 2010). On the (Un)intended consequences of forgiveness: Creativity after conflict.

Fulmer, C. A. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Fulmer C. A. (2011). Graduate Student Summer Research Fellowship, University of Maryland.

Fulmer, C. A. (2011). Lim Kim San Fellow, Singapore Management University.

Fulmer, C. A. (2011). Outstanding Reviewer Award, OB Division, Academy of Management.

Gelfand, M. J. (2011). Keynote Address, International Association for Cross-Cultural Psychology, Istanbul, Turkey.

Kim, R. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Kishi, R. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Kraus, S. EMET Prize (2010). The EMET Prize is an annual Israeli prize given for excellence in academic and professional achievements that have far reaching influence and significant contribution to society.

Lyons, S. L. (2010). Awarded National Science Foundation Graduate Fellowship.

Gelfand, M. J., Leslie, K., & De Dreu, C. (2010, August). Best Paper Award for New Directions in the Study of Conflict, Conflict Management Division, Academy of Management Conference. Cultures of conflict: How leaders and members shape conflict cultures in organizations.

Fehr, R. (2010). IACM DRRC Student Scholarship Award.

Fulmer, C. A. (2010). IACM DRRC Student Scholarship Award.

Fulmer, C. A. (2010). Graduate Student Fellowship, Singapore Management University.

Fehr, R., & Gelfand, M. J. (2009). Best Paper Award for New Directions in the Study of Conflict, Conflict Management Division, Academy of Management Conference. But I said I was sorry! On the importance of matching apologies to victim self-construals.

Gelfand, M. J. (2009). Elected President of the International Association of Conflict Management.

Gelfand, M. J. (2009). Distinguished University Scholar Teacher, University of Maryland, College Park.

Gelfand, M. J. (2010). Nominated Fellow of the Association for Psychological Science.

Salas, E. (2010). Elected President of Society for Industrial and Organizational Psychology.

Wilkenfeld, J. (2009). Distinguished University Scholar Teacher, University of Maryland, College Park.

Lin, R., Oshrat, Y., and Kraus, S. (2009). Investigating the benefits of automated negotiations in enhancing negotiation skills of people. Proceedings of AAMAS 2009, pp 345-352 was the runner-up for Best paper Award of AAMAS09; came second out of 651 submissions from which 132 contributions were accepted as full papers.

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### Graduate Students

<u>NAME</u>	<u>PERCENT SUPPORTED</u>	Discipline
Jasmine Wheeler	0.97	
Elizabeth Salmon	1.00	
Ren Li	0.97	
Michelle Dugas	0.03	
Chris Coultas	0.05	
Jennifer Feitosa	0.32	
Megan Gregory	0.08	
Rebecca Grossman	0.53	
Amand Thayer	0.27	
New Entry	0.00	
Roudabeh Kishi	0.50	
<b>FTE Equivalent:</b>	<b>4.72</b>	
<b>Total Number:</b>	<b>11</b>	

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### Names of Post Doctorates

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
Yan Mu	0.84
<b>FTE Equivalent:</b>	<b>0.84</b>
<b>Total Number:</b>	<b>1</b>

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### Names of Faculty Supported

<u>NAME</u>	<u>PERCENT SUPPORTED</u>	National Academy Member
Shawn Burke	0.22	
Michele Gelfand	0.01	
Sarit Kraus	0.05	
<b>FTE Equivalent:</b>	<b>0.28</b>	
<b>Total Number:</b>	<b>3</b>	

## Names of Under Graduate students supported

<u>NAME</u>	<u>PERCENT SUPPORTED</u>	<u>Discipline</u>
Sophia Brasseur	0.00	
Tiffany Bisbey	0.40	
Alyssa Marshall	0.44	
Elyse Frank	0.00	
Jaymi Hotz	0.00	
Emily Kim	0.00	
Je Lee	0.00	
Patrick Maloney	0.00	
Carlos Moreno	0.00	
Nicole Rogers	0.00	
William Talbot	0.00	
Abhishek Patel	0.00	
Kelly Mason	0.00	
Kesanel Seleshi	0.00	
Kylie Mario	0.00	
Sarah Lebarron	0.00	
Samantha Wermers	0.00	
Sara Trach	0.00	
Jake Bart	0.00	
Christina Fahmi	0.00	
Jessica Barrett	0.00	
Stephanie Choi	0.00	
Thalia Eigen	0.00	
Aaron Brown	0.00	
Zoe Copeman	0.00	
Roqaiya Shabbir	0.00	
Alexis Pappadeas	0.00	
Kemol Anderson	0.00	
Ismeal Ajadi	0.00	
Adam Rosenfield	0.00	
Jacob Moore	0.00	
Samuel Brimmer	0.00	
Lisa Hotz	0.00	
Taylor Morris	0.00	
<b>FTE Equivalent:</b>	<b>0.84</b>	
<b>Total Number:</b>	<b>34</b>	

### Student Metrics

This section only applies to graduating undergraduates supported by this agreement in this reporting period

The number of undergraduates funded by this agreement who graduated during this period: ..... 0.00

The number of undergraduates funded by this agreement who graduated during this period with a degree in science, mathematics, engineering, or technology fields:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will continue to pursue a graduate or Ph.D. degree in science, mathematics, engineering, or technology fields:..... 0.00

Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale):..... 0.00

Number of graduating undergraduates funded by a DoD funded Center of Excellence grant for Education, Research and Engineering:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and intend to work for the Department of Defense ..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will receive scholarships or fellowships for further studies in science, mathematics, engineering or technology fields: ..... 0.00

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**Names of Personnel receiving masters degrees**

<u>NAME</u> Jesse Harrington <b>Total Number:</b>	<b>1</b>
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**Names of personnel receiving PHDs**

<u>NAME</u>  <b>Total Number:</b>	
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**Names of other research staff**

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
Amelia Stillwell	1.00
Rouaa Maher	0.89
<b>FTE Equivalent:</b>	<b>1.89</b>
<b>Total Number:</b>	<b>2</b>

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**Sub Contractors (DD882)**

**Inventions (DD882)**

**Scientific Progress**

Please see attachment.

**Technology Transfer**

N/A



**DYNAMIC MODELS OF THE EFFECT OF CULTURE ON COLLABORATION AND  
NEGOTIATION**

University of Maryland (Michele J. Gelfand, PI, [mgelfand@umd.edu](mailto:mgelfand@umd.edu))

**Award Number: W911NF0810144**

**MURI Final Report**

## Table of Contents

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## Dynamic Models of the Effect of Culture on Negotiation and Collaboration

### *Statement of the Problem Studied*

There is no doubt that military operations are becoming increasingly complex. Beyond tactical battles, the military needs to forge lasting partnerships and capture the ‘hearts and minds’ of citizens worldwide. This new war fundamentally requires that soldiers at all levels are equipped with negotiation and collaboration skills and a deep knowledge of cultural differences. Without such skills, negotiations and collaborations are bound to fail, and worse yet, are bound to fuel further tensions and conflict.

Despite the urgency of understanding cultural influences on negotiation and collaboration, there is an astounding dearth of research on the topic. Theory and research on negotiation and collaboration has been developed almost exclusively in Western contexts (Gelfand, Fulmer, & Severance, 2010), raising serious concerns about the applicability of this knowledge beyond Western borders. Cultural research that does exist on negotiation and collaboration has a number of serious limitations, including (a) being largely atheoretical and focusing on superficial aspects of culture (e.g., do’s and don’ts); (b) being highly decontextualized and ignoring situational factors that affect negotiations and collaborations; (c) ignoring Middle Eastern and other Arabic speaking populations; and (d) relying on a limited number of methods (i.e., experiments), to the exclusion of interviews, surveys, archival analyses, and dynamical and computational modeling.

The purpose of this MURI was to provide a systematic examination of culture and negotiation and collaboration in Middle Eastern cultures. Project InterACTION (Intercultural Assessment of Collaboration in Teams and In Ongoing Negotiation, [www.muriculture.com](http://www.muriculture.com)) is organized in numerous experimental thrusts that capture interdisciplinary and dynamic approaches to culture and negotiation and collaboration. Experimental Thrust I conducted research to advance our understanding of core cultural values, norms, and beliefs within Middle Eastern countries using both qualitative and quantitative methodologies. Experimental Thrust II used a number of methods to understand how culture dynamically affects psychological and social processes in negotiation, including deal-making, disputing, and mediation contexts. Experimental Thrust III examined dynamic effects of culture on collaboration within targeted Middle Eastern countries. Work within this experimental thrust investigated a mix of collaborative tasks (i.e., planning, decision making, and performance) and cultural influences on collaborative processes. Research in Experimental Thrust IV examined how dynamical modeling and computational modeling can facilitate a better understanding culture and negotiation and collaboration.

Through all of these thrusts we addressed a number of research questions: 1) What are the *relevant dimensions and cultural constructs* in the Middle East that are critical for understanding culture and negotiation and collaboration processes? We seek to move beyond extant research in cultural psychology to understand the local frames (e.g., *wasta*, fatalism, honor, modesty) that are important in the Middle East region; 2) How does culture affect basic

*psychological* processes (e.g., mental models, judgments, goals, emotions) and *social processes* (communication and persuasion) in negotiations and collaborations? 3) How do *social contextual factors* and *individual differences* dynamically affect negotiations and collaborations across cultures? 4) What are the factors that *facilitate* versus *inhibit* intercultural negotiation and collaboration effectiveness? and 5) How can dynamical modeling and computational modeling help develop theory on culture, negotiation, and collaboration?

We had a number of key assumptions that guided our theorizing and research in this MURI effort. First, we assume that the negotiation “table” is *multidimensional*—parties are not only negotiating the tangible issues (i.e., offers, counteroffers) but also the intangibles (i.e., trust, honor). Moreover, the intangibles are often the most difficult aspect of the negotiation process to manage. Second; the negotiation table is *dynamic*. Individual differences and socio-contextual factors amplify, reduce, and even reverse cultural differences in negotiations and collaborations, and we need to model linear and non-linear shifts that occur in the negotiation process over time. Finally, negotiations *don’t end* at the table—parties simultaneously negotiate within and across groups, and dynamics at the table spread through networks and affect larger societal dynamics. Importantly, these are novel assumptions that will not only expand cross-cultural research but also expand—and in many ways revolutionize—existing conceptualizations of negotiation and collaboration in the literature.

Appendix A lists all of the accomplishments of our team. Our MURI grant produced:

- 50 published or forthcoming papers in peer-reviewed journals. Many of our papers have been published in top-tier journals such as *Science*, *Philosophical Transactions of the Royal Society B*, *Proceedings of the National Academy of Sciences*, *Administrative Sciences Quarterly*, *Psychological Bulletin*, *Psychological Science*, among others.
- 29 book chapters published or forthcoming.
- 240 paper presentations, including presentations at national and international conferences, invited presentations, MURI brownbags, and conferences and workshops. We hosted a conference on *Multilevel Perspectives in Negotiation* at the University of Arizona and a conference on *Culture, Identity, and Change in the Middle East: Insights for Conflict and Negotiation* at the J.F.K. School of Government at Harvard University (with a keynote address from the Nobel Peace Laureate Tawakel Karman).
- 32 peer reviewed conference proceeding publications.
- 42 Manuscripts submitted or in progress.
- An edited volume on *Intercultural Collaboration and Negotiation* and a special issue (Collaboration and Negotiation in Multi-Cultural Environments” in *Journal of Organizational Behavior*).
- 16 spin off grants.
- 58 honors and awards (including numerous student awards).
- 77 articles in the media covering work by the MURI.
- 18 graduate student theses.
- Over 70 undergraduates volunteering on MURI projects.

- The publication of the four volumes of the new *Advances in Culture and Psychology*, Oxford University Press.
- Continued operation of our MURI Website ([www.muriculture.com](http://www.muriculture.com)).
- Implemented a new intercultural virtual laboratory to collect intercultural negotiations between Americans and people in the Middle East in real time.
- The development of a monthly MURI virtual brownbag series which connects scholars across disciplines to discuss research on culture and negotiation and collaboration.

Our MURI grant also developed a community of scientists in the Middle East, Iran, and Pakistan to work on research for this grant. Our team included a dedicated group of scholars from numerous disciplines (Psychology, Political Science, Sociology) that have been collecting data locally with their own research assistants in Egypt, Iraq, Iran, Jordan, Lebanon, Pakistan, and Turkey. Our collaborators in these countries were trained extensively to implement a variety of methods including interviews, experiments, implicit measures, and surveys. The team met several times a year either face to face or virtually to discuss theory, data, and interpretations and to write joint publications. The research funding for this effort came from cost-sharing from the University of Maryland (approximately \$80,000 per year). In addition to these meetings, we have had numerous sub-group meetings throughout each year to consolidate and synergize on our research efforts. We took our interdisciplinary collaboration seriously and often explicitly discussed hurdles and solutions to enable us work most effectively as a team (see a write-up in the *APS monitor* on interdisciplinary research on our MURI effort and write up on Gelfand's research in *Science Careers*, [http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2012\\_05\\_18/car.edit.a1200055](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2012_05_18/car.edit.a1200055), as well as numerous panels we have conducted on interdisciplinary research, both at the International Association for Conflict Management and Society for Industrial and Organizational Psychology). One of our MURI graduate fellows (Elizabeth Salmon) also was given an award for interdisciplinary research at the University of Maryland (see Appendix A, honors and awards section).

Below we provide details regarding the most important results that were gleaned from the MURI.

## Summary of Important Results

### Experimental Thrust I

#### Team Leader: Michele Gelfand, University of Maryland

Experimental Thrust I developed culture theory and conducted research to understand questions such as: What are the core focal concerns in the Middle East that have relevance for negotiation and collaborations? How do these focal concerns vary across different demographic and regional groups? How can this knowledge help in understanding cultural change? Research in this thrust is also advancing novel methodologies and theoretical approaches in the study of culture.

- **An analysis of subjective culture in the Middle East**

Through our MURI grant, we have completed the data collection and analysis of over 450 in-depth interviews in the Middle East region, completed an additional 50 interviews in Iran through a license we obtained from OFAC, and collected additional interviews in Afghanistan. As noted above, this research effort was funded through additional funds we secured from the University of Maryland (approximately \$80,000 in cost share funds). Two interview protocols were implemented in each country to assess important aspects of subjective culture in the Middle East. To our knowledge, this is the first time that psychological research of this kind has been conducted in the Middle East on such a wide range of constructs and samples. Protocol I focused on the psychology of connections (*wasta*), negotiation, trust, conflict escalation and de-escalation, revenge, forgiveness, and apologies. Protocol II focused on Middle Eastern core focal concerns, including the psychology of fate, honor (*sharaf*, *irdh*), face and public image (*wujah*), respect, modesty, dignity, values, and collaboration. Appendix B provides the Protocol in both English and Arabic. Each interview protocol was translated into Arabic, Pashto, Urdu, and Turkish and back translated into English to check for accuracy. Data were collected (after extensive piloting) with community samples that were stratified by age, gender, socio-economic status, and rural-urban living experiences. Each interview took approximately one and a half hours to two hours to conduct. All interviews were conducted in the local language with locally trained researchers and were tape recorded for analysis.

Our research methodology was adapted from methods developed by the founder of the field of cross-cultural psychology, Harry Triandis. Specifically, the interviews are modeled after his seminal methodology in assessing subjective culture (Triandis, 1972), including word associations, antecedents and consequences of relevant constructs, and questions tapping into situational variation in the constructs. For example, in Protocol II, we asked participants for their word associations of honor (*Sharaf*), antecedents of honor violations, and the emotional and behavioral consequences that occur when one's honor is violated.

- *What does Sharaf mean to you? What words come to mind when we say "Sharaf" [Probe: Associations with Sharaf].*

- *Sharaf can be insulted or threatened. Can you give me some examples of ways in which Sharaf can be insulted or threatened, from relatively mild examples, to more moderate and more extreme ways in which Sharaf can be insulted or threatened? You can use personal examples or those that you have heard of, in work and non-work contexts. [Probe: Triggers to Sharaf violations].*
- *What happens when Sharaf is insulted or threatened? What kind of feelings do you or others experience in these situations? [Probe: Emotional consequences of Sharaf violations: When Sharaf is threatened/insulted, I or others feel \_\_\_\_\_]. What do you or others do in response to insults or threats to Sharaf? [Probe: Behavioral reactions of Sharaf violations; When Sharaf is threatened/insulted, I or others \_\_\_\_\_].*

We also asked several questions regarding the social context of honor violations. For example:

- *Does it make a difference if the person who threatens your Sharaf is someone you know well such as a family member or is someone you do not know very well? [Probe: Ingroup-outgroup effects; how are Sharaf violations experienced if they occur within the family versus with someone you do not know very well?].*
- *Is your Sharaf related to the Sharaf of other people, and whom? [Probe: Family, others]. How does something affecting your Sharaf affect the Sharaf of others? Can you give an example? [Probe: how contagious is Sharaf; how interrelated is Sharaf and among whom?]*

The interviews are critical for a number of purposes in our MURI research: (a) to develop a systematic understanding of the key cultural values, norms, and beliefs in the region. This is one of the first attempts to document the constructs relevant in the region, their interrelationships, and their linkages to the ecological and historical context. We are writing a book, *The Analysis of Subjective Culture in the Middle East*, to communicate our findings to the scholarly community; (b) to test hypotheses we have regarding culture and negotiation and collaboration; (c) to generate theory and hypotheses for future studies; (d) to develop experimental platforms and case studies to study culture and negotiation and collaboration that are particularly relevant in the Middle East; and (e) to collect data that can ultimately be input for training soldiers to better understand culture in the Middle East.

After the interviews were conducted, we transcribed them from their native language from audio to actual text in Arabic, Turkish, Pashto, Urdu, and English. Each interview produced on average between 15-20 pages of actual text. We developed a *standardized extraction process* across all countries by which interview responses were extracted and organized into an excel database format to facilitate content and text analyses. All extraction was done in the local languages. We completed all extraction and translation for the interview transcripts (130 questions per transcript). Three research assistants who are fluent in Arabic and English worked locally with our lead Arabic translator. They achieved excellent extraction reliability (average 94%) for each construct across the 5 Arabic speaking countries. After the reliability process was developed, the assistants then independently extracted the remaining transcripts. The Urdu and

Turkish transcripts were also extracted and translated into English following the same procedure with our collaborators in these respective countries. Agreement of extraction was also high on these transcripts, as well as on the US transcripts (average 93%). We then back-translated all of these extractions from all countries into English. Pashto transcripts are currently being analyzed.

We have now completed grounded theory code-development on all of the constructs, using our *standardized code development process*. We adopted a grounded theory approach (Charmaz, 2006) wherein we use the interviews to inform key themes in each country. This process is critical for us to identify *emic* (culture-specific) concepts and themes that are associated with a construct in each country. The process that we created involved three phases. In the first phase, ME and US teams *separately* examined the extracted answers for a particular interview question and constructed a list of possible codes or themes for their respective countries. For the construct of honor, for example, 1769 codes, or an average of 103 codes per question, were generated across the teams. The second phase involves sorting and organizing these codes at a conceptual level by the PI and the US team with input from our ME collaborators as well as with input from extant research. Finally, the third phase involves writing coding manuals that describe the code categories in detail and sets forth procedures and guidelines for coding. This process was implemented for all questions in the interview protocols.

To date, thousands of codes have been generated for the constructs of conflict, forgiveness, apology, revenge, core values, honor, dignity, face, negotiation, *wasta*/connections, fate, modesty, and respect. This process involved our collaborators from the six ME countries and Pakistan, as well as the US team who all examined the extracted answers for each interview question. We then generated codes that were based on the data and supplemented these codes with explanations and examples.

As an example of the work we have done on the interviews, we developed the first *grounded theory of honor* based on the interviews and have continued developing theoretical models for other constructs. Through the code development process on honor, an initial model of the cultural psychology of honor gain and loss was developed. Consistent with earlier writings on honor (e.g., Pitt-Rivers, 1966), the interviews illustrated that honor is “the value of a person in his own eyes, but also in the eyes of his society” (p. 21). It is also a *commodity*—a valued possession that can be *felt*, *claimed*, and ultimately which must be *paid* or recognized by others (Pitt-Rivers, 1966). Our framework and interview analyses expand this earlier work and illustrate that one’s sense of *felt* honor (e.g., self-esteem, self-respect, pride) translates into *honor claimed* through two interrelated self-regulatory processes, including (a) *The promotion of honorable behavior* (e.g., projecting an image of an honorable self by measuring up to well defined social norms and obligations, i.e., codes of loyalty, honesty, fulfilling obligations, steadfastness); as well as through (b) *The prevention of dishonorable behavior* (e.g., by avoiding harmful or suspicious situations and by projecting a sense of strength and bravery so as to not appear vulnerable or appear weak (men) and/or projecting a sense of modesty (women) so as to avoid inviting honor violations. The interviews also illustrated that there are numerous ways in which *honor can be lost or stolen*. Honor can be *given away* through one’s own social errors and actions, including misconduct (breaking the law, sexual mistreatment, failing to meet social-moral obligations, committing slander, among other behaviors), acts that are careless (e.g., being in suspicious places) and acts that signal that one is weak (e.g. failure to respond to assaults on

honor). Honor can also be easily *stolen* by others' actions (as when one is the victim of slander, gossip, insults, being exposed, or being assaulted). The results also illustrated that honor loss affects a wide range of cognitive, emotional, and behavioral consequences. Along with our large scale effort on *concept network analysis* (which will be described in more detail below), the honor model was presented at the Harvard's Center for Public Leadership Conference on "*Culture, Identity, and Change in the Middle East: Insights for Conflict and Negotiation.*"

We have also completed *quantitative coding analyses* on honor to examine how the conception of this construct varies across and within the ME countries. Bilingual coders who are fluent in Arabic and English have been recruited to conduct theoretical coding based on our grounded theory categories. For example, while we found that avoiding dishonorable situations (even when a person has not committed any wrongdoing) was recommended as a strategy to maintain one's honor in Iraq, Egypt and Jordan, it was not mentioned at all in Turkey, Pakistan and the US. The importance of fulfilling duties and obligation was much more frequently mentioned as a way to demonstrate honor in Pakistan (52%) and Iraq (42%) compared to other countries like Egypt (27.3%) and Lebanon (9.5%). Coding analysis on *wasta*/social connections revealed that *wasta* is used in a wider range of situations (e.g., jobs, medical help, government paper work) in Iraq, Jordan, Egypt and Lebanon than in the US. The coding analysis also revealed that ME interviewees expressed more concerns over ethical issues (74%), whereas US interviewees expressed more concerns over expected outcomes of the influence (75%) when they were asked whether *wasta*/social connection is good or bad. These results were presented at the 2013 *International Association for Cross-Cultural Psychology* regional conference in Los Angeles. Concept network analyses on *wasta*/social connection also show that in the Middle East there is a strong focus on whether the *wasta* use was ethical and just whereas in the US there is a strong focus on building and expanding one's social network.

In addition to developing grounded theory and conducting quantitative coding, we have continued to use *quantitative text analysis using Pennebaker's Linguistic Inquiry and Word Count* (LIWC) to gain insight into cultural variation in the constructs. Such analysis informs the *implicit psychological processes* associated with a construct like honor based on people's language use. For example, our analysis with LIWC on the honor questions suggest that ME interviews on honor contain more *affective process* words such as "anger" and "aggress," whereas US interviews on honor contain more *cognitive process* words such as "think," "consider," "acknowledge," "create," and "idea." Moreover, in line with our prevention and promotion orientations of honor gain, ME countries' interviews used more inhibition related words such as "abstain," "control," "discipline," and "careful," indicative of *prevention* focus. By contrast, US interviews used more achievement-oriented words such as "advance," "obtain," "success," "praise" and "reward" in describing honor, suggesting a more *promotional* focus of honor gain. Through coding and linguistic analysis, we will be able to demonstrate that the honor process is both general (the general processes and principles can be detected across countries), yet is also contextual (e.g., the specific ways in which honor is claimed and lost as well as implicit psychological processes can vary across countries, regions, and groups). This work is expected to advance basic science on cultural differences and also to ultimately feed into training programs on this central ME construct that is the potential source of many cultural misunderstandings. This research was presented at the 2011 *International Association for Cross-Cultural Psychology* Conference in Istanbul. We are now doing comparisons of LIWC across

different countries. The theoretical model of honor gain and loss as well as the LIWC analysis has now been written for publication.

Our analyses of the interviews have also illustrated another critical dynamic of honor, namely that *honor loss is highly contagious* across people in the ME. Anecdotal evidence for the spread of honor conflict abounds. For example, the contagion of honor conflict can be seen in the highly publicized incident that occurred when the Danish daily newspaper Jyllands-Posten published an article entitled “Muhammeds ansigt” (“The face of Muhammad”) which led to hundreds of protests and an escalation of violence across the Muslim world. More than one hundred people were killed; the Danish Embassies in Damascus, Beirut, and Tehran were set aflame; death threats were issued around the globe for the cartoonists; and a consumer boycott was organized in the Middle East, costing Danish businesses over 134 million Euros (*London Times Online*, 2006 “70,000 gather for violent Pakistan cartoons protest”). Yet to date there has been little empirical attention given to the spread of honor conflict in the scientific literature.

Through our MURI grant, we published a paper based on our interview data (Gelfand et al, 2012) in a high impact journal (*Philosophical Transactions of the Royal Society B*) in which we show that the degree to which one’s honor loss is interrelated to the loss of others’ honor is much stronger in the Middle East and Pakistan as compared to the U.S. That is, the data show that when the honor of an in-group member is harmed, people are much more affected by it and such effects spread through a much wider network of people in the ME and Pakistan as compared to the U.S. In particular, to examine the contagion of honor conflict, we conducted both qualitative and quantitative analyses of responses to the honor questions. For the latter, we used the linguistic word count dictionary program (LIWC) developed by Pennebaker to examine the extent to which people discussed a wide range of social entities that are involved in the contagion of honor loss. We created an overall *Social Index* dictionary that included many social entities who were discussed when individuals were probed about the relationship of their honor to others. The Social Index included family members, with both social entities in a nuclear family (e.g. spouse, parents, children, siblings) and social entities in an extended family (e.g., aunts, uncles, cousins, relatives, ancestors); non-family relationships such as friends, coworkers, classmates, neighbors, and groups that comprise an extended network of social ties (e.g., neighborhood, village, tribe, company, and university); and large-scale social identity groups, such as one’s nationality, ethnicity, religion, and abstracted groups, including civilization, society, and culture. The LIWC program then counted the frequency of these targeted words in the Social Index as a percentage of each interviewee’s overall word count in response to our honor contagion questions. Analyses revealed highly significant cultural differences in the Social Index, with a clear and re-occurring theme of the interchangeability of honor and the contagious effect of honor harm across the Middle East (ME) and Pakistan as compared to the U.S.

Our qualitative analyses reported in the paper also support greater honor contagion in the ME than the U.S. In response to question “Is your honor (sharaf) related to the honor (sharaf) of other people, and whom?” UAE interviewee (UAE22) explained, “[Yes], members of my family, my extended family, my people...their honor is related to mine because they are members of my family. What touches me touches them and what touches them touches me” (age 46, Male, High SES). An interviewee from Egypt (EGY09) similarly commented on the interchangeability of honor between family members: “Of course my honor is my husband’s honor, my children’s



honor. All of us are one, the honor of any one of us is the honor of the other” (age 54, Female, Upper Middle SES). Lebanon interviewee (LEBB9) likewise explained that “The word honor in and of itself carries a non-individualist meaning...its effects are interchangeable among family members in what is related to honor” (age 51, Male, Low SES). Turkish interviewee (e202) put it simply: “I see theirs the same way that I see mine” (age 47, Male, Low to Middle SES). Strong statements about the interrelationship of one’s honor with others were seldom found in the US sample. Instead, they tended to differentiate one person’s honor from another’s. As American (MUS48) interviewee explained “The fact that I know them? Um it shouldn’t. I would hope it wouldn’t... I believe honor is each person, you gotta look at each person individually” (age 34, Male, Middle SES).

In Gelfand et al. (2012), we also reported data from the interviews which suggest that honor loss is much more “contagious” in the ME and Pakistan beyond the immediate family, with ripple effects on the extended family, friends, the community, neighborhood, tribe, and organizations. Pakistan interviewee (PAK27) noted that “if someone accuses me of wrongdoing, bribery, or dishonesty or something like that then that disgrace is not just mine because I am recognized through my family and my friends so I think that my disgrace will affect them as well. If I am treated with honor then they are treated with honor” (age 35, Male, High SES). Likewise, Iraqi interviewee (IRQ12) stated, “More than anything is his close relatives, brothers and cousins, and tribe those who relate to his honor then people who live nearby, for example the district where he resides, neighbors, his honor, and his reputation” (age 55, male, middle SES). Egyptian interviewee (EGY23) noted that “Naturally, when my reputation is affected then all of their reputations are corrupted. If someone tries to say something about me even if it is wrong this is a terrible thing and this can harm me greatly in regards to my family, my work, and those who know me, my friends. It will affect many things greatly” (age 60, Female, Upper Middle SES). Many in the Middle East and Pakistan also discussed that the contagion of honor loss can extend to the society. For example, Jordan interviewee (JOR18) stated that a person’s honor was “Firstly his personal honor, then his children's honor and his country's honor” (age 61, Female, Upper Middle SES). Likewise, Pakistani interviewee (PAK09) explained, “Here the issue of honor is such that when one Muslim's honor is harmed then it becomes an issue of all Muslim’s honor there are many incidents like this in history because all Muslims are one, so an issue faced by one is faced by all” (age 56, Male, Middle SES). Turkish interviewee (n202) likewise stated that honor extends beyond the closest circle to “the society in which I belong” (age 59, Male, Upper Middle SES). UAE interviewee (UAE24) summed it up, “We all live in one boat and one society; therefore a drowning person will affect the whole of social ties” (age 39, Male, High SES). In the US, when a person’s honor is related to another’s, it was generally restricted to very close others.

The analyses reported also suggest that when a person is harmed, other individuals in the group are harmed. Responses from the ME region and Pakistan indeed frequently alluded to the ripple effect of harm to other group members. Commenting on the contagion of insults, a Pakistani respondent (PAK04) explained, “Now, if I take you somewhere with me and someone there insults me then you too will be insulted...you will also feel that you went there with me and along with me you too got insulted” (age 38, Female, Low SES). An Interviewee from Lebanon (LEBB14) likewise noted that “Honor is of course connected to the closest family members...if [the honor attack] is not confronted it spreads like an infection and I become

ashamed” (age 32, Female, Middle SES). A Jordanian respondent (JOR23) described the long lasting effects of honor loss saying that “Honor is never forgotten and if it is harmed it can never be erased” (age 33, Female, Upper Middle SES). American respondents discussed being less impacted personally by other’s honor loss. As one interviewee (MUS48) noted, “[I would] probably feel bad for them, I would be upset, but I wouldn’t lose my mind over that” (age 34, Male, Middle SES). This provides of the first evidence that honor is indeed more contagious in the ME than in the U.S. Later in this report we discuss further experiments conducted on cultural variation in third party punishment on behalf of others which expand on this qualitative research. The contagion of honor results have now also been incorporated into our computational model of honor during (discussed below).

We have also developed a standardized procedure to create *word dictionaries* of constructs to move beyond Pennebaker’s LIWC dictionaries to capture constructs that are important in the ME. In particular, we finalized our *new honor dictionary* (“honor talk”) that can be used to discern when the construct of honor is accessible in any text (interviews, newspapers, blogs). This is an important development because the words we choose are distinctly revealing to our underlying psychological states. Knowing when a person or group is concerned with their honor as indexed through their language use can be of great value for research and practice. For example, the honor dictionary can be used to analyze negotiations and collaboration to determine which categories predict effective outcomes. On a collective level, the honor dictionary can be used to study geopolitical unrest, conflict escalation, and terrorism.

Our new tool is unique in that it can analyze large amounts of text. Since the proliferation of the Internet, ever-increasing amounts of linguistic data are being created and available to researchers. Whether it is through messages, emails, Facebook, or Twitter, much of what was once communicated verbally is now written. In 2011 there were 3.1 billion email accounts, with the average user sending and receiving 105 emails per day. Twitter reports that there are 150 million tweets sent per day. There are over 600 million users on Facebook. In 2010 there were 152 million blogs on the Internet. Most major media outlets now publish digitally. The creation of this honor analysis tool allows for the specific measurement of latent cultural constructs based on what a person or group says. Additionally, the ability to analyze the effects of events in real time as they unfold is a tremendous asset to researchers and practitioners alike.

Below we will detail the steps taken to create the honor dictionary from the interviews we conducted in the Middle East and the U.S., followed by the specific steps we took to validate the dictionary. Among the validation steps was the analysis of multiple experimental datasets. These datasets include:

- All articles written in the New York Times and the Richmond Gazette between 1861-1865.
- Several months of editorials, opinions and letters to the editor from Dallas Morning News, Philadelphia Inquirer, Jackson Clarion Ledger, Worcester Telegram and Gazette.
- Oral histories recorded and transcribed by the US Federal Government during the Great Depression in multiple Northern and Southern states.

- Several years of articles written by Palestinians and Israelis on the Bitter Lemons website (bitterlemons.net).
- Constitutions from 79 countries around the globe.
- Personal journals written between July and November of 2001, spanning 2 months before and 2 months after the September 11<sup>th</sup> attacks.
- Newspapers written in Afghanistan between February – March of 2012 spanning the Quran burning incident and subsequent unrest.

*Creation of the dictionary.* In order to develop the dictionary, our Arabic translator, Bayan Bruss, along with colleagues at the Computational Linguistics and Information Processing Center at the University of Maryland, calculated frequencies for all words discussed in the honor questions and took out words that were meaningless (e.g., “it”, “and”, “or”). From this initial list of words we removed commonly used non-essential words such as pronouns (e.g. they, him, we, you), and conjunctions (e.g. and, but, or). After the word lists had been selectively reduced we collapsed words across their various forms in a process called stemming. Stemming takes a derived word and clusters it with all other words that have the same stem. For example, a word such as respect is a stem; when stemming words such as respecting, respects, respected, respectful all are clustered together with respect. Thereafter, we created a program that compares the relative usage rate of words to a large corpus of Arabic blogs. For example, if a word is used much more frequently relative to total words in our data than it does in the gigaword corpus, it will rank highly, if it is used with the same relative frequency in both documents the resulting output will be closer to zero, and if it occurs at a much lower frequency than in the corpus a word will have a negative output. Our analyses showed that our honor dictionary words are, in fact, unique to our data.

Based on these multiple bottom up processes we generated our original list of honor words in Arabic. The next step was translating all of these individual words into English. We then ran the word frequency counter for the data from the United States and the translated data from Turkey and Pakistan. We matched the words from the US, Turkey, and Pakistan to the same words in the Arabic data. Additionally, words in Arabic can have multiple English meanings. A single Arabic word can comprise a set of English synonyms. In order to be as inclusive as possible in the translation process, in all such instances, every possible synonym was included in the lexicon. After this step we compiled the final lexicon.

In the next step of the creation of the dictionary, we began to categorize the words in the lexicon into theoretical groups based on the prevailing literature on Honor. For example, ‘defend’, ‘protect’, and ‘prevent’ all reflect at the general notion of *prevention* and were grouped together. Once these categories were formed we created superordinate dictionary categories. The first of these was *Honor Loss* (concerns with harm, aggression, and wrongdoing, among others). The second category focused on *Honor Gain*, this includes the categories of *Achievement and Status* (concerns with work, education, and gains, among others). The third category focused on the *Demonstration of Virtuous Behavior* (integrity, faith, duties/obligations, and manners, among others). The fourth category was focused on *Protection* and avoiding negative circumstances (prevention, public image, sex, masculine strength). Lastly, there were a number of words that are clustered together into various *Contexts* in which honor is important. Appendix C.1 lists the

final list of honor dictionary categories. These categories were reviewed by members of the ME team who gave input into the final categorizations.

*Validation of the dictionary.* We have gone to great lengths to validate the dictionary. Based on literature and established theories we developed a number of theoretical datasets in which we hypothesized one group to use more honor talk more than another group. We started with a corpus of all newspaper articles written during the period of the Civil War (1861-1865) in the New York Times and the Richmond Gazette. The hypothesis was that Southern Newspapers would use honor language at a higher rate than Northern Newspapers. In addition to this we conducted analyses on several other datasets. Among these was the analysis of newspaper editorial and opinion sections from 4 American cities, Dallas, Philadelphia, Worcester MA and Jackson MS. In order to move beyond looking at just newspapers we analyzed oral histories recorded by the US federal government during the great depression, all comparing between the US North and South. To explore use of honor language globally, we collected a dataset of constitutions from 79 countries. We also analyzed several years of articles from the Bitter Lemons website, which is a collection of opinions written each week by Israelis and Palestinians about a predetermined topic. Lastly we analyzed two datasets that looked at changes in honor language use as a result of an independent event. The first event we looked at was the September 11<sup>th</sup> terrorist attacks. We analyzed a series of online journals written several months prior and several months after the attacks. We also analyzed newspapers from Afghanistan surrounding the February 2012 Quran burning incident. All of these results are reported in Appendix C.2. They support the validity of the honor dictionary by illustrating the U.S. South is indeed higher on honor talk using a variety of data sources, that constitutions around the world show expected differences in honor talk (with the Middle East, Asia, Latin America, and Eastern Europe showing higher honor talk), that Palestinians have higher honor talk than Israelis when discussing identical incidents, and that situational conditions (e.g., threats to nations) can cause a rapid rise in honor talk in newspapers.

We are now in the process of publishing the tool in a peer-reviewed journal. Additionally, we have created a website (see [honordictionary.com](http://honordictionary.com)) where researchers and government officials can use the Honor Dictionary. They will be able to paste text directly into the site, upload their own documents. The site features graphical representations of the data that will make it easier to visualize and understand large quantities of data quickly. We have also translated the dictionary into Arabic and Farsi.

As another example of an empirical innovation that we developed we also used network analysis to understand the *mental models* of the interview constructs (Carley, 1997). Based on the meaning and word association questions from the interviews (e.g. “what does X mean to you?” and “what words come to mind when we say X?”), we created concept networks to visualize and analyze the key concepts that define a particular construct (e.g. honor) and the interrelationships among these concepts. This approach provides insights into the underlying meanings and multidimensionality of these constructs. These networks can be examined at the network level as well as at the concept level. For example, we can draw inferences about the complexity of honor concepts based on how interconnected they are. At the concept level, we can determine the centrality of different concepts with respect to how many other concepts they are associated with.

In order to generate the concept networks, we have developed a standardized procedure to first reduce the interview data to create these networks. Colloquial responses were first reduced into statements of ideas. Each statement contains key concepts discussed. For example, responses like “honor is purity. It also suggests masculinity” will be reduced to “honor purity / honor masculinity.” In doing so, we retained the original wording as much as possible. Concepts that were synonymous were substituted by a word/phrase (e.g., “behave”, “act”, “actions” as *behavior*; “deal with people”, “behave toward other people” as *treat-others*) in order to maintain the original concepts but maximize our ability to compare networks.

To allow meaningful cross-cultural comparison, we created a standardized platform by which we can examine these networks across countries or subgroups. We therefore developed the following procedure to create concept categories that can be applied across countries. This method groups words and phrases by concept categories that are inductively created from the data. For example, for the network maps of honor, after the initial data reduction described above, we generated a frequency list of all concepts generated on honor across countries. In order to have a meaningful way to examine the networks and compare them across countries, we used the following approach to classify the concepts into 43 categories of concepts. We started with the most frequent concepts and created concept categories based on them. Then we went through the remaining words/phrases in the master concept list and decided whether each of them can be categorized under one of these concept categories. For example, mother, father, sisters and brothers are grouped under *family*. Likewise, bravery, not run away, vigor, strength, not coward, and courage, among other phrases, were grouped under *Bravery/Strength*. Thereafter, we examined the remaining concepts that did not belong to any of the top categories and sorted them according to any emerging themes. These concept categories were then reviewed by our ME team collaborators and refined to ensure important distinctions were not missed. For instance, words/phrases initially categorized under *honor loss* were further divided into the subcategories of *wrongdoing*, *norm violations* and *physical aggression* to capture nuances of the notion of honor loss. Appendix D.1 lists the glossary for the concept categories of honor. Using Automap, we then coded all concepts from the honor interviews with the 43 coding categories. Thus, the networks maintained the concepts from the original interviews and also have a set of common nodes in order to compare them across countries. After this data preparation stage, concept networks were generated for each individual respondent and aggregated by country. All concepts in a statement have bidirectional link with each other. This level of concept network allows us to see the specific concepts and word associations that define a particular construct in each country.

To our knowledge, this is of the first research to apply network analysis to concept maps coming from the Middle East. Appendix D.2 illustrates the concept category networks of honor word associations from the interview data. The size of the node (concept) reflects the number of times the concept was mentioned. The bigger the node, the more times it was mentioned. The width of the lines indicates the frequency with which the two concepts were mentioned simultaneously. The thicker the link, the more times the two concepts were connected, or appeared in the same statement. These networks reveal some interesting cross-country differences. For example, the concept of *women or women honor* has a relatively central role in the Arab countries’ data (Egypt, Iraq, Jordan, Lebanon and UAE) and was also mentioned in

Pakistan and Turkey, but it was not mentioned at all in US word associations of honor (at least in the Northern U.S. where the interviews took place). Another interesting difference is the emphasis on *protection* (e.g., honor is something to protect and safe-guard). This theme appears in all countries' data except that of the US. The emphasis on protection is consistent with the importance of avoiding or preventing honor loss, a theme delineated in our grounded theory model of honor gain and maintenance. Similarly, concepts regarding *honor loss* or behavioral antecedents of honor loss are much more prominent in the Egypt, Iraq, Jordan, Pakistan, and UAE data. This suggests that the possibility of losing or giving up honor is highly accessible when honor is brought to mind in the Middle East. On the other hand, the concept of *respect* has a very central role in defining honor in the US data compared to other countries. As shown in the concept network of the US data, *respect* is highly centralized meaning that this concept category is much more connected than other concept categories and that other concept categories are connected through it. By contrast, while *respect* is also central in other networks (e.g., Pakistan), it was much more embedded in the network of other concept categories and it was not the key connectors of other concepts.

We have also applied this procedure to create and analyze concept networks of Wasta (See Appendix D.3 for the list of categories and D.4. for concept networks). These networks demonstrated clear distinction in wasta in the Middle East and social connections in the US. In the ME, concepts related to legitimacy and justice are embedded in the network along with the contexts where wasta is sought. By contrast, the concept network of social connection generated based on the US interviews suggests that technology and network expansion have a more prominent role in the meaning of social connections.

We have also developed grounded theories of other constructs based on the interview data. We have begun to develop a theory of *face* and its distinction from honor. Face is the positive image people claim for themselves in social interactions (Goffman, 1955). Based on our interview data, face is conferred by one's social standing and maintained by fulfilling the expectation of a person who holds such a position. Although face, like honor, can be lost due to others' actions, this is mostly due to having one's wrongdoing, incompetence or carelessness revealed to the *public*, hence the strong association with emotions such as embarrassment. Like honor, committing moral violations (e.g., dishonesty, engaging in sexually inappropriate behavior, criminal activity) can lead to face loss; however, face loss is also affected by personal failure that lowers the person's social standing or mars one's social reputation (e.g., making mistakes, failing in academic or professional life, being too dependent). In short, there are similar antecedents between honor and face loss, but face is clearly a distinct construct. The fact that *public* embarrassment is particularly damaging for face is highly relevant to escalation of commitment decisions and willingness to report errors, as well as other phenomena discussed in later sections of this report

In addition to face, as noted above, we have also begun developing theories for *wasta* as intercession. We have identified some dimensions of wasta from our interviews that may vary across cultures: 1) the pervasiveness and necessities of using Wasta; 2) ambivalent attitudes toward Wasta; 3) perceptions of social justice; 4) the nature of one's relationship with the Wasta or the person providing the social capital (e.g. kinship, affective ties). For example, results from our quantitative coding on wasta as intercession (or using social connections to obtain goals and

benefits) suggests that *wasta* is widely practiced in the Middle Eastern in a wide variety of contexts, including job placement, educational attainment, medical treatments, important paper work like getting a passport, dealings with the government, etc. This suggests that pervasiveness of *wasta* use in Arab countries, even to obtain basic necessities like food, housing and medical assistance (27% vs. 8% in the US). Using *wasta* to obtain important paperwork such as drivers' licenses and passports in the Arab countries was also mentioned (33% vs. 0% in the US). Although most people from the ME and US have mixed feelings about the use of *wasta*/social connections, US interviewees were more positive about using social connection. A vast majority of ME interviewees (74%) in the Arab countries expressed concerns about the ethical implications (e.g., distributive and procedural justice) of using *wasta*. We also developed a theoretical coding scheme by which we coded for the legitimacy of *wasta* use mentioned in the interviews. In the coming period, we will be using all of our methodologies (grounded theory, quantitative coding, network analysis, and LIWC analyses) to develop a comprehensive understanding of the critical concept of *wasta*, among our other concepts (fatalism, modesty, respect, apology, revenge, apology, forgiveness, negotiation). We will also begin to develop connections across the constructs, toward the end of developing a unified theory of subjective culture in the Middle East.

Finally, within this research thrust, we have added a *computational* component to advance our understanding of core constructs in the ME region. In particular, MURI researchers Andrzej Nowak and Michele Gelfand developed a computational model of honor that demonstrates why honor cultures persist and survive over time and the conditions under which they do not. Understanding how honor drives individual behaviors in conflict and negotiations is crucial to determining the functionality of honor culture. What does an individual or social group gain by adopting a culture of honor? It is unclear whether the high concern for reputation in such cultures is just an irrational characteristic of the culture or, by contrast, it is rational in ways that are not fully understood. If it is rational, then what are the factors that make a culture of honor become rational? For example, at the first glance the culture of honor would appear to be maladaptive. In this culture individuals have a tendency to make choices that presumably prefer the intangible good of preserving or raising their honor above tangible goods such as material gain or safety. Our hypothesis, however, was that in certain circumstances, a good reputation may have more value than the tangible goods in the long run. More generally, computational models allow us to understand under what conditions the culture of honor is expected to survive and under what conditions it is likely to fail. To our knowledge computational models have yet been applied to understand the dynamics of honor cultures. For our simulations we draw on our empirical work and operationalize the culture of honor as a style of behavior in which individuals always fight back when faced with aggressive challenge, even if they stand little chance of winning the confrontation.

In particular, to explore the rationality of the culture of honor we developed agent-based simulations in which we studied interactions between four styles of social behavior. The first strategy corresponds to culture high in *aggression*. Individuals, in interactions with others, who are perceived as weaker than they are, always confront and eventually attack the other. Individuals utilizing the second strategy, corresponding to *the culture of honor*, very rarely start the confrontation but always fight back when attacked, even when they perceive themselves as being much weaker than their attacker. The *interest culture* (also referred to as a *dignity culture*

by Cohen and colleagues) is defined by a strategy of calling authorities when attacked. The fourth strategy is a strategy of rational choice. A challenged individual fights back when he or she perceives themselves as being stronger than the challenger but surrenders when they perceive themselves to be weaker than the challenger. The crucial assumption of this model is that every individual has a *reputation*, which changes as a result of decisions to fight back or surrender and of winning versus losing confrontations.

We manipulated three critical variables in our simulations. The first is *the effectiveness of the response of the authorities* (e.g. police), which is defined as the probability of effective intervention in the event authorities are called. The second variable we manipulated describes the *initial proportions of the four cultures within the society*. The third variable we explore is the *toughness of the environment*. This variable is operationalized as the percentage of resources, out of the maximum amount of resources that the individual can have that is needed for survival. In tough environments one needs a high percentage of resources to survive, in gentle environments a small percentage is sufficient.

The model is implemented as a set of  $N$  interacting agents, where agents are interacting on a network with symmetric connections and a topology of a small world (Watts & Strogatz 1998). A small world is a network where most connections of each node are local, but a small number of connections are distant. To construct such networks agents are placed in a cell within a square grid of  $k$  rows and  $k$  columns. Local connections are generated by connecting the agent through bi-directional links to all the neighbors located not farther than  $r$  rows and columns, where  $r$  was set at 3. Adding  $N/2$  random connections creates the distant connections. Since each bi-directional connection connects two individuals, adding the number of connections equal to half the number of agents adds on the average one distant connection for each agent.

The behavior of an agent and its consequences depend on several characteristics randomly created according to specified distributions. These characteristics are determined when the agent is created at the beginning of a simulation or when a new agent replaces another weeded out by the selection process. The values of some features are changed at each step of the simulation, while others are kept constant.

- *Strength*, corresponds to the amount of resources the agent has. It is the most important dynamical variable of the model. It can be interpreted also as a “life force”. If the *strength* falls below the specified limit (e.g. 5%), the agent dies and is replaced by another agent with randomly created properties. This limit represents the toughness of the environment. The relative strength of the two agents determines the outcomes of a confrontation between them. The initial *strength* is a random number between half of the *maximum strength* and the *maximum strength*. It is updated such that in each step of the simulations it is slightly increased if there are no interactions.
- *Reputation* is the projection of image. Reputation corresponds to the subjectively perceived strength of the agent. Critically, it determines the behavior of other agents toward the actor. The higher the reputation the smaller the probability that another agent will challenge the actor to a confrontation. It is assumed (and important for model’s dynamics) that the true strength cannot be perceived by others, nor the agent. Strength



decides the results of confrontations and survival of the agent. All the decisions whether to attack and how to respond when challenged are based on reputation, rather than actual strength. Reputation value is initially set equal to initial strength value. It is updated after every interaction depending on the behavior of an agent and its consequences.

- *Aggressiveness* describes the likelihood that the agent will challenge another to a confrontation. In the current set of simulations it can have values of either 0 (the agent will not start a confrontation) or 1 (the agent will always challenge the other to confrontation, if the agent has higher reputation than the other). The proportion of agents who are aggressive is one of the main parameters of the simulation program. An aggressive agent will attack the other only if it thinks that it is stronger than the other (has higher reputation) than the other.
- *Honor orientation* (currently 0 or 1) describes the likelihood that the agent will stand up to a confrontation if challenged. The proportion of honor-oriented individuals is one of the main parameters of the simulation program.
- *Referring to authorities* describes the likelihood of calling the police if challenged to a confrontation. It is currently set as either 0 (never) or 1 (always) and does not change in the lifetime of agent.
- *Rational orientation* is describes the culture, where the challenged individuals will fight back, if they feel stronger than the aggressor (have higher reputation), but will give up when they feel weaker than the aggressor.

Our major results of the model include:

*Honor simulations: Set 1.* The first set of simulations was aimed to re-examine using the new model what are conditions under honor cultures are functional and can survive in the long run. To establish if the culture of honor can be functional, we examined the equilibrium state (or in dynamical system terms the attractor) of the dynamics of interaction between the four cultures. To look into the equilibrium state, the simulations were run for 5000 steps and after this time the results were recorded and used for the analysis. Below we present a selection of our results for conditions (combination of parameters) in which the culture of honor is functional and can survive in the long run. The simulations have indicated that the culture of honor can survive when the *environment is tough and the effectiveness of authorities is low*.

In the first set of simulations we have varied the effectiveness of authorities and the proportion of the honor and dignity culture in environments of different toughness. The initial proportion of cultures also defines the probability of acquiring the culture when a new individual is created in place of one that died due to random process. Random death is quite rare (.001 for a simulation step). It may be represented as a natural death from aging, since this probability is set by the initial setting of the parameters at the beginning of the simulation and does not change during simulations. When the individual dies due to the exhaustion of the resources, the new individual acquires one of the cultures of the individual's neighbors in the simulation space, so it is determined by the dynamics of the simulation. The toughness of the environment is

represented as the percentage of the maximal possible amount of resources that are necessary for survival.

In general the proportion of different cultures is proportional to the initial starting proportions of the cultures. There is a region of the parameters space, however, where the popularity of the culture of honor is much higher than in the surrounding regions. When the toughness of the environment is between 5% and 25%, the culture of honor can survive and proliferate when the effectiveness of the authorities is lower than 30%. In this region the popularity of the culture of honor reaches 18% when the initial proportion of the Honor culture is 7% and the Dignity culture 26%, and the effectiveness of authorities is 1.5%. Interestingly, if the initial proportion of the honor culture is low, the aggressive culture becomes very popular, while reducing the popularity of the rational and dignity cultures. Since the honor culture, on the average, wins with the aggressive culture, over time the honor culture replaces the aggressive culture and gains popularity. If the popularity of the honor culture, however, is present initially, it stops effectively the aggressive culture in the beginning and has no niche to thrive.

We present in Appendix E Figure 1 the time series of 10 simulation runs with these parameters are presented. As can be seen in this Appendix, all the simulations had very similar time course. The dynamics of simulations is periodic (cyclical). The same scenario emerges repeatedly. The scenario consists of periods of growth and domination of the aggressive culture, which paves the way to the rise of the culture of honor, and periods of decay of the aggressive culture, when the culture of honor eliminates most of aggressive individuals. This enables the growth of the rational culture which in the conditions of low overall aggression has higher fitness than that the culture of honor. The popularity of the culture of honor thus goes down, which makes it possible for the aggressive culture to grow once again.

The general scenario that was observed in this simulation is as follows: Initially the dignity culture rapidly loses popularity. This is because its strategy of referring to authorities (calling the police) due to the assumed weakness of authorities never leads to the successful outcome—i.e., the police never come. The aggressive culture thus wins all the confrontations with the dignity culture, which never fights back. These easy won confrontations boost the reputation of the aggressive individuals. Because of their high reputation, when the aggressive individuals challenge the rational individuals they are rarely confronted, and in most cases the rational individuals give up, because of the perceived high strength of the attackers. As the result, the reputation of rational individuals goes down. That disparity between that average reputation of the aggressive culture and the rational culture grows. This leads to rationally oriented individuals being chosen more often is the target of attack by those coming from the aggressive culture, and less frequent decisions of the rational culture to fight back. As the result, the popularity of the rational culture declines. The aggressive culture gains at the expense of both the dignity culture and the rational culture and shortly becomes prevalent.

Note that the culture of honor follows seemingly irrational strategy of always fighting back when challenged. Individuals coming from this culture often engage in fights, in which they have no chance to win. As a result of lost fights they lose their resources, what makes it even harder for them to win next confrontations. However, because they always fight back when attacked, and with some probability they win fights, their reputation, on the average, grows. This

is especially true in the case of the honor-oriented individuals with the highest strength, because they win most of the confrontations. Because of their higher reputation, the individuals from the culture of honor are less frequently attacked. Lessened frequency of fights results in more time between confrontations when they can regain their strength. As the result, they are stronger when enter the next confrontation with an aggressive individual so they win the confrontation gaining considerable reputation. This *positive feedback* loop results in the rapid growth of the culture of honor. Individuals from the culture of aggression, because of the frequent surrender of individuals from the rational culture and failures in confrontations of the dignity culture, eventually gain reputation, which usually is considerably higher than their strength. As the result, they attack honor oriented individuals they perceive as being weaker, but who are actually stronger than the attacking aggressive individual. Accordingly, they lose their strength and reputation. After series of such unsuccessful confrontations their strength becomes slower than the limit of resources necessary for survival and they are eliminated. This paves the way for the growth of the rational culture and to some degree for the interest culture. In particular, in the absence of the aggressive culture the rational culture has higher fitness than the honor culture. Put simply, the loss of resources spent on maintaining their high reputation (engaging in some random fights) on the average, makes the culture of honor less fit than the rational culture, so the honor culture loses popularity.

Thus, the computer simulations have thus revealed a surprising, emergent phenomenon: the dynamic, symbiotic relation between the culture of honor and the culture of aggression. The relation between these two cultures resembles the dynamics of predator-prey relationship described in the famous Lotka-Volterra model. In this model, if there is enough prey, the population of predators grows, pushing down the population of prey. The decline of the population of prey leads to the decline of the population of predators, who do not have enough food. With a low number of predators, the population of prey grows, paving the way for the growth of the population of predators. The size of both predators and prey populations changes as two sinusoidal curves, where the dynamics of predators follows in time the dynamics of prey. Interestingly, our computer simulations revealed that honor-oriented individuals play the role of the predators, and the aggressive ones become prey. Thus, in the long run the culture of honor wins over the culture of aggression. In the absence of the culture of aggression, however, the rational culture wins over the honor culture. The relation of who wins with whom is non-transitive, what leads to oscillations. The symbiosis between the culture of honor and the aggressive culture is therefore dynamic.

We have also examined conditions in which the culture of honor *has limited functionality*, i.e. it does not get eliminated but in never reaches high values. Such dynamics we believe exist under moderate effectiveness of authorities. Appendix E Figure 2 portrays temporal dynamics of the four cultures in conditions moderately favorable for the culture of honor. The conditions are similar to the previous simulation, but the assumed effectiveness of authorities is 33%. As we can see, the culture of honor can still survive in the simulations, but its popularity is low. Oscillations between the culture of honor and the aggressive culture are dampened. This is because even moderate effectiveness of authorities stops the aggressive culture, so the rational culture prevails, with a moderate presence of the dignity culture. Even a limited effectiveness of authorities has significant impact on the dynamics of interactions between the four cultures. Even with only 33% of police calls answered, the interest culture

gains functionality and oscillates between values 3% and 9%. Even such a low presence is sufficient to keep the aggressive culture from growing above 45%, and establishes conditions for constant domination of the rational culture. Limited popularity of aggressive culture limits the fitness of the honor culture, so the oscillations of the honor and aggressive cultures result in none of these cultures ever reaching very high values. This result shows that *even when the capacity of authorities for effective intervention is relatively low*, it may dramatically change societal dynamics by keeping down the number of both aggressive and honor-oriented cultures.

To understand the dynamics of honor culture decay and the mechanisms leading to this, we have run simulations to examine the conditions that are also *highly unfavorable* for the culture of honor. As an example of conditions in which the culture of honor has a very low functionality, we present the results under the following parameters: 5% of maximal resources are necessary for survival, effectiveness of authorities is 66%, initial proportion of honor culture is 16% and dignity culture is 17%. The proportion of aggressive culture was set at 25% and the remaining 42% was programmed to behave rationally. The critical difference in comparison with the previously described simulations is very high effectiveness of authorities, which dramatically increases the fitness of the dignity culture and very effectively eliminates the aggressive culture. Appendix E Figure 3 shows the temporal dynamics of 10 simulation runs. As we can see, the effectiveness of the authorities does not have to be perfect to almost completely eliminate the aggressive and the honor culture. The rational culture still prevails and the popularity of the dignity culture is 20%. The results with near perfect effectiveness of authorities (99%) are very similar, but the popularity of the dignity culture is somewhat higher reaching 27%.

All the simulations had almost identical time course. The aggressive culture starts to decay after the initial 10 steps because of effective interventions by authorities. The interest and the rational culture grow, reclaiming fragments of the society previously occupied by aggressive individuals. Initially, the culture of honor is unaffected. When the proportion the culture of aggression comes close to 0, however, the culture of honor starts to decay. The decay of the culture of honor is slow, but in the absence the culture of aggression and in the conditions of high effectiveness of authorities (e.g. the police), after approximately 5000 simulation steps the culture of honor vanished. Under these conditions the culture of honor is clearly not functional. This is because of the slightly higher aggressiveness of honor culture individuals as compared to the dignity and rational cultures. When the effectiveness of the authorities is nearly perfect, and the police are called in occasionally by attacked individuals from the culture of interest, every instance of aggressive behavior by the honor oriented individuals contributes to the lower on the average fitness of this group, even though their aggression is rare. In conclusion, the elimination of aggressive individuals (mostly by police called in by the dignity culture) allows the interest and the rational culture to thrive in these conditions. Without the aggressive culture, in the long run the on honor culture cannot survive because the strategy dictated by this culture leads to fitness only in the presence of aggressive individuals. High effectiveness of authorities results in effective elimination of aggressive individuals in the long run, resulting in the elimination of the culture of honor.

*Honor simulations: Set 2.* In the previous simulations, we explored scenarios associated with high, medium and low functionality of the culture of honor. In the next rounds of simulations we have continued to systematically examine the parameter space of the model in an

effort to precisely determine in which areas of this space (i.e., under which combinations of parameter values) the culture of honor is functional—it can survive and proliferate—and under which conditions it is not functional and dies. In the simulations we are exploring the effects of the variables that were established in the preliminary simulations as the most important parameters of the model: initial proportion of cultures and effectiveness of authorities. Since there are many interactive, nonlinear effects in the model, the parameter space was explored with high precision, where the proportion of cultures was varied in steps as small as .25% (quarter percent). We have also examined in more detail how the results depended on the third control parameter of the model: *toughness of the environment*. We have conducted the simulations under the assumption 17% aggressive 16% honor, 17% dignity, 50% rational culture.

We have varied toughness of the environment by changing the threshold of the amount of the resources which are necessary for survival. The simulations have revealed that with *no selection* (maximally mild environment, no resources needed for survival) the initial proportion of the cultures did not change in the course of simulations. This is because even individuals who lost all their resources could survive. With *minimal selection* (i.e., between .75% and 1% of maximal resources needed for survival), the aggressive culture dominated. This is because with some selection the aggressive culture can eliminate other cultures, but the honor culture cannot eliminate the aggressive culture. In *mild, but somewhat tougher environments* (i.e., above 1% of maximal resources needed for survival and below 15%), and low effectiveness of authorities, the honor culture does well, aggressive culture oscillates with the honor, and the rational culture and the dignity culture has very low popularity in the scenario described above. In *tougher environments* (i.e., between 15% and 33% of the resources needed for survival), the aggressive culture dominates, with visible presence of the honor culture and low presence of the rational culture. The dignity culture practically does not exist in these conditions. However, in *very tough environments* (i.e., above 33% resources needed for survival), almost all the conflicts with the dignity culture when the authorities are called end in death of the aggressor, which is most often the aggressive culture. As a result, the frequency of the dignity and the rational culture grows, and the aggressive and the honor cultures are practically eliminated. In these conditions, the resources of all the individuals are so scarce that if the authorities take some part of the resources as a punishment, the agents' remaining resources are not sufficient for survival. Since almost all the confrontations with authorities are resulting in death, even a relatively low effectiveness of authorities suffices to stop the aggressive culture.

In sum, with very low effectiveness of authorities in very mild environments the culture of aggression dominates. In somewhat tougher environments, the culture of honor and aggressive culture oscillate. In tough environments the aggressive culture dominates. However, with growing toughness of the environment, the threshold of police effectiveness needed to stop the aggressive and the honor cultures decreases. In extremely tough environments the only the dignity and the rational cultures can survive.

*Honor simulations: Set 3.* In cultures of honor, the honor is acquired or lost as the result not only of own actions, but also as the results of the actions of members of one's families (as we have discussed above and in Gelfand et al., 2012). The simulation set 3 was run to answer the question: what is the effect of one's actions having the consequences for the family members? To observe the temporal trajectories in the simulations, we have set the initial conditions as the

equal initial frequency of all the cultures (25% each). These proportions were varied in further simulations. We have chosen a high toughness of the environment of 15%, the border value below which the culture of honor prevails and above which the culture of aggression wins with the culture of honor. First we compared the time course under the assumption of 0% effectiveness of authorities of the model with the family mechanism implemented and without the families. We found that without the family mechanisms, we observe oscillations between the aggressive culture and the honor culture. The introduction of the family mechanisms, however, eliminated the oscillations and resulted in the continuous domination of the culture of honor above the culture of aggression. However, still the rational culture was most prevalent in these conditions. We are now continuing to explore the parameter space where honor cultures dominate even the rational cultures. We also plan to expand the current model to model evolving cultures and genetic algorithms to explore the functionality of cultures. In the current model we assume four constant cultures. In the future we plan to assume that the rules of the cultures can be changed randomly so the cultures evolve. We will observe what combination of cultures will emerge from the evolutionary process.

- **The assessment of new dimensions of cultural variation and new approaches to studying cultural differences.**

One of the main limitations of cross-cultural psychology is the exclusive focus on Hofstede's (1980) value dimensions. As part of our MURI, we moved beyond just a focus on these dimensions to develop new theory and research on aspects of culture that are highly relevant in the Middle East (e.g. honor, dignity, and face orientations; fatalism; tightness-looseness) but have received little attention. Moreover, as part of our MURI, we advanced new ways to conceptualize cultural differences. We have introduced theory and research on what we call the *microstructural level of analysis* in cross-cultural research, which highlights the importance of understanding everyday constraints—norms, roles, and networks—and how they vary across cultures. In previous grant periods we introduced this approach in Chan, Gelfand, Yamagishi, Shteynberg, & Wan (2010) in a special issue on culture for *Perspectives in Psychological Science* (Gelfand & Diener, 2010). This new perspective, which draws on developments in evolutionary psychology and behavioral economics, argues that individuals are quasi-rational actors whom are calculated to the different constraints and affordances in their local environments, and behave in ways that match the situational requirements for personal fitness. In this view, cultural differences need not be a function of only internal preferences per se, but can be understood as rational adaptations to incentives in the micro-structural environment. We published one of the first scales which pioneered this approach in a set of studies of descriptive norms by Shteynberg, Gelfand, & Kim (2009). We also published three papers that show the value of this approach in understanding cultural differences in negotiation (Gelfand, Lun, Lyons, & Shteynberg, 2012 in the *Journal of International Negotiation*; Gelfand, Severance, Fulmer, & Al-Dabbagh, 2012, in Bolton & Croson's (Eds. *Handbook of negotiation: Experimental economic perspectives*, and Gelfand, Brett, Gunia, et al, 2013, in the *Journal of Applied Psychology*).

We have extended this research to develop a descriptive norm scale to assess Honor, Face, and Dignity (HDF) cultural logics. Although scales assessing related constructs (e.g., face loss; Liao & Bond, 2011; honor concerns; Rodriguez, Mosquera, Manstead, & Fischer, 2002)

exist, they examine cultural logics in isolation, as opposed to examining honor, dignity, and face (HDF) in relation to each other. Further, these scales are framed at the individual level; that is, they question the extent an individual personally endorses a given belief (e.g., “Please rate your agreement with the following statement”). In contrast, our measure is framed at the descriptive norm level, which focuses on to what extent an individual believes a broader social entity endorses a given belief (e.g., “Most Americans believe that..”). Descriptive norms can be regarded as *personally held cognitions* concerning important others’ attitudes and behaviors (Cialdini & Trost, 1998). This approach is grounded in large part on the understanding that *norms* have a profound influence on individuals’ attitudes and behaviors, and as such, may be crucial determinants of cultural differences.

We have entered and analyzed data from numerous samples on our new HDF scale across a number of countries. In Phase I of our research, we defined our construct space in order to develop items which included: Honor: deterrence, promotion/prevention of honorable behaviors, public image/worth, response to honor violations; Dignity: equal worth, internal worth, resisting social influence; and Face: embarrassment, humility/harmony, public image, status. We developed numerous survey items and collected data from 244 participants across 4 nations (65 from the United States, 60 from Japan, 61 from Israel, and 58 from Pakistan). We conducted a factor analysis which showed support for an 18-item short-form of the scale. The list of items can be found in Appendix F. As we expected, our analyses showed that Pakistan was the highest on honor, Japan the highest on face, and the U.S. and Israel were highest on Dignity. We are continuing to validate the scale by distributing the scale to additional international samples and conducting confirmatory factor analyses. In addition, we are in the process of collecting data to assess the predictive validity of the scale.

Through our MURI efforts, we have also put the “tightness-looseness” distinction—a cultural dimension that has the potential to be a major source of cultural conflict—on the “cultural map” for theory, research, and practice. We published a paper in *Science* on the difference between nations that are ‘*tight*’—have strong norms and high sanctioning of deviant behavior – versus ‘*loose*’—have weak norms and low sanctioning of deviant behavior. We provided the first systematic analysis of tightness-looseness in modern societies with data gathered from 6823 respondents across 33 nations. The paper was covered by many media outlets, including National Public Radio, Voice of America, PRI, the Boston Globe, Fox 5 news, among others in the U.S. and abroad (see Appendix A, Media Section for the full list). This year, the work was presented at numerous universities, including the University of Michigan, Stanford University, and Carnegie Mellon University. The paper received the *Gordon Allport Prize for Intergroup Relations* from the Society for the Psychological Study of Social Issues (SPSSI) this year.

More specifically, although early anthropological research showed the promise of this distinction in traditional societies, there exists no insight into how tightness-looseness operates in modern nations. Situating our work within an eco-cultural framework, we found evidence that tightness-looseness is afforded by a broad array of ecological and human-made societal threats (or lack thereof) that nations have historically encountered. Ecological and human-made threats increase the need for strong norms and sanctioning of deviant behavior in the service of social coordination for survival, whether it is to reduce chaos in nations that have high population

density, deal with resource scarcity, coordinate in the face of natural disasters, defend against territorial threats, or contain the spread of disease. Nations facing these particular challenges were predicted to develop strong norms and have high sanctioning of deviant behavior in order to enhance order and social coordination to effectively deal with such threats. Nations with few ecological and human-made threats, by contrast, have a much lower need for order and social coordination, affording weaker social norms and much more latitude in what is considered appropriate behavior.

We also theorized and found that the strength of social norms and sanctioning of deviant behavior is also reflected and promoted within prevailing practices and institutions. Institutions in tight nations have *narrow* socialization that restricts the range of permissible behavior whereas institutions in loose nations encourage *broad* socialization that affords a wide range of permissible behavior. As compared to loose nations, tight nations are more likely to have autocratic governing systems that suppress dissent, media institutions (broadcast, paper, internet) with restricted content and more laws and controls, criminal justice systems with higher monitoring and more severe punishment (e.g., the death penalty), and higher religiosity which reinforces adherence to moral conventions and rules. Challenges to societal institutions (e.g., demonstrations, boycotts, strikes) are much less common in tight as compared to loose nations. These institutions and practices simultaneously reflect and support the strength of norms and sanctioning that exists in the system.

We also showed that tightness-looseness manifests not only in distal ecological, historical, and institutional contexts but also in *everyday situations* in local worlds (e.g., at home, in restaurants, classrooms, public parks, libraries, the workplace, etc.) that individuals inhabit. We found, for example, that tightness-looseness is reflected in the predominance of *strong* versus *weak* everyday situations (Mischel, 1977). Strong situations restrict the range of behavior that is deemed appropriate, have high censuring potential, and leave little room for individual discretion. Weak situations place few external constraints on individuals and afford a wide range of behaviors that are deemed appropriate. Situational strength has been long discussed among psychologists, sociologists, and anthropologists, but has yet to be linked to cultural variation. Our data show that tight nations collectively define and maintain a much higher degree of situational constraint—a restriction on behavior that is deemed appropriate—across a wide range of everyday situations (classrooms, libraries, public parks, etc.). By contrast, loose nations are expected have a much weaker situational structure, affording a wider range of permissible behavior across everyday situations.

Finally, we found that there is a close connection between the strength (vs. weakness) of everyday situations and the *chronic psychological processes of individuals* within nations. Individuals who are chronically exposed to stronger (versus weaker) situations in their everyday local worlds have the continued subjective experience that their behavioral options are limited, their actions are subject to evaluation, and there are potential punishments based on these evaluations. In particular, individuals in nations with high situational constraint have self-guides that are more prevention-focused and thus will be more cautious (concerned with avoiding mistakes), dutiful (focused on behaving properly), have higher self-regulatory strength (higher impulse control), a higher need for structure, and higher self-monitoring ability. Put simply, the higher (or lower) degree of social regulation that exists at the societal level is mirrored in the



higher (or lower) amount of self-regulation at the individual level in tight and loose nations, respectively. Such psychological processes simultaneously reflect and support the strength of social norms and sanctioning in the larger cultural context.

We tested this theory across 33 nations through surveys of individuals from a wide range of occupations as well as university students, along with data on ecological and historical threats and societal institutions that were collected from numerous established databases. When possible, historical data were included (e.g., population density in 1500, history of conflict, 1900-2001, historical prevalence of pathogens). We found strong support for the theory, and illustrate that tightness-looseness, a critical aspect of modern societies that has been heretofore overlooked, is a part of a system of interrelated distal and proximal factors across multiple levels of analysis. In addition to explicating how tight and loose cultures vary in modern nations, this systems view has implications for understanding and modeling how tight and loose cultures are maintained and changed. Substantial top-down or bottom-up changes in any of the levels in the model may trigger a rippling effect to other levels. However, the fact that the system is constituted through many interrelated factors across multiple levels suggests that only one change in the system (e.g., a recent territorial threat, a change in government) is unlikely to have a major change throughout the system.

*Computer simulations and mathematical analyses of tightness-looseness.* Lead by MURI researcher Dana Nau, we developed a computational model that helps to illustrate causality for some of our assumptions that were tested with survey data reported in *Science*. Based on the theory, we predicted that groups that have high degrees of threats *will require* much higher levels of punishment in order to survive across generations. In particular, we analyzed the effects of varying degrees of societal threats through evolutionary game theoretic models based on the Public Goods Game (PGG), and showed through mathematical analysis and computer simulations how *differences in punishment propensities optimal for group survival can arise from differences in the group's exposure to societal threats*. We focus on whether there is an evolutionary advantage (or disadvantage) that different punishment propensities give a population, and whether different punishment propensities are evolutionarily stable.

*Societal Threat, Norm Maintenance, and Punishment: Evolutionary Model and Results.* The PGG is a well-established paradigm for studying cooperation and norm violation (e.g., Brandt et al., 2003; Hauert et al., 2002; Henrich & Boyd, 2001), and it has also been used to study punishment (Brandt et al., 2003; Traulsen et al., 2009). In the PGG,  $N$  players may each either Cooperate (contribute some amount  $c$ ) or Defect (contribute nothing). If more than one player contributes, the sum of all contributions is multiplied by a factor  $r$ . The resulting amount is divided evenly among all players, regardless of whether they contributed. The higher the proportion of Defectors, the less there is to share. Due to the temptation to defect, it would be easy for the entire population to fall into a state of all Defectors. However, several studies have shown how social mechanisms such as individual-based peer-punishment or institutional punishment can foster and establish cooperative behavior as a societal norm (e.g., Boyd & Richerson, 1992; Henrich & Boyd, 2001; Traulsen et al., 2009; Ye et al., 2011). Under peer-punishment, if a Cooperator decides to punish a Defector, punishing reduces the Defector's payoff by  $\rho$ , at a cost  $\lambda$  to the Cooperator. Given that the focus of our model is to explore the relationships among various types of societal threat, punishment propensity that can vary

between different cultural groups, and evolutionary outcomes, we model a punishment propensity that can vary between groups as a probability  $q$  with which a cooperating player in any particular group punishes Defectors. Modeling punishment in this respect allows not only for the representation of different punishment propensities in different cultures, but, as we shall show, it also allows us to describe optimal punishment propensity values (in terms of overall group payoff) under different conditions of societal threat.

Following established work on PGG models, each generation, our model samples multiple disjoint game-groups from the population. After multiple samplings and PGGs played, the population changes under a combination of replicator dynamics (Gintis, 2000; Hofbauer & Sigmund, 2003) and random exploration of strategies. Replicator dynamics are analogous to social learning, in which agents imitate other agent's strategy with a probability proportional to the agent's payoff. Random exploration (i.e. exploration dynamics) of strategies is analogous to random mutation. Such random exploration of the available strategy space has recently been shown to play an important and often underestimated role in human strategy updating within social contexts (Traulsen et al., 2009, 2010). The replicator dynamics with random exploration of strategies can be modeled as a system of ODEs that will allow us to solve for fundamental relationships between societal threat and punishment propensity. Additionally, we assume cultural group-selective pressures to act on different groups or societies. Group selection has been argued to play an important role in cultural evolution and promotion of cooperation (Bowles, 2006; 2009; Fletcher & Zwick, 2004; Henrich, 2004; Soltis et al., 1995; Traulsen & Nowak, 2006;). The population dynamics described above determine the evolution of different individuals within groups, but it is important to understand the implications of group selection in the interpretation of our results. Real-life mechanisms that may account for group selection in cultural environments include selective migration, inter-group cultural transmission, and between-group warfare or competition for resources (Bowles, 2006; Boyd & Richerson, 2009). Group selection leads groups that are able to maintain higher overall payoff (i.e. group fitness) to have an evolutionary advantage (i.e. higher likelihood to survive) over competing groups. This is important for our study because we will show how higher degrees of threats require higher optimal punishment propensities to maintain high group cooperation. Because high rates of cooperation lead to higher overall group payoff, high rates of cooperation are linked directly to group survival.

In Gelfand et al. (2011) we identified a number of societal threats cultural groups might face to varying degrees. These include ecological threats such as natural disasters, external man-made threats that threaten a society's territory (e.g. invasions or warfare), and population density (Gelfand et al., 2011). By operationalizing these threats in our models (see below), we find that all of the threats and their plausible model interpretations support the following thesis: there is a minimum required punishment propensity  $q_{rec}$  that a population *requires* in order to maintain cooperation and thus to be evolutionarily viable; and importantly,  $q_{rec}$  *increases monotonically with the amount of societal threat*. We also find that there is an optimal punishment propensity  $q_{opt}$  slightly higher than  $q_{rec}$ . Punishment in excess of  $q_{opt}$  can harm overall group payoffs, hence would be selected against under group selection.

For example, nations that face ecological threats such as floods, tropical cyclones, droughts, or higher prevalence of pathogens have been found to tend toward stronger norms and

punishment systems (Gelfand et al., 2011). These threats may lead to inefficiencies in production, or managing them may require the use of the population's resources. Hence a straightforward way to operationalize them in our PGG model is by decreasing the payoff to the group members. We can do this by varying the parameter  $r$ , the multiplication factor of contributions creating the public good to be divided among agents. By solving our system of ODEs giving the population dynamics, we find (see Appendix G.1) that a higher  $r$  (less societal threat) lessens the required punishment propensity to maintain cooperation, while a lower  $r$  (more societal threat) raises the required punishment propensity. In addition, we examined external man-made threats that threaten a society's territory include, e.g., migration, intentional sabotage, and territorial invasion in our simulations. Our research has found that societies facing potential invasions from neighboring groups (and by extension, facing challenges to their group resources) developed stronger punishment systems than societies that had few territorial threats (Gelfand et al., 2011). One way to operationalize this type of threat in our PGG model is through an invasion of Defectors 2. By taking some of the group's payoff without contributing, Defectors in effect steal from the group: they decrease the per-capita payoff, hurting group survival. The threat's intensity can be interpreted as the size of the invasion of Defectors. By solving our system of ODEs giving the population dynamics for different invasion sizes, we find that the greater the influx of Defectors, the higher the punishment propensity needed to prevent a breakdown into defection (see Appendix Figure G.2). Hence if a group is threatened in this fashion, it needs a higher punishment propensity against Defectors to maintain high rates of cooperation, high group payoff, and increased chances of group survival.

Our field research also suggests that groups with high population density develop stronger punishment systems than those with low population density (Gelfand et al., 2011; Peltó, 1968). Simply put, it is suggested that in societies with high population density (e.g., Japan, Singapore, South Korea), there is greater potential for chaos and interpersonal difficulties, hence a greater need for punishment. We can implement a variable population density in our model as the density of the spatial structure of the population of interest. By running this model on regular graphs of different average degrees and measuring the average long-run proportion of Cooperators, we find (see Appendix Figure G.3) that to achieve any particular cooperation rate, higher punishment propensities are required at higher graph densities, and lower punishment propensities suffice at lower population densities.

The above results show how increases in societal threats increase  $q_{\text{req}}$ , the minimum punishment propensity needed to maintain cooperation (hence high population payoffs). But our finite population models also show (e.g., see Appendix Figure G.4) an optimal punishment propensity,  $q_{\text{opt}}$ , slightly above  $q_{\text{req}}$ . Punishment propensities above  $q_{\text{opt}}$  decrease the overall population payoff, because a constant exploration rate leads to a continuous, unavoidable presence of Defectors, and punishing them is costly. This effect is especially dramatic when there is action noise (i.e., nonzero probability  $\alpha$  that agents will misinterpret a cooperative action as a defection and hence punish mistakenly, or vice versa). Hence group selection selects against punishment propensities above  $q_{\text{opt}}$ . This principle applies to all threat types explored previously.

We have also investigated an alternative model that includes punishment reputation and allows us to investigate how groups' punishment propensities may be maintained (even without the existence of group selection). The model was recently developed (Hilbe & Traulsen, 2012)

to illustrate how responsible punishment can evolve in the presence of anti-social and spiteful punishment, while simultaneously avoiding the problem of higher order free-riding (cooperative outcomes being endangered by Cooperators that do not punish Defectors invading the population). It includes a state-of-the art strategy set including 16 strategies, including agents that can condition their decision to cooperate or not based on the punishment reputation of their co-players. In this model, agents either punish or do not punish, so we consider a population's punishment propensity to be the proportion of punishing agents in the population. By considering this alternative model, we also check and illustrate the robustness of our general results on societal threat and punishment propensities. The results from operationalizing the societal threats in this model again support our thesis that higher threats lead to higher punishment propensities. The manner in which this relationship comes to being however differs from the former model, and group selection is not required. In this alternative model, a mix of Responsible Punishers and Non-Punishers is stable within a population itself. The proportion of Punishers and Non-Punishers that is stable varies with societal threat in such a way that higher threat conditions lead to a higher proportion of Punishers in the stable state of the population (See Appendix Figure G.5)

In sum, through our MURI grant, we developed models that illustrates how societies' optimal (in terms of overall group payoff) or evolutionarily stable punishment propensities depend on the degree of societal threat that they face. Given a group or society's particular threat conditions, if the group exhibits sufficiently high punishment of defections, then individual selective pressures will maintain cooperation as a norm within the group, ensuring a high overall group payoff. But if a group's propensity to punish defection is higher than this required amount, then the overall group payoff will decline. We considered three general types of threat examined by social science research in relation to punishment norms: ecological disasters and other threats to group resources, external man-made threat, and population density. For each of these forms of societal threat and their plausible interpretations in our evolutionary game model, higher degrees of threat increased the punishment propensity required to prevent a breakdown into defection. Thus, the optimal punishment propensity is an increasing function of the degree of societal threat faced by the group. If there exists punishment reputation on the other hand, increased threat increases the evolutionarily stable punishment propensity even without group selection. This research, which added an important computational component to our previous field research, was given a revise and resubmit from *Organizational Behavior and Human Decision Processes* and was resubmitted for further review.

*Computational Models of Xenophobia.* We have also begun to develop new computational models of another aspect of tight versus loose cultures—higher levels of xenophobia in the former than latter (Gelfand et al., 2011)—to examine the conditions under which this is evolutionarily adaptive. In particular, we have begun to develop an evolutionary simulation game that consists of a population of agents that compete with one another for a finite amount of resources (representing arable land, hunting territory, etc.). The objective for each agent is to obtain enough resources to survive and reproduce into the next generation, and obtaining more than the necessary amount of resources does not help the agent significantly. Agents obtain resources by interacting with one another in a Hawk-Dove game, which is a standard way of modeling an interaction between two animals that may result in conflict (Smith, 1973). In this game, two agents each choose between a cooperative (Dove) and an aggressive

(Hawk) strategy, and this can result in either the resources being split evenly (Dove-Dove), a single aggressor taking all the resources (Hawk-Dove), or a conflict that destroys the resources and injures both participants (Hawk-Hawk). Our agents are organized into groups, and agents within a group share resources and cooperate with one another (i.e. play Dove) in all interactions. When interacting with a member of a different group, an agent uses one of three types of strategies: (1) The baseline strategy, *Cooperative*, which does not treat members of other groups different from one's own and therefore always plays Dove, (2) The *Xenophobic strategy*, which always plays Hawk with members of another group, and (3). The *Tit-For-Tat strategy*, which plays Hawk if a member from the opponent's group played Hawk the last time it interacted with a member of the agent's group; otherwise, it plays Dove. These strategies represent cultures at different points on the tightness-looseness spectrum, which Gelfand et al. constructed by observing the characteristics of different cultures in modern societies. We examined the factors that determine the success of these different strategies, including the level of resource scarcity in the environment and the strategies employed by the other groups in the environment. We predicted that *Xenophobic* groups will succeed the most in environments with either very scarce resources or a large number of other *Xenophobic* groups. By contrast, we expect that *Tit-For-Tat* groups tended to do well in environments with abundant resources or a small number of *Xenophobic* groups. This would be consistent with many of the observations made about tight and loose cultures by Gelfand et al. (2011): the strategy representing tight cultures might have an evolutionary advantage in environments with low available resources or high likelihood of aggression from other groups, whereas the strategy representing loose cultures might have an evolutionary advantage in environments with high available resources or few external threats. Our experiments run have provided evidence supporting the hypothesis that cross-cultural differences in xenophobia can be caused by varying availability of resources in the environment. Hostility emerges as a functional strategy in a wide variety of cases in environments with scarce resources, and cultures that share resources more effectively within groups (which is facilitated by the strict norms that characterize tight cultures) can afford to be even more aggressive towards out-group members. When natural resources are not scarce, however, the looser strategy of Retaliation (i.e., third-party punishment) is advantageous in most demographics, especially when fewer resources are shared within groups (i.e., norms are less strict). Finally, the loosest possible strategy of widespread Cooperation is sustainable only when resources are abundant and few resources are shared within groups (i.e., cultural norms are exceptionally lax).

These results are also consistent with the hypotheses of climato-economic theory (Van de Vliert 2011), as well as the results of recent empirical studies examining the relationship between food prices and political instability (Arezki, 2011; Bellemare, 2011; Brinkman, 2011; Lagi, 2011). Therefore, we believe that our results could help us better predict how different cultures are likely to respond to changing resource availability in their environment.

*Laboratory Experiments of Tightness-Looseness.* In addition to the above research, we also expanded our methodological toolkit to include laboratory experiments on tightness-looseness and to develop a new *ecological priming* paradigm. Scholars have long argued that cultural knowledge and norms can be primed using classic social cognition methods (Trafimow, Triandis, & Goto, 1991). We have now extended this paradigm to show that one can prime the same ecological and historical threats that occur naturally in the real world within the laboratory to study their temporary effect on individuals' cognition, motives, and behaviors. In particular,

we developed experimental platforms to “prime” ecology and societal threats (e.g., population density, threat to one’s soil) in order to show further evidence for the theory. In one study, participants were asked to read a school newspaper article (which was actually fictitious) and were randomly assigned to either the low population density (low ecological threat) or high population density (high ecological threat) priming article. We manipulated the salience of high versus low population density by telling students at the University of Maryland that UMD is one of the highest in population density (or lowest) universities in the US. We also had parallel quotes in the article about student life that reflected high versus low density on campus. We then asked them questions regarding their attitudes toward deviance as we did in the *Science* paper. We found that those primed with the high population density condition were much more likely to consider socially deviant behavior (e.g., taking drugs, having casual sex, littering in public places, stealing, and talking loudly at a library, among others) much less justifiable than those primed with low population density. In addition, priming population density had an impact on attitudes toward people who are different, as measured by the Pew Global Attitudes scale (also reported with field data in *Science*). For example, people primed with high population density were more likely to agree with such statements as “We should restrict and control entry of people into our country more than we do now”; “When jobs are scarce, employers should give priority to American people over immigrants”; “Our people are not perfect, but our culture is superior to others”; and “Our way of life needs to be protected against foreign influence” than those primed with low population density. This shows that ecological conditions that form the macro basis of cultural differences across nations can be primed in the laboratory and produce similar psychological processes, at least temporarily, that are similar to what we find in the field. We have described this work in a *Behavioral and Brain Sciences* commentary (Gelfand & Lun, 2013).

We also conducted another study on external threat and found very similar results. In this study, participants were primed with varying levels of external threats by reading a school newspaper article that was either about (1) A school in a different country that was implementing a terrorism threat warning system or (2) A new terrorism threat warning system that was going to be implemented at the University of Maryland. Participants then completed a series of surveys and timed computerized tasks that have been linked to societal differences in tightness/looseness. As with the previous study on population density, individuals who were primed with threats to their own territory were more likely to have negative attitudes toward deviant others. They were also much more likely, on implicit computerized measures, to negatively evaluate deviant individuals. Our other studies completed include priming pathogen threats and natural disaster threats. We are now writing up the results of this for publication. In all, this new paradigm provides a new way to study culture in the laboratory. We also received a new MINERVA grant to conduct neuroscience research on tightness-looseness which complemented these efforts.

*Tightness-looseness at other levels of analysis.* To complement our international and experimental research, we also investigated tightness-looseness *at the state level* in the United States (Harrington & Gelfand, 2014, which was published in a premier journal, the *Proceedings of the National Academy of Sciences*). Given that the United States is a large nation with wide variability in ecologies, we anticipated that this would be a primary testing ground in which to explore whether ecological factors predicted tightness-looseness within nations as well as between them (the latter being found in previous research; Gelfand et al., 2011). Moreover, we further investigated how tightness-looseness was associated individual psychological

characteristics and state-level outcomes. It is our hope to unify and explain a disparate and ostensibly unrelated number of phenomena in the United States using tightness-looseness as a common principle, including state level differences in psychological traits and behavior, innovation and creativity, substance abuse, anti-immigrant attitudes, and social integration and organization.

We constructed a composite index of 9 items to represent the tightness-looseness construct at the state level. As noted previously, tightness-looseness reflects norm strength—or the degree to which norms and rules are enforced—and tolerance for deviance—or the degree to which variance in individual characteristics and behavior is accepted. In our index, norm strength is indexed by four items: the legality of corporal punishment in schools, the percentage of students hit/punished in schools, the rate of executions from 1976-2011, and the severity of punishment for violating laws (e.g., selling, using, or possessing marijuana). Latitude/permissiveness is reflected by three items: the legality of same sex civil unions, the ratio of dry to total counties per state, and institutional support for individual liberties (e.g., Senate member rankings by the American Civil Liberties Union). Finally, the social presence held by institutions that reinforce moral order and constrain behavior is indicative of both greater norm strength and lower deviance tolerance. Consequently, we have also included two more items: state level religiosity and the percentage of individuals claiming no religious affiliation. Factor analyses revealed one distinct TL factor accounting for 49% of the sample variance, and the scale was found to be reliable ( $\alpha = .86$ ).

We produced a rank order of TL in the 50 states based on this index. The top ten tight states (from highest to lowest) are: Mississippi, Oklahoma, Alabama, Texas, Arkansas, Tennessee, Kentucky, Louisiana, South Carolina, and Kansas. The top ten loose states (from highest to lowest) are: Oregon, Washington, California, Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Alaska, and Hawaii. Regions in the US also differed widely in tightness-looseness. A Welch analysis of variance using the four primary U.S. Census regional designations—Northeast ( $N = 9$ ,  $M = 38.82$ ,  $SD = 5.58$ ), South ( $N = 16$ ,  $M = 63.48$ ,  $SD = 10.96$ ), Midwest ( $N = 12$ ,  $M = 50.04$ ,  $SD = 5.68$ ), and West ( $N = 13$ ,  $M = 41.16$ ,  $SD = 8.59$ )—confirmed this,  $F(3, 24.80) = 20.54$ ,  $p < .001$ ,  $\eta^2 = .61$ . Games-Howell post-hoc tests and the above confidence intervals demonstrate that the South was the tightest region and was significantly different compared to all other regions. The Midwest region fell in-between the tighter South and the looser West and Northeast and was also significantly different from all other regions. No significant differences existed between the Northeast and the West, the loosest regions based on our index. A second one-way analysis of variance using the U.S. Census's nine regional divisions (New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific) exhibited similar patterns,  $F(8, 41) = 28.11$ ,  $p < .0001$ ,  $\eta^2 = .85$ .

We also collected a variety of state-level data that we separated into three divisions: ecological factors, psychological characteristics, and outcome variables. Ecological factors include environmental vulnerabilities (such as death rates due to storms and floods, tornado risk, and a “green index” of environmental health), resource availability (such as the rate of low food security amongst individuals and households, and poverty rate), health vulnerabilities (such as rates of HIV and Chlamydia, pneumonia and influenza death rates, a fifteen year index of

disease/parasite stress, rates of infant and child mortality, and life expectancy at birth) and concern with external threat (indexed by rates of military recruitment and desire for increased defense spending). Regarding psychological characteristics, we investigated the Big Five Personality Factors: agreeableness, extraversion, conscientiousness, neuroticism, and openness at the state level (Rentfrow, Gosling, and Potter, 2008). Lastly, we collected a large amount of data concerning state level outcomes that can be categorized into five basic divisions: social organization, xenophobia and discrimination, gender equality, creativity, and happiness. Our social organization variables reflect the relative stability and institutional reinforcement of that stability at the state level. It includes rates of homelessness, rates of illicit substance and alcohol abuse, and an index of social disorganization created by Baron and Straus (1987) and, on the institutional enforcement side, presence of law enforcement per capita and rates of incarceration (after controlling for poverty and crime). Our xenophobia and discrimination variables include rates of discrimination charges from the Equal Employment Opportunity Commission and the numbers of hate crimes and hate groups per capita. Gender equality was indexed by economic, legal, and political measures created by Baron and Straus (1987) and the percentage of women-owned firms. Creativity was assessed using variables for patents per capita—a commonly used measure of innovation (Florida, 2002)—and the number of people with creative occupations (i.e., fine artists) per capita (e.g., painters, writers, sculptors, etc.). Finally, happiness was measured using state level averages stemming from a large, national dataset collected via social media (Mitchell, Frank, Harris, Dodds, & Danforth, 2013).

The insights of this research are as follows: First, we found that low resource availability, greater health and environmental vulnerabilities, and more concern with external threat are highly predictive of tightness-looseness at the state level, as expected. Consequently, this demonstrates that the tightness-looseness construct is not merely applicable only to the international level (in other words, only explaining differences between nations), but is also an important factor influencing cultural norms at the state level. This holds important implications and may provide a foundation from which to understand the cultural variability and unity (or lack thereof) of nations, especially those that are large and have highly variable environments, which may produce variable intranational cultures. Second, we found that tightness is highly linked with greater psychological conscientiousness at the state level, a characteristic that motivates impulse control and overall self-constraint that facilitates goal and task oriented behavior, and is associated with conformity to norms and rules, cautiousness, deliberate action, self-discipline, ability to delay gratification, desire for orderliness, and the need to plan, organize, and prioritize (John, Naumann, & Soto, 2008). In addition, state-level tightness was correlated with less trait openness (Rentfrow, Gostling, & Potter, 2008). In a tight state that experiences many ecological threats, new ideas that challenge the status-quo may be perceived as threatening, as they can increase the relative disorganization of society and prevent coordinated activity that is adaptive in those environments. Finally, as both cultural norms and individual psychological features are theorized to be adaptive to environment, they must necessarily result in state level outcomes that would be adaptive for confronting the primary problems of that environmental context, but may yield costs in addition to benefits. Indeed, our analyses support this conclusion, as tightness was related to lower drug and alcohol use, lower rates of homelessness, and lower social disorganization and more stringent institutions that uphold order, including greater rates of police presence and incarceration. However, this higher stability and greater behavioral constraint comes with costs, including lowered gender equality, greater



discrimination and xenophobia, decreased innovation and creativity, lower happiness. Above all, this research demonstrates that an important cultural construct that accounts for large international differences can also account for significant variation within nations. Jesse Harrington, a MURI graduate fellow, was awarded a graduate NSF fellowship for this work (see also media attention to the PNAS paper in the media section of Appendix A)

*Field data on cultural change.* Lastly, another question we are addressing pertains to culture change and TL, i.e., how tight cultures change to become loose and vice-versa. Particularly relevant in this respect are the changes occurring in the Middle East after the Arab Spring. Here we witness formerly tight cultures loosening up, yet are these changes sustainable? Indeed, based on our theory, we would expect that there is a high likelihood of “autocratic recidivism”. In other words, we would expect that after years of top down control, distrust in generalized others, fear of punishment, and restricted and biased information from the media (as we found in tight cultures reported in Gelfand et al., 2011), when autocratic top-down tight control unravels, there is also a vacuum of structures/institutions or bottom-up self-organizing that can help coordinate cooperative social action on a large scale. The tight-loose “pendulum” in this respect, can go from extremely tight to extremely loose—resulting in a sense of normlessness, anomie, and disorganization. In turn, such processes can cause individuals to desire strong rules and control in order to deal with potential chaos. We capitalized on the events occurring in Egypt to collect data from over 3000 participants who are representative of the larger society to study their perceptions of culture change and see if we can predict their attitudes toward the Egyptian election. We predicted that individuals who believe that Egypt has become *very loose* (have few norms for behavior and little punishment for deviance from norms) would be much more likely to support the Salafis and the Islamist party. Thus, ironically, because overthrowing autocracy can result in extreme looseness, it can create support for the very same tight structures that were overthrown. Our data analysis showed support for this “Pendulum shift” argument and we are now planning further data collection following the recent events in Egypt (overthrowing of Morsi). We also ultimately plan to construct computational models that can help show what factors promote the bottom-up evolution of cooperation, trust, and new institutions when tight regimes are overthrown.

In all, our MURI research on tightness-looseness—using computational, field, and laboratory methods—is broadening the science of culture. Our research also has important implications for the military. By understand the factors that make up tight and loose cultures, we will be in a better position to train soldiers to understand and anticipate the nature of these differences and work better with individuals from other cultures.

## **Experimental Thrust II**

**Team Leaders: Iris Bohnet, Harvard University, and Michele Gelfand, University of Maryland**

Research in Experimental Thrust II is examining the dynamic effects of culture on negotiations, addressing questions such as: How does culture affect basic *psychological* processes in negotiations (trust, decision-making, mental models)? How does culture influence *communication and persuasion* processes in negotiations? How do *social contextual factors* and individual differences dynamically amplify, attenuate, and even reverse cultural differences in

negotiations? What are the factors that *facilitate* versus *inhibit* intercultural negotiation effectiveness? Consistent with the extant literature, we took a broad view of negotiations, and explored these processes in deal-making, disputing, and mediation contexts.

## **Projects on Culture and Decision-Making**

- **Cultural influences on the decision to trust in the Middle East**

One of our foci in Experimental Thrust II is on understanding cultural factors that influence the decision to trust. Trust is crucial for value creation in integrative negotiations and for effective multi-level negotiations where people have to delegate authority to someone else negotiating on their behalf. In order to better understand how trust can be fostered, Iris Bohnet and her collaborators have conducted experiments on the decision to trust in various countries in the Middle East, and Ashley Fulmer and collaborators have conducted research on trust violation and repair as well as on trust across levels of analysis. Each of these research programs is discussed below.

*Culture and the decision to trust.* During the MURI grant, we have written papers (Al-Issis and Bohnet, under review, Bohnet et al. 2010) where we found that mechanisms aimed at mitigating the cost of betrayal, such as damages or insurance provision, have greater impact on the promotion of trust in United States, whereas mechanisms aimed at preventing the occurrence of betrayal, such as a punishment threat, have greater impact on the promotion of trust in the Arab Middle East. Specifically, Al-Issis and Bohnet (under review) examined how responsive trust is to changes in the cost of betrayal, and found that trust did not increase in Jordan when trusting became less risky (e.g., when the trusting party was at least partly insured against the potential losses in case of betrayal or when damages were awarded). In contrast, insurance increased willingness to trust in the United States. Trustworthiness (i.e., the likelihood that trust will be rewarded) decreased with insurance in both countries. In addition, we examined the role of punishment in fostering trust in Saudi Arabia and the United States, and found that a revenge option increased willingness to trust in Saudi Arabia but not in the United States.

We have also completed a paper on Oman, Vietnam and the United States (Bohnet et al. 2011) where we examined which negotiation setting people in these various countries preferred, in particular focusing on a trust game with an insurance provision as compared to a trust game where the trusting party could send a gift to the other party in order to motivate the latter to respond to this act of kindness with reciprocity. Although gift exchange is related to tradition more closely in the Arab Middle East than in the United States, interestingly, we did not find any cross-cultural differences in procedural preferences. Rather, in all countries studied, experimental participants preferred insurance to gifts. Overall, Omanis were more likely to trust and reward trust than Americans.

Looking at procedural preferences more closely, we found that about one-third of our subjects chose to engage in gift exchange while two-thirds insured themselves against the cost of betrayal. Trust rates were not affected by how principals had modified the game. In contrast, agents were more likely to reward trust when a gift exchange rather than insurance was chosen. Almost half of the agents rewarded trust with a gift exchange framework while fewer than 20

percent were trustworthy with insurance. While this supports the importance of reciprocity, the norm of reciprocity was not strong enough in our context to compensate for the benefits of insurance. The expected value of trusting was about 10 percentage points lower with gift exchange than with insurance. Whether a specific trust-enabling mechanism was chosen or not, mattered. Compared to the control treatment where the institutional mechanism was randomly assigned, the choice of insurance decreased trust and trustworthiness rates while the choice of gift giving increased trust, and directionally also, trustworthiness rates. This suggests that agents do not only care about outcomes but also about how outcomes came to be, and principals anticipate this. Insurance is more acceptable when randomly assigned while intentional gifts work better than random gifts. Our work on promoting trust in the Arab Middle East was featured in the *Economist*.

*Culture and trust dissolution and repair.* To build on our trust efforts in *Thrust II*, we have also examined cultural influences on trust dissolution and trust repair. Trust has been conceptualized as a dynamical process that constitutes multiple stages, including *trust building*, *trust decline*, and *trust recovery*. However, little research has examined multiple stages of trust sequentially or used a dynamical approach to reveal the volatility and nonlinearity of post-violation trust patterns in the dissolution and restoration phases. In this MURI project, we examined how culture affects trajectories across the trust phases when people are interacting with in-groups versus out-groups and when they experience mild versus severe trust violations. We theorized that, after small trust violations, individuals high in collectivism would show slower trust dissolution and faster trust restoration than individuals high in individualism. However, after large violations, individuals high in collectivism would show much faster trust dissolution and slower trust restoration than individuals high in individualism, particularly when the trustee is an in-group member of the trustor. This is the first empirical examination of culture and the ‘black sheep effect’ (Marques, Yzerbyt, & Leyens, 1988) in the trust literature. In previous grant periods, we adopted an economic game methodology, the Investment Game (Berg, et al., 1995), in which we collected both behavioral and attitudinal measures of trust repeatedly over 19 rounds to study dynamical patterns of trust. In the violation condition, trust breaches occurred in the 5th, 6th, and 7th rounds, where the partner violated participants’ positive expectations. We employed discontinuous growth modeling to analyze the data. Data collected from over 70 participants in the U.S. who varied on individualism and collectivism supported the above predictions.

We have followed up on this research and collected additional data to examine what mediates the above effects, focusing on anger. We expected that collectivists would not expect that close others would violate their trust, particularly severe violations, and accordingly, anger drives their rapid decline in trust. We conducted an online scenario study with 106 participants, wherein half of the participants were assigned to a condition where the trustor was an in-group member and half were assigned to a condition where the trustor was an out-group member. Across these conditions, half were then assigned to the large violation condition and the other half to the small violation condition. The trust scenario was adopted from Tomlinson, Dineen, and Lewicki (2004). In the scenario, participants read that they were employees of a small but high performance firm. Participants in the in-group condition were informed that Pat was a close colleague from the same firm, while participants in the out-group condition were informed that Pat was a staff member in another firm. Participants read they and Pat had agreed to work on a

joint project and split the cost of the supplies. However, Pat reneged on the agreement after the participants ordered the supplies. Following the scenarios by Tomlinson and his colleagues (2004), participants in the small violation condition were informed that Pat would only pay 90% of what he originally agreed and they were able to cover the differences; whereas participants in the large violation condition learned that Pat would only pay 20% of what he originally agreed and, as a result, they went way beyond their own budget. This methodology provides a conceptual replication of our further work. We measured trust before and after the trust violation and also measured anger and found support for our predictions. First, a hierarchical regression found the expected three-way interaction between violation, collectivism, and group membership. As predicted, for collectivistic trustors, the decrease in trust was the largest after a large violation from an in-group member, as compared to a small violation from an in-group member or either a small or a large violation from an out-group member. Individualistic trustors did not exhibit this pattern. Using procedures outlined by Baron and Kenny (1986) and Preacher and Hayes (2008), we found support for the notion that trustors' anger mediated our effects. This research was given a revise and resubmit for the *Journal of Trust Research*.

We have also completed data collection and analysis on trust violation and repair using this platform among student samples in Jordan and the U.S. In this study, pairs of friends participated in the study and were informed that they would play the game with either their friend or a stranger. Supporting our predictions, after a small violation, trustors with a friend showed *faster* trust recovery than trustors with a stranger. In contrast, after a large violation, trustors with a friend showed *slower* trust recovery than trustors with a stranger. The results so far reveal that, unlike with the U.S. data, the black sheep findings in Jordan were only observed using attitudinal measures of trust, but not from the economic measures of trust (i.e. the coins allocated to the partner). It is possible that the punishment of giving lower coins is not a good indicator of trust behavior in Jordan; rather more relational versus financial behaviors might be better for studying trust violation and repair. This is significant given that many economic platforms developed to study trust involve monetary decisions rather than other subjective, indirect measures (e.g., noise blasts). This research was presented at the Annual conference of the *Academy of Management* in August 2011.

During our MURI, we also published a theoretical paper (Fulmer & Gelfand 2013) on dynamic trust profiles in *Modeling Inter-Cultural Collaboration and Negotiation*. In this manuscript, we advance a theory of trust processes across the phases of trust development, trust dissolution, and trust restoration, or what we refer to as *trust trajectories*. We articulate the dynamics of six distinct trust profiles that vary in how fast or slow trust processes occur across each phase, building on our previous empirical work. In particular, *high trust profiles* are characterized by fast formation, slow dissolution, and fast restoration; *high distrust profiles* are characterized by slow formation, fast dissolution, and slow restoration; *tit-for-tat trust profiles* are characterized by fast formation, fast dissolution, and fast restoration; *seizing and freezing trust profiles* are characterized by fast formation, slow dissolution, and slow restoration; *assessment trust profiles* are characterized by slow formation, slow dissolution, and slow restoration; and finally, *grim trigger trust profiles* are characterized by fast formation, fast dissolution, and slow restoration. We further identified individual and social-contextual determinants unique to each trust profile. Accordingly, these trust dynamics illustrate different trust logics that are more or less common across different individuals, situations, and cultures

involved. This work was presented at the annual *International Association for Conflict Management* conference in 2011. We have also conducted additional research on trust and trust repair in collaborative contexts (see Thrust II below)..

Our MURI enabled us to expand our quantitative research on culture and trust to include *qualitative interview research*. The latter is particularly well suited to examine culture-specific meanings associated with trust and distrust. Toward this end, we analyzed questions regarding trust and distrust in negotiations from our interviews in Egypt, Iran, Iraq, Jordan, Lebanon, Pakistan, Turkey, UAE, and the U.S (N over 200). We developed a bilingual coding manual using both bottom- up (generated from the data) and top-down (derived from theories) code development. Using hierarchical coding techniques and Pennebaker LIWC analyses, our findings revealed substantial differences between the two cultural groups. While concerns for integrity, competence, and benevolence (Mayer, Davis, & Schoorman, 1995) appear to be universal in forming trust, specific factors within each category vary depending on the cultural context. Within the benevolence dimension, for example, trustees' consideration for others, their network ties with others, and their personalities were critical antecedents of trust among Middle Eastern interviewees. Likewise, Middle Eastern interviewees indicated that bad reputation and bad personalities (selfishness, greediness) to be the main reasons for distrust. In contrast to these personal characteristics emphasized by the Middle Eastern interviewees, American interviewees focused more on actions of trustees in determining trust. Moreover, using the honor dictionary created by our team, we found that the issues of honor were highly salient in discussions of trust and distrust for the Middle Eastern interviewees. Specifically, issues including wrongdoing (e.g., stealing, cheating), material concerns (e.g., wealth, profit), and faith (e.g., religion, conviction) were much more salient in discussing trust, as compared to the U.S. Because of the focus on honor in trust in the Middle East, trust also appears to have a stronger moral undertone in the Middle East than the US. As a result, the Middle Eastern interviewees indicated that they would display superior behaviors and feel emotional if they did not trust their negotiation partners. The American interviewees, on the other hand, focused more on being tougher and more demanding when dealing with a negotiation partner whom they did not trust.

*Trust across levels.* We have also advanced theory and research on trust across levels of analysis. We published a comprehensive review paper in the *Journal of Management* regarding trust across different levels of analyses and in different referents (Fulmer & Gelfand, 2012). Despite the growing literature showing the importance of trust at multiple levels in organizations, extant reviews have focused solely on trust at the individual level. To capture the complexity in trust research, we advanced a multilevel-multireferent framework that specifies different referents at different organizational levels. In other words, we distinguished between trust AT a level and trust IN a referent, distinctions which have not been clearly made in the literature. Specifically, trust AT a level refers to the level of analysis of a study. In this paper, we reviewed research at four organizational levels—individual, team, organizational, and interfirm. Trust at the individual level denotes an individual's degree of trust in a particular referent. Trust at higher levels refers to the degree of trust in a referent collectively shared by individuals within a unit. For example, trust at the team level represents the aggregated degree of trust from all members in a team. Likewise, trust at the organizational level involves the aggregated degree of trust from all members in an organization. Trust at the interfirm level represents the aggregated degree of trust from the relevant members involved in inter-organizational relations. Trust IN a referent

refers to the target of the trust (i.e. the trustee). Within each level of analysis (individual, team, organizational, and interfirm), multiple referents of trust are possible. For example, trust at the individual level can include trust in a coworker, a leader, a team, or an organization. Trust at the team level can likewise include trust in a coworker, a team, a leader, or an organization, etc. Based on this framework, we identified similarities and differences in antecedents and consequences across referents and levels, as well as dominant theoretical approaches and research gaps. We also articulated a multilevel research agenda for research on trust in organizations and the interrelationship of trust across referents and levels. Given the military's interest in fostering trust within different levels and referents, this paper provides a comprehensive review and synthesis that can guide such efforts.

Based on our multilevel-multireferent analysis of the trust literature, we also conducted a field study in the military to examine trust in leaders at the team level, with a particular focus on how leaders can foster a collective sense of trust across members. Three waves of survey were collected between September and December 2011 from 719 team members and 105 team leaders. In addition, archival data were obtained from the organization, including demographic information and objective performance measures. Particularly in military settings, where trust is central to leader-follower relations and is among the stated goals of leader development programs, understanding trust dynamics in teams could foster improved leadership influence at all levels of authority. We collected the data from multiple sources (e.g., team members and team leaders) and across multiple time points. We hypothesized that the most important factors for the emergence over time, and the degree of concurrent consensus, of collective trust in leaders should have the same referent target as the collective construct (i.e., the leader) and concern behaviors that involve interactions between the leader and team members. The results supported the relative importance of leader showing concern and leading by example on the degree of consensus in trust in leaders in the concurrent model. For changes in consensus, leading by example was particularly important. In addition, consensus interacted with the mean level in influencing team performance and voice behaviors in both the concurrent and change models. Taken together, the findings suggest that some leader behaviors are important for the development of collective trust or consensus in trust in leaders, and further suggest that consensus can act as a boundary condition for the effect of the mean level of trust in leaders on team outcomes.

- **Cultural influences on core judgment and decision processes: Conceptions of time, risk, and escalation of commitment**

The field of judgment and decision-making (JDM) constitutes an interdisciplinary area of study that examines basic decision processes that are highly relevant to negotiation and conflict. Led by Michele Gelfand and collaborators, we continued to analyze and write up papers on culture and decision-making, particularly on cultural differences in temporal discounting, risk-taking, and escalation of commitment. Research on these judgment phenomena has been primarily done in the West. Through our MURI, we advanced theory and research on cross-cultural decision-making, particularly in the Middle East region.

We conducted several studies on culture and temporal discounting and published a review of the literature on culture and time (Fulmer, Crosby, & Gelfand, 2014). We theorized

that people who are socialized to value individualism would have much higher temporal discounting and a shorter time horizon as compared to people who are socialized to value collectivism. We examined cultural differences in time perception with established tasks assessing delay discounting (i.e., how much individuals withhold their impulses for smaller, present rewards in favor of larger, distant rewards). Participants in the U.S. and Lebanon were presented a fixed set of 27 choices between smaller, immediate rewards (SIRs) and larger, delayed rewards (LDRs). For example, on the first trial participants were asked, "Would you prefer \$54 today, or \$55 in 117 days?" (monetary amounts were calibrated for different currencies in the different cultures). Participants indicated which alternative they would prefer to receive by circling their choice on the questionnaire. Participants' discounting-rates ( $k$ ) were calculated from their pattern of choices across the 27 questions on the monetary-choice questionnaire. As expected, Americans had a much shorter time perspective (i.e., are much more impatient) than the Lebanese. Subjective estimations of time also varied across the groups. As per Zauberman, Kim, Malkoc, and Bettman (2009), participants were given a 180-millimeter line with endpoints labeled "very short" on the left end and "very long" on the right end. They were asked: "How long do you consider the duration between today and a day 3 months from now (and another question regarding today and 1 year later)? The distance from the left end of the scale to each participant's mark was measured with a ruler and used as an indicator of subjective time horizon. As we expected, Americans perceived the future to be much farther and distant than Lebanese as indicated by a longer distance marked (8.18 cm vs. 5.84 cm, respectively). Our mediation analysis also showed that subjective time perception mediated the differences in discounting rates between the two cultures.

We further examined the influence of cultural differences in time perception on negotiation outcomes. We theorized that efforts to achieve early settlement, driven by a condensed view of time, may lead Americans to "settle" for less valuable agreements. In contrast, Lebanese players, who have a more expanded time perspective, may be more likely to hold out for agreements that are of greater value to themselves. Specifically, we tested whether subjective time horizon mediated the relationship between culture and negotiation outcomes in a study with 130 students from the United States and 75 students from Lebanon. Participants played a negotiation game referred to as Colored Trails (CT; Grosz, Kraus, Talman, & Stossel, 2004). CT is designed to be an abstract, conceptually simple but highly versatile game in which players negotiate and exchange resources to enable them to achieve their individual or group goals. CT provides a realistic analogue of the ways in which goals, tasks and resources interact in real-world settings, but removes the complexities of real-world domains. CT is played on a board of colored squares. Any square on the board may be designated as a "goal square," and each player has a piece on the board, initially located in one of the non-goal squares. At the onset of a CT game, players are issued a set of colored chips chosen from the same palette as the squares. To move a piece into an adjacent square a player must turn in a chip of the same color as the square. Chips represent resources in CT, and at the heart of the game is players' ability to negotiate over these resources. The players may exchange chips and the conditions of exchange may be varied to model different decision-making situations. In each round of CT, one player may send a chip exchange offer to his/her partner. The partner can choose to agree to or reject the offer. After the second player has responded to the offer, the players exchange chips. The agreements between the players are not binding; a player can choose to send the chips he promised to his partner, send a subset of the promised chips, or send none at all. Player scores

depended on many factors, such as the player's distance from the goal-square, the number of moves made, and the number of chips the player possesses at the end of the game.

Participants were informed that they would be playing the CT game with another human player. In reality, each human participant played against a computer agent standardized to exhibit the same behavior with all participants (all participants were later fully debriefed). All participants were assigned to make the first proposal during the game. The initial settings of the game (board layout, chip distribution, goal and starting point positions) were recorded, as well as the terms of any exchanges made between the players, whether the players adhered to the terms of the exchanges, and their scores. The computerized agent was programmed to apply a utility-based strategy with rule-based decision procedures. The utility function and the decision rules apply personality traits: generosity and reliability that are given to the agent at start up time. The agent also models the generosity and reliability of the other player and adjusts its behavior accordingly.

We assessed participants' subjective time horizon using two items from Zauberman, Kim, Malkoc, and Bettmans (2009), and its relationship to negotiation outcomes. We found support for our hypotheses that *greater temporal discounting among Americans cost them financial value at the table*. There were significant differences in time perception, significant differences in negotiation outcomes (with Americans achieving less than Lebanese), and time perception was shown to mediate these cultural differences. We also performed structural equation analyses, which illustrated the overall model fit our hypotheses. While previous research has suggested that cultural differences in perceptions of time may improve or diminish outcomes during negotiations (e.g. Alon & Brett, 2007), the current research is the first to our knowledge to measure differences in time perception and show that they mediate the relationship between culture and negotiation outcomes. We presented these results at the 2011 annual conference of the *Academy of Management* (Gelfand, Salmon, Ting, Kraus, & Gal, 2011) and the 2013 regional conference of the International Association for Cross-Cultural Psychology (Salmon, Gelfand, Ting, Kraus, & Gal, 2013), and a manuscript was submitted to the journal *Psychological Science*.

We are also interested in examining how cultural differences in time perception cause conflict in intercultural negotiations, as parties have different expectations of the urgency of negotiation and the expected time frame for concessions, which can make it more difficult to reach agreement. As discussed below, we analyzed linguistic markers of the focus on time in our negotiation experiments with community samples and indeed show that they hinder agreements in Egyptian and Korean negotiations.

Finally, we collaborated with Gerald Saucier to gather data on temporal discounting in over 30 countries in order to understand macro predictors of discounting at the national level. Participants in 33 nations were given 9 binary choices between an immediate monetary reward and a delayed reward of a larger size. For each participant, we identified the discounting factor that best described that person's switch point from immediate to future reward. An aggregate nation-level discounting rate was computed for each country by taking the average discounting rate for all individuals within each nation. The other nation-level factors used in the study were pulled from various preexisting databases, including the World Bank Indicators Database, the



U.S. Census International Database, and the UN Data website. All correlations were run controlling for projected 2013 GDP per capita, in order to account for economic condition, currency value, and population size.

Across the many types of factors we looked at in our analysis, one overall pattern emerged: higher temporal discounting (impatience) was associated with factors that indicate an unstable, unpredictable, or harsh environment. This effect was observed across a variety of factor categories. We found evidence of this in relation to ecological factors, as higher temporal discounting was associated with greater climate variability. Economic factors also tended to follow this trend, as higher temporal discounting was associated with lower GDP and higher inflation rates. Multiple markers of good government, including regulation quality, corruption control, political stability, voice & accountability, and absence of violence were all associated with lower temporal discounting (greater patience). We also found that lower temporal discounting was associated with a greater proportion of the population with access to improved water and sanitation, and a lower urban speed limit. In addition, higher temporal discounting was also associated with several psychological factors, including greater Globe Power Distance Practices and fatalism, suggesting that nations that share a greater sense that life is controlled by outside forces also exhibit greater impatience.

There were also a number of interesting social/demographic correlates of TD. Nations with a higher proportion of people ages 60+ generally showed lower temporal discounting, while younger nations, with more people ages 15 or lower, showed higher temporal discounting. Greater national life expectancy and greater average educational attainment were also associated with lower temporal discounting (more patience). In relation to health, higher temporal discounting was associated with lower rates of contraception use, higher prevalence of HIV/AIDS, and high blood pressure in women. Several health factors showed the opposite pattern typically observed in individual-level data: greater obesity, BMI, cigarette use, and tobacco use were all associated with lower temporal discounting (greater patience). While these patterns go against previous individual-level health research, this previous research has primarily taken place in wealthy Western nations. When we split our country sample into high and low-income nations, it became clear that higher temporal discounting is associated with these negative health behaviors in high GDP nations only. In low GDP nations, higher temporal discounting is associated with a lower instance of obesity and tobacco use. These results suggest that temporal discounting is only related to negative health behaviors and outcomes when resources are plentiful; in nations with limited resources, it is simply not possible to obtain the means to these negative outcomes (i.e. excessive food or tobacco).

This is of the first research to examine temporal discounting at the national level. With such a broad array of factors related to temporal discounting, it is certain that further research into this cultural factor will play an important role in economic projection and policy, political analysis, and international public health efforts. We are currently writing up the results to submit to a journal for review.

In our JDM thrust, we also conducted research on fatalism as well as escalation of commitment. Fatalism is characterized by a low sense of personal control and a belief that outcomes of events are pre-determined. We analyzed data on fatalism to provide a rank order of

33 countries on this dimension of culture. We found that Pakistan scored the highest on the scale, followed by India, South Korea, and Turkey. In contrast, fatalism scores were lowest among countries that are predominately influenced by Western European cultures, including Australia, United States, the Netherlands, and New Zealand. Our preliminary interview analyses also show that fatalism thrives in Middle Eastern cultures, which scholars have attributed to difficult environmental conditions, resource scarcity, and extreme government regulations, all of which decrease individuals' perception of personal control (Moaddel & Karabenick, 2008). We also showed that fatalism is related to increased risk-taking behavior with health and safety data collected from over 30 countries by the United Nation (UN) and World Health Organization (WHO), and we replicated the relationship between fatalism and risk-taking in an experimental study wherein we primed fatalism and found that participants in the fatalism condition were more likely to indicate they would engage in risky behaviors (e.g., such as driving under the influence) than participants in the control condition. We also conducted an additional study on fatalism to further examine the relationship between fatalism and risk-taking using a behavioral measure. We used the Balloon Analogue Risk Task (BART; Lejuez et al., 2002) which is a computerized measure of risky behavior that simulates real-world situations participants may encounter. We found that individuals high on fatalism tended to be more risk-taking in their behavior than individuals low on fatalism.

In addition, we conducted a new study to examine how fatalism relates to another judgment phenomenon—*counterfactual thinking*. We reasoned that people who have high fatalistic beliefs would be less likely to be surprised when they encounter negative or surprising life events because of their perceptions that the events are predetermined. Hence, they should have less counterfactual thinking and regret. In a laboratory study (with 133 participants), using an established paradigm to study counterfactual thinking in negotiation, participants were asked to read a negotiation scenario in which they negotiated their starting salary for a new job. Half of the participants read that the recruiter immediately accepted their first request while the other half of the participants read that they negotiated with the recruiter over several rounds (the end outcome was the same in both conditions). Participants were then asked to write down their thoughts about the negotiation. As expected, we found trends that participants who endorsed fatalistic beliefs tended to believe that their first offer being accepted was less surprising and experienced less regret about not asking for a higher salary than participants who did not endorse fatalistic beliefs. As counterfactual thinking is important for learning, particularly in negotiation, we believe this line of research will reveal important cultural variation relevant for negotiations. We are in the process of finishing these studies and writing up the results to send to a peer-reviewed journal. We have also launched other research on fatalism in teams in our collaborative track (*Thrust III*, see below).

Finally, we conducted research on cultural influences on the judgmental phenomenon of *escalation of commitment*. An escalation situation occurs when an individual incurs costs in pursuit of a goal that is unlikely to be attained no matter what future actions are taken. Put differently, when individuals follow a failing course of action, they are engaging in escalation of commitment behavior. The predominant explanation for escalation of commitment is self-justification, which holds that decision-makers are unable to extricate themselves from a losing course of action because abandoning it would require them to admit defeat. Thus, the pressure to commit to the original decision increases as individuals seek to justify the correctness of the

original decision. To date, there has been little research on this bias among people from different cultural groups. Given that what causes self-justification is different across cultures (Kitayama, Snibbe, Markus, & Suzuki, 2004), we expected that different conditions activate escalation for different cultural groups. In the case of groups high on individualism (e.g., Americans), the need for self-justification may be based on the person's own judgment about him or herself. In contrast, groups high on collectivism (and particularly *face*), (e.g., East Asians) will only feel the need to justify their own decisions when they know that others will appraise their performance.

Our MURI research supports these notions. Study 1 found that those who were high on collectivism escalated more than those high on individualism but only if their performance was public and not if their performance was private. Study 2 explored the phenomenon of *vicarious escalation*—persisting in a failing course of action that was initiated by someone else. Past research on escalation of commitment has shown that most people will not escalate a failing course of action they inherited from someone else. However, our interview data have shown evidence that many processes can be more contagious in cultures (discussed above) where individuals are highly embedded in tightly knit groups and where the reputation of one's group members is as important as one's own reputation. We indeed showed that those high on collectivism were more likely to escalate their commitment in a failing course of action *initiated by others* than those high on individualism. We also showed that those high on collectivism vicariously escalate only when the decision was *public* and others could observe the outcome of escalation, and not when the outcome was in *private*. In addition, those high on collectivism did not vicariously escalate if the failing course of action was initiated by a stranger, showing again that the situational context is an important moderator of cultural effects. These results illustrate the interactive effects of culture and situation factors in decision-making phenomenon that could have important consequences in negotiations. We have now designed a final study that uses a different escalation paradigm (i.e. in the context of employment decisions) and we are continuing to run this study which will be combined with the above efforts and submitted for publication.

We also conducted a program of research examining how face concerns affect the psychology of reporting errors. Drawing on a previous MURI theory paper that we published on culture and errors (Gelfand, Frese, & Salmon, 2011), we expect that individuals from collectivistic cultures may in general be hesitant to admit their errors to the group (since doing so may cause face loss) and such unreported errors can ultimately result in catastrophic errors in groups. We expect this to be particularly true in public contexts, which can cause much more face loss as compared to private contexts. Human errors can have a number of consequences that affect organizational members, stakeholders, and society at large, ranging from minor inconveniences to financial loss or fatalities. While human error is a universal phenomenon, current perspectives suggest that people in different cultures may prevent, detect, and manage errors in different ways (e.g., Gelfand et al., 2011). However, researchers are only beginning to understand the interplay between culture and error prevention, detection, and management. The current project was designed to explore cultural differences in error management, as well as factors that may amplify or suppress cultural differences in reporting tendencies.

We developed two experimental platforms were developed to test our theory. The first platform is a complex laboratory experiment simulation. In this study, student participants from East Asia, the U.S., and Latin America work with what they believe is a team of three other

participants to complete a logic puzzle. In reality, the computer program plays the role of the other three participants. The participants are told that each team member will have one four-minute task round to work on the logic puzzle before it is passed on to the next team member, and that the participants will be able to communicate with their team members between the task rounds using a team chat room. After the participants complete the task round, the program sends a message that an error was made in the puzzle. We are interested in whether the participants report the errors to their teammates when the chat room opens, as well as *how* they communicate about the error. Further, we experimentally manipulate whether the participants are anonymous during the team task or whether they are identifiable. We expect that this manipulation will moderate cultural tendencies in error reporting. The experimental platform was developed and piloted during the previous grant period. We collected additional pilot participants, and after making final adjustments to the program, collected data from approximately 100 participants. We expect to complete the data collection and begin analysis in the Fall 2013. This new platform allows us to test our theory regarding culture and errors, but also makes a contribution to the error management literature, which has yet to use laboratory experiments to examine error-reporting processes.

In addition to the experimental platform, our team developed an experimental vignette study to explore cultural difference in error reporting. Each vignette describes a situation in which a target individual makes a mistake in a team setting. Mirroring the experimental study, the vignettes vary based on whether the target can be identified as the source of the error or if he/she cannot be linked to the error. Participants in the United States and Japan read one vignette and responded to questions about how they would personally respond in the described scenario if they were the target, and how they believe other people in their culture would respond. This study is designed to provide a conceptual replication of the laboratory experience and to explore the potential role of cultural descriptive norms in the error reporting process. The vignettes and study materials were developed during the previous grant period, and the data collection was completed during this grant period. Our results for this study showed considerable cultural variation in error reactions. The American participants were significantly more likely to report that they would tell their group members about the error and apologize for the error. In contrast, the Japanese participants were significantly more likely to report that they would ignore the error, deny the error, blame someone else for the error, and say that the error could not be helped. Further, there were significant differences in reactions when the target could be identified as the source of the error versus when the target was anonymous. Participants who read vignettes in which the target could be identified reported that they would be more likely to tell the group about the error, apologize for the error, and say the error could not be helped, but these participants were less likely to try to deny the error. In contrast, participants who read vignettes in which the target could not be identified as the source of the errors reported they were more likely to try to fix the error without telling anyone about it. Central to our current hypotheses, we also found evidence that several of these main effects are qualified by an interaction between the cultural background of the participant and the anonymity of the error. For example, American participants were equally likely to apologize and to tell the group about the error, regardless of whether the target was identified or anonymous, whereas the Japanese participants were much less likely to apologize and tell the group about the error if the target was anonymous rather than identified.

We further extended our work on culture and errors to address reactions to errors that occur in training contexts which should be of particular interest to the military, and in particular how cultural background facilitates or inhibits learning following errors during training. Previous research has shown that errors are helpful during training; they point out problematic areas or behaviors to avoid in the future, help identify incorrect assumptions and skills that need further development, and prepare trainees to deal with errors on the job. For example, Error Management Training (EMT; Frese, 1995; Keith & Frese, 2008), an exploratory (i.e., low structure) intervention in which trainees are explicitly encouraged to make errors and learn from them, facilitates learning during training and increases trainee self-efficacy. Despite the considerable evidence for the effectiveness of EMT, previous theories on training interventions have drawn largely from Western theories of learning and training, and studies on training effectiveness have relied primarily on samples from the United States and Western Europe. We developed a new study to explore how two aspects of training intervention, training structure (high versus low) and error instructions (error encouragement, error avoidant, and control), affect participants' psychological and physiological responses to errors, as measured by heart rate and potentially cortisol reactivity. The study will probe how these stress responses impact learning and post-performance training. The planned study will utilize student samples from face and dignity backgrounds. The participants will be randomly assigned to a training condition in which they will learn a new task. Participants' psychological and physiological stress will be measured throughout the study. Learning will be assessed immediately after the training, and in a follow-up sessions one week after the training. This study will make important contributions by expanding the focus on training, especially Error Management Training (EMT), to consider trainee cultural background. Given the increasingly global nature of the modern workforce, it is of paramount importance to understand how culture intersects with training design to predict outcomes.

### **Projects on Culture, Communication, and Persuasion**

The way in which culture affects social processes, such as communication and persuasion, and the processes through which negotiators reach agreements, is an important yet neglected research area. Using a combination of face-to-face, computerized, and subliminal methods, our team has collected and analyzed data on (a) culture and communication and persuasion in face-to-face negotiations; (b) culture and the meaning of silence; and (c) the influence of emotional expressions on concession-making across cultural groups.

- **Getting to yes and the pathways of reaching integrative agreements in negotiations in different cultures**

This study examined how culture influences communication and persuasion processes in negotiation, and more generally, how people '*get to yes*' differently in the U.S., East Asia, and the Middle East. To date, there has been little experimental research on the types of persuasive arguments that are made and their impact on negotiation outcomes across different cultures. With the input of our Middle Eastern and East Asian collaborators, we have adapted an existing negotiation case from the Program on Negotiation at Harvard to examine cultural variation in persuasion in negotiations. Our simulation is a rich qualitative negotiation task adapted from "Discount Marketplace" developed by Bacow (1991), which involves a negotiation between a

real estate developer who is seeking to open a mall and a possible central store who is interested in opening a store in a mall. The two parties have negotiated previously and reached negotiation on all but one issue: whether or not to allow subletting. Negotiators are given background information, but no rules regarding the negotiation, hence allowing for a more realistic, ecologically valid negotiation interaction. The study was conducted with community samples in Egypt, Korea, and the U.S. and moved beyond the use of student samples in negotiation laboratory research. Materials for this study had been translated into Arabic and Korean and we conducted pilot studies to refine the task to be culturally appropriate. We completed all of our data collection, data entry, transcriptions, and backtranslations of the negotiation dialogues and negotiated agreement forms for a total of 238 participants, including participants from the United States (N=72), Egypt (N=60), Korea (N=60), and intercultural dyads involving Americans and Egyptians (N=46) and have recently reported the results of this study at the 2013 *International Association for Cross-Cultural Psychology Conference* in Los Angeles.

*Coding of negotiation agreements.* Given that negotiation agreements were qualitative in nature, we developed a coding scheme to assess the integrativeness and utility of agreements to both parties. Integrative agreements were defined those that satisfied the interests of both parties. Specific issues included in the coding scheme were decision-making power, space restrictions, product restrictions, time delay, advertising, third-party involvement, future reevaluation of terms, lease length, profit, and rent. All information identifying the country or gender of participants was removed from agreement forms prior to coding. Subsequently, two coders performed three separate ratings: one for integrativeness, one for utility to Hawkins, and one for utility to Discount Marketplace. For each dimension, we assessed interrater agreement by examining intercorrelations between the values assigned by the coders. Levels of agreement across raters were all very good:  $r=.89$ ,  $p<.001$  for integrativeness,  $r=.85$ ,  $p<.001$  for utility to Hawkins, and  $r=.85$ ,  $p<.001$  for utility to Discount. Values from the two coders were then averaged to create variables representing these dimensions used in final analyses. With our agreements reliably coded, we next examined whether there were differences in outcomes across countries and for men and women. The results showed a main effect for country, such that US dyads (both intracultural and intercultural) obtained higher integrative agreements than Egypt and Korea. Further, men tended to obtain higher integrativeness than women. Finally, there was an interaction between country and gender such that female dyads in Egypt and Korea reached agreements that were significantly less integrative than their male counterparts, while US intracultural and US-Egyptian intercultural female and male dyads did not differ.

*Culture and “getting to yes”.* Of particular interest in this research is understanding the different ways that people in different cultures *get to yes*; in other words, how do language processes and behaviors shape whether people are able to form integrative agreements, and does this vary across cultures? We conducted extensive analyses with Pennebaker’s linguistic word count software along with our own Honor dictionary to examine how language use affects integrativeness in objective negotiation outcomes, and whether this varies by country. We indeed found very interesting differences in how dyads got to yes in different countries. For example, the US is generally an interest-based culture that emphasizes the separation of the person from the task, a focus on interests rather than positions, and appeals to reason and logic versus emotion and appeals to the heart (see advice in the famous *Getting to Yes* book by Fisher & Ury). In these cultures, focusing on issues is primary, while building relationships is secondary. In fact,

focusing too much on relational outcomes hinders reaching agreement, as these are seen as largely irrelevant to the task at hand. Our data indeed demonstrate that among U.S. intracultural dyads, integrativeness in negotiation outcomes was indeed predicted by the use of LIWC *cognitive mechanisms category* which indicates a focus on reason and logic, as opposed to emotions or relationships. Results examining dominance (i.e., one party winning) also support this notion, as dominance was negatively predicted by cognitive mechanism words (i.e., less logic and reason talk resulted in more unequal outcomes). Parties also had more equal outcomes when they used a combination of assent (i.e., saying yes) and exclusion (e.g., but, not). This sort of “yes, but” exchange lends itself to a rational discussion in which each party is tasked with explaining their argument. Interestingly, integrativeness among Americans was negatively predicted by an emphasis on money (e.g., business, lease, retail), which suggests a focus on positions versus underlying interests led to a lower ability to “maximize the pie.” In all, the linguistic analyses illustrate that getting to yes among American negotiators in this study was predicted by using rational/logical language and avoiding discussion of positions as is predicted by Western negotiation theory.

The way that dyads in Egypt got to yes was very different. In contrast to the US, we expected that “getting to yes” in Egypt to be primarily characterized by a focus on building relationships and promoting honor gain for both parties. Put simply, in Egypt the person and the task cannot be separated; to the extent that negotiators focus on building and maintaining a positive relationship (as compared to focusing on task-related elements), they should be able to create better agreements. In particular, demonstrating respect toward others is of the utmost importance in cultures of honor, and by contrast, demonstrations of arrogance or other behaviors that might intimate that one is “better” than another are interpreted as a severe affront. Accordingly, we expected that being agreeable, modest, and demonstrating respect, integrity, and high moral values should help people reach agreements, while any displays of arrogance or superiority should hinder “getting to yes” in Egypt. Finally, in contrast to the common US endorsement of a “time is money” perspective focused on efficiency, in the Middle East we expected that being focused on time would hinder, rather than help, “getting to yes”.

Our data analysis support for these notions. Integrativeness in negotiation outcomes was positively predicted by an emphasis on the LIWC category of *assent* (i.e., saying “yes”) and the Honor dictionary category of *integrity/moral values* (e.g., honest, trust), and to appeals to society and relational language (e.g., partner, relationship). In stark contrast to the U.S., integrativeness in outcomes was *negatively* related to the category of *cognitive mechanisms* (logical/rational language). In addition, the LIWC category of discussing *achievements* and LIWC category of discussing *time* were negatively correlated with integrativeness. Honor dictionary categories reflecting talk about *social standing* (e.g., reputation, earnings), and *status* (e.g., fame, status) were also negatively related to integrativeness. Put differently, using assent language is a demonstration of agreeableness and explicit references to integrity show that one is principled and has high moral values. In contrast, references to rationality, achievements, time, social standing, and status indicate that one is attempting to focus on the task and demonstrate superiority over others, which are behaviors that are considered highly offensive and hinder getting to yes. In addition, integrativeness was negatively predicted by Shuki Cohen’s cognitive rigidity dictionary (i.e., amount of extreme language). Such extreme language indicates

unwillingness to compromise and generally entails being disagreeable and violating honor. Dominating outcomes had parallel outcomes as those discussed above.

Similar to the Middle East, Korea is generally characterized by a focus on building relationships while task-related issues are secondary. Being agreeable and showing respect for one's negotiation partner would be expected to be integral to reaching agreement in this context. Furthermore, Korea has been argued to be a face culture, generally speaking. Face represents an individual's claimed sense of positive image in the context of social interaction (Oetzel & Ting-Toomey, 2003). In face cultures, it is crucial for individuals to not only "save face" (i.e., maintain one's own image) but also to "grant face" by showing others respect and more importantly, avoiding harming another's face. This emphasis on avoidance and caution spans into the business context. As such, solutions that emphasize preventing harm and avoiding conflict should be highly desirable. Delineating the responsibilities and obligations of each party is a top priority, as this helps to identify the hierarchy within which one must take action should something go awry. Like Egypt, Korea differs from the West in its temporal orientation in that patience is considered a virtue. Accordingly, a strong emphasis on time should be negatively related to reaching agreement. Finally, Korea is a high power distance culture, in which hierarchy and power play a central role. Negotiators who take into account the status of their partners and behave appropriately (i.e., grant deference when necessary) should also come to more mutually beneficial agreements.

Our data show that these suppositions indeed hold true with our empirical data. Integrativeness of negotiated outcomes in Korea was positively predicted by an emphasis on *inhibition* (e.g., careful, avoid), *strength* (authority, power), discussing potential *wrongdoing* (e.g., exploitation, complaints), and negatively predicted by the use of *negating* language (e.g., no), *exclusion* words (e.g., not, but), and words related to *time*. The use of language-related inhibition and wrongdoing supports the idea that avoiding harm is a top priority in negotiations in Korea. Language related to strength demonstrates a concern regarding who has the authority or power to do what, which is reflective of Korea's high power distance. Further, the inverse relationship of negating language and exclusion with integrativeness suggests that being disagreeable (i.e., disrupting harmony) hinders reaching agreement. Finally, the finding that time-related language is negatively related to integrativeness demonstrates that too much of an emphasis on time (as opposed to patience) hinders reaching agreement. This paper has been invited for inclusion in a special issue on creativity in the *Journal of Organizational Behavior*.

- **Culture and communication: The meaning of silence across cultures**

Many conflicts that occur in intercultural negotiation have been argued to be a result of cultural differences in communication styles. In this study, we are examining cultural differences in the *meaning of silence*. Scholars have posited that silence serves a wide variety of functions, including securing information, expressing mistrust, as well as maintaining and altering interpersonal distance (Newman, 1982). However, the specific meanings and interpretations of silence are likely to vary dramatically across cultural groups, causing negative perceptions and intercultural conflict. Our literature reviews suggested that North Europeans and European Americans tend to have a negative view of silence, preferring to fill it with sounds and actions. In contrast, people in many Asian cultures perceive silence positively and talking



negatively. Our literature reviews and preliminary interview analyses of countries in the region also suggest that individuals of Middle Eastern origin have more negative perceptions of silence due to the verbal exaggeration that characterizes communication styles in the region.

To examine the meaning of silence across cultural groups, we developed a lexical decision task to assess individuals' implicit understandings of silence using. This methodology is adapted from existing social psychology literature to assess automatic associations or evaluation of concepts (e.g., Bargh, Raymond, Pryor, & Strack, 1995). In this task, the word 'silence' is subliminally primed via a computer program for 85 milliseconds. Immediately after subliminally priming the word silence, we present target words related to different dimensions of silence (e.g. good, bad, cooperate, competitive), control words, or non-words. Participants are asked to decide whether the word represents an English word or not. The computer program then collects participants' reaction times. If participants implicitly associate silence with a particular word, such as "cold," it should take less time for them to confirm that "cold" is an English word than it should take "warm" which is opposite in meaning from "cold." After this task, participants filled out a series of questionnaires, including various measures that explicitly assessed how participants perceive silence. We expect people from different cultural backgrounds to exhibit different accessibility, or different reaction times, to the target words representing various reactions to silence. We theorize, for example, that East Asian Americans are more likely to associate silence with cooperation, attentiveness, friendliness, and close relationships, while European Americans are more likely to associate silence with competition, aloofness, hostility, and superficial relationships.

As expected, our analyses found that compared to Caucasian participants, trends suggest that Asian participants subliminally associated silence with words related to warmth, relationship, interest, and dominance. Likewise, we found the same pattern among individuals high on collectivism. Individuals high on collectivism showed strong associations between silence and words related to relationships and dominance, more so than individuals low on collectivism. We will continue to collect additional data for this project and will be analyzing it and preparing for publication. We will also analyze the interview data on silence collected in the Middle East and plan follow-up experimental studies with Middle Eastern and U.S. samples to examine the effect of silence on negotiations in these samples. Ultimately, scientific knowledge on the cultural meanings of silence will help to facilitate cross-cultural understanding in negotiations and collaborations.

- **Culture and emotional expression in negotiation**

Culture affects emotions and emotional expression (Matsumoto & Hwang, 2010), and anecdotal evidence abounds to suggest that different cultural norms for emotional expressions can cause intercultural conflict in negotiations. Yet to date, there has been little attention to the role of culture and emotional expression in negotiation. This project, done in collaboration with Gerben Van Kleef (University of Amsterdam), explored the relationship between a negotiation partner's emotional expressions, such as pride and shame, and one's own negotiation behavior (e.g. concessions and demands). In this study, we distinguished between the referent of emotions (*self* or *other*). For example, pride has the self as the primary referent (e.g., focusing on one's achievement) and expressions of pride are commonplace among Americans who emphasize

independence and “standing out”. By contrast, shame has others as the primary referent (e.g., focusing on how others’ view the self), and expressions of shame are commonplace among people from non-Western cultures where one is expected to fit in and harmonize with others (Markus & Kitayama, 1991). In this research program, we are examining the impact of the expression of pride and shame on demand and concession making patterns among East Asian and European American samples. We expected that negotiators from Asian cultures, which are largely collectivistic and value relationships to a greater extent than European Americans, would respond more positively (e.g., make more concessions) to expressions of shame, and would respond more negatively (e.g., make less concessions) to expressions of pride. In contrast, European Americans, who are largely individualistic and value self-promotion, were expected to respond more positively (e.g., make more concessions) when faced with negotiators who express pride, but respond more negatively (e.g., make fewer concessions) when faced with negotiators who express shame. We developed a computerized negotiation program to examine these hypotheses. Participants engaged in 6 rounds of negotiation. We manipulated the emotional messages participants received from the partner at the 2<sup>nd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> rounds.

We ran over 130 East Asian and European American participants and showed support for these hypotheses. As expected, Asians demanded more than European Americans after receiving pride messages from the partner, and they demanded less than European Americans after receiving shame messages from the partner. Additionally, we found effects of culture and emotion on multiple subjective value factors. For example, Asians were more satisfied with the negotiation outcome in the shame than the pride condition, while European Americans showed the opposite pattern. Asians also felt that the negotiation process was fairer in the shame than the pride condition, and European Americans showed the opposite pattern. We thereafter replicated and extended these results with new data. Participants read vignettes adapted from Sinaceur and Tiedens (2006) and Adam, Shirako, & Maddux (2010), in which participants negotiated with a partner who expressed pride, shame, or no emotion, while the text in the vignettes were the same across conditions. All participants we extended our previous study by examining how interacting with an *in-group* member versus an *out-group* member might *moderate* our effects. Specifically, we used pictures to show the ethnicity of the negotiation partner, which was either an Asian or a Caucasian. Depending on the experimental condition, the negotiation partner photo showed no emotion, pride, or shame. These photos were standardized in their intensity and other extraneous variables and validated by cognitive and social psychologists at the University of California, Berkeley. Consistent with our previous study reported above, Asian Americans tended to concede more when an in-group member (an Asian partner) expressed shame rather than pride. In contrast, European Americans conceded more when an in-group member (Caucasian partner) expressed pride rather than shame. Interestingly, the pattern of responses changed when participants were interacting with an out-group member. Both Asian Americans and European Americans conceded less when an out-group member expressed shame than pride. These results suggest that negotiators are sensitive to both their own cultural norm of emotion expression and react to the emotions expressed by in-group and out-group members differently.

Finally, we collected additional data in order to examine the interactive effect of in-group versus out-group. Asian and Caucasian American participants read scenarios of a negotiation as discussed above. Two emotions, pride and shame, were examined. In addition, half of the

participants were assigned to the in-group condition, in which they learned that the client was of the same ethnicity as themselves, and the other half of the participants were assigned to the out-group condition, in which they learned that the ethnicity of the client was different from themselves. We found that Asian participants responded to an Asian partner in the way that they did in the previous study in that they were less likely to concede after a pride message than a shame message. However, they did not differentiate in their responses with a Caucasian partner. In contrast, while Caucasian participants did not differentiate between a pride or shame message with a Caucasian partner. With an Asian partner, they were more likely to concede after a pride message than a shame message. We have now produced a manuscript that summarizes our results and will submit it for publication.

### **Predicting Intercultural Negotiation Effectiveness**

The research conducted above highlights potential cognitive, emotional, and communication hurdles that negotiators need to overcome in intercultural negotiations. To the extent that negotiators are making different judgments, enacting different emotional expressions and persuasive strategies, and following different scripts, they are likely to experience difficulty in coming to agreement. This naturally raises the question of what can help to facilitate intercultural negotiation effectiveness? In previous grant periods, we showed that cultural intelligence is a key predictor of intercultural negotiation effectiveness. Importantly, other types of intelligence (e.g., general intelligence, emotional intelligence) and other personality attributes (e.g., openness to new experience) did not predict effectiveness in intercultural negotiations; it was only those dyads that had high CQ that achieved high negotiation outcomes in intercultural negotiations. This research was published in *Organizational Behavior and Human Decision Processes*, and was featured in *Psychology Today*. It is of the first work, to our knowledge, to identify factors that facilitate intercultural negotiation effectiveness.

In other MURI work, we have also illustrated the importance of shared mental models in intercultural negotiations. We argued that negotiation is not only about economic and tangible issues but rather *is fundamentally a negotiation about the frames themselves*—or put differently—is a consensus building process regarding what the negotiation is about. Consensus building, as a core process in social transactions, signifies not only an agreement on the terms of exchange but also a common understanding of the situation. And we argue that it is consensus making that provides the very basis for economic success in negotiations. Put differently, we argue that in order to achieve high economic outcomes, negotiators need to negotiate the very basis of their perceptions themselves. We incorporated a novel empirical method to test our theory, using network analysis to map the structure of relationships between elements of negotiators' mental models, and QAP correlations to assess the similarity between negotiators' mental models. Using data from 482 participants in both inter- and intra-cultural negotiations from the U.S. and China, we found that consensus in mental models significantly predicts negotiator satisfaction and joint economic outcomes. We also show that mental model convergence is much lower in intercultural negotiations and this is exacerbated in situations in which cultural identities are amplified (e.g. when there is high uncertainty and a need for closure). In addition to contributing to cross-cultural literature by offering a new and more dynamic way of understanding negotiation, this research has important practical implications, as negotiators need to understand the triggers and contextual factors that may help or hinder

consensus building. This research was published in a premier journal, *Administrative Sciences Quarterly* (Liu, Friedman, Barry, Gelfand, & Zhang 2012).

Through our MURI efforts, we also continued to examine factors that facilitate or inhibit intercultural negotiation effectiveness. We are interested in how the activation of *multiple identities* affects success or failure in intercultural negotiations. In particular, we are examining how the activation of one's *own cultural identity* as well as *shared identities* affect the willingness to trust, to cooperate, and ultimately to attain high outcomes at the negotiation table. In the previous grant period, we integrated a number of literatures on identity (e.g., Berry, 1997; 2005; Brewer, 1991; 1996; Egings, Haslam & Reynolds, 2002; Gaertner et al., 1989; Hornsey & Hogg, 2000) and began to develop predictions regarding these processes in the context of negotiation. We theorized that the activation of *either* a subordinate cultural identity *or* a superordinate-shared identity *alone* hinders negotiation processes and outcomes in intercultural negotiation. Rather, our model suggests that the simultaneous activation of subordinate cultural *and* superordinate shared identities will facilitate positive outcomes because it allows negotiators to find commonalities while also maintaining an optimal level of distinctiveness.

We have conducted a number of studies to test the theory. After finding preliminary support for our theory in the United States using the World Value Survey, we looked at other WVS countries to analyze the impact of national and global identities on trust of other nationalities. We found that high national and global identities predicted greater trust of other nationalities in China, Australia and Morocco. We performed analyses in the *Comparative World Values Survey* from Middle Eastern countries and Indonesia, where high global and national identification also predicted a number of other attitudes. In Indonesia, high global-national identification predicted willingness to be neighbors with immigrants/foreign workers and people of a different race. In Lebanon, high global-national identification predicted willingness to be neighbors with Americans; in addition, it predicted endorsement of the statement "Lebanon would be a better place if people treat one another as fellow citizens rather than members of a particular confession."

We also explored the outcomes for dual identities in controlled laboratory studies. In one study, we manipulated subordinate (i.e., nationality) and superordinate (i.e., major) identities to examine whether holding dual identities facilitates intercultural cooperation. We measured competitive and cooperative orientation toward others in a decomposed prisoner dilemma game that involved participants making choices about the allocation of resources between themselves and a partner over the course of nine rounds (Messick & McClintock, 1968). Participants who were simultaneously primed with a subordinate and superordinate identity chose the most cooperative choices as compared to participants who were primed with either only a superordinate, subordinate, or an individual identity. Furthermore, in an online study conducted during this grant period, we explored the effects of a dual identity on real prosocial behavior toward a cultural out-group member in a non-student sample. We recruited participants through Mechanical Turk, who were primed with either an individual, national, global, or dual (national + global) identity and were then given a chance to allocate \$.75 between themselves and their partner from a different country. As predicted, participants who were simultaneously primed with a national and global identity gave more money to their partner than did participants primed with either a global, national, or individual identity. These results were presented at the *Academy*

of Management Conference in August 2011 and the Society for Personality and Social Psychology Culture Preconference in January 2012. In all, this work not only expands the identity literature but also has important practical implications for fostering trust and cooperation in intercultural interactions and conflict.

## **Culture and Disputing**

- **Culture and contagion of disputes across networks**

Much of existing negotiation research focuses on economic value and assumes that negotiations largely ‘end’ at the table. In this MURI research, we argued that what happens during negotiations can become contagious and spread through social networks beyond the negotiation table. In our work, we found evidence for cultural variation in *parochial altruism*: Collectivists were more likely to report wanting to take revenge on behalf of a group member who was made to feel humiliated, whereas individualists actually distanced themselves from other group members when they are humiliated. We also showed behavioral evidence for the phenomenon of vicarious revenge in the laboratory. Using a modified dictator game, we had individuals who varied on collectivism take part in a between-subject experiment in which they witnessed an out-group member commit a harmful act against either (1) an in-group member with whom they shared a social identity or (2) a neutral party with whom they did not share a social identity. Consistent with our predictions, participants who are higher on collectivism were more likely to punish a third party when they share a social identity with the victim but were less likely to do so when they did not share a social identity with the victim.

We expanded this study and collected data from participants from both the U.S. and Jordan (N=186) in a study of conflict contagion that was modeled after the above study. We trained our collaborators in Jordan, piloted the modified dictator game that we used in the U.S., and refined the procedure to be culturally appropriate. Participants are being recruited in groups of two, each group consisting of people who were already friends prior to the study. As in our previous research, the participants ostensibly view that their in-group member has been harmed by an out-group perpetrator who took most of their coins. In this study, we are examining whether Jordanians are more likely to punish (i.e., take away coins) from the perpetrator or the perpetrator’s friend (if this condition is only available) as compared to Americans. This study also includes additional *non-obtrusive* measures of revenge given that we were concerned that revenge based on financial means (i.e. taking away coins) would not necessarily be as prevalent in Jordan (see our discussion of the trust game in Jordan above). In particular, we also measured the participants’ propensity to punish out-group perpetrators or observers in a less obvious manner by having them play a second, ostensibly unrelated, noise blast game on the computer. In this noise blast task, which is used commonly in the U.S. in studies of aggression, individuals are told to respond to the appearance of a black dot on the screen by pressing a button as quickly as possible. Participants are led to believe that the fastest person to react is awarded the opportunity to blast white noise through his or her opponent’s headphones (see noise blast platform, Thomaes, Bushman, Stegge, & Olthof, 2008). Participants choose the loudness and the duration of this noise with which to punish their opponent. The game is rigged so that their opponent is either the perpetrator from the first game, or the proposer’s friend. Using the noise blast platform provides a non-financial and indirect measure of revenge. We are now in the process of analyzing his data.

We also wrote a manuscript of another study on collectivism and contagion. In particular, we examined how collectivism, in conjunction with other epistemic motives—having a higher versus lower need for closure—affects the contagion of others’ injustices. We hypothesized that people with more collectivistic attitudes are more likely to consider the treatment of a teammate or a coworker as relevant to their cognitive and behavioral reactions, particularly when they have low need for closure (i.e., engage in greater information processing and perspective taking) (Kruglanski, 2004; Kruglanski, 2009). We conducted a field and a laboratory study to test our hypothesis. In the field study, we tested our hypothesis in organizational settings with employees (and their supervisors) from a variety of companies. We also conducted a laboratory study that allowed us to manipulate the unjust treatment of a fellow teammate at the hands of an authority and then subsequently measured personal evaluations of the authority’s fairness. Both studies provided support for our hypotheses. We found that collectivism and epistemic motivations work in concert to make another’s justice one’s own. That is, the justice treatment of others has a larger influence on people who are simultaneously higher (vs. lower) in collectivism and lower (vs. higher) in the need for closure. Notably, we found that teammates’ mistreatment was not only relevant to laboratory participants’ justice judgments, but also to the turnover intentions and supervisor-directed helping behaviors of employed adults. We believe this work improves our ability to predict when the injustice of another will spread beyond the victim. This manuscript is now under revision at the European Journal of Social Psychology.

In all of our studies we examined the role of personal attitudes in the contagion of conflict. We also began to explore the role of descriptive norms—what people perceive *most people to do in situations* when their in-group has been harmed. Descriptive norms in this view constitute the cultural reinforcement of conflict contagion through revenge, in that people behave in ways consistent with the beliefs and values they perceive to be widespread within their group (Chiu et al., 2010; Shteynberg et al., 2009; Vandello, Cohen, & Ransom, 2008). In a study we ran with a total of 164 participants (N=86 in the U.S. and N=77 in Lebanon) read two scenarios in which a person was insulted in public by another person. These scenarios were modeled after vignettes developed by Cohen (Cohen & Nisbett, 1997; Vandello et al., 2008). In these stories, the insults were obvious, intentional, and were not followed by any apology by the perpetrator. In each case, the *victim’s friend* then sought revenge against the offender. After reading each scenario, participants rated the appropriateness of the third party’s actions (e.g., necessary, justified, understandable, honorable) and their perceptions of the revenge seeker (e.g., moral, responsible, typical person, heroic). To measure descriptive norms about revenge, we asked participants to respond to these same questions according to what *they believed other people would think*. These questions tested our hypothesis that conflict perpetuates not only because people personally believe in vicarious revenge but that they also perceive *social norms* dictate that people *should* engage in vicarious revenge.

We expected cultural differences in people’s sanctioning of the third party punisher’s actions, and furthermore, that these differences to be exaggerated in their expectations of what their peers would think (e.g., descriptive norms). The data supported these notions. Compared to Americans, Lebanese respondents were more approving of the third party punisher’s actions, and more favorable in their attitudes toward the revenge-seeker. And, within the Lebanese sample, ratings of both the acceptability of the revenge and the positive attributes about the revenge-

seeker were stronger for the descriptive norms questions than for their personal beliefs. Among Americans, this pattern was reversed for personal beliefs versus descriptive norms regarding the perception of the revenge-seeker. That is, Americans believed their own appraisals about the revenge-seeker were more positive than that of their peers, suggesting descriptive norms do not favor third-party punishment in this cultural context. In the last grant period we also collected data from Turkey (n=102). We replicate the results that revenge was more sanctioned among the more collectivistic sample (this time, Turkey) than in the US and the cultural differences in social norms were stronger for social norms than personal attitudes. Furthermore, Turkish respondents believed that the revenge-seeking behavior is more typical than did American respondents.

We have also created a new methodology to examine the spread of conflict beyond original disputants using a “ripple effects” design (Maddux & Yuki, 2006). In the study described above, we also asked participants to anticipate *who* they think will become involved in the conflict, and then to list all consequences stemming from the revenge confrontation. These responses are currently being coded for the number of people affected, and the number and types of direct and indirect consequences. A coding manual has been developed for each scenario that captures the social context (*the who*) and the consequences (*the how*) of conflict downstream phenomena. A team of trained coders are currently applying these codes. We expect that Lebanese and Turkish respondents anticipate wider fallout effects from the interpersonal conflict between three young men to spread to a greater number of others in the community as well as bring about more distal and permanent results (e.g. ruined reputation).

In addition to the contagion of conflict, we applied the theory and study design above to look at the *spread of forgiveness*. We collected data from 108 individuals (N=60 US participants and N=48 Lebanese) for a study wherein we investigated the acceptability of a direct apology (i.e., an apology given by the perpetrator) versus a vicarious apology (i.e., an apology given by an uninvolved out-group member on the perpetrator’s behalf), and whether they differentially lead to forgiveness in different cultures. To test this, we adapted the scenarios in the revenge study above by a) asking respondents to imagine that the insults were directed at them and b) substituting the revenge with an apology from either the perpetrator or the offender’s friend on behalf of the wrongdoer (randomly assigned). Participants then rated their willingness to forgive the offender. Respondents also rated how entitative they believed the offender and the offender’s friend to be. Guided by previous research findings that reveal the factors that contribute to group entitativity perceptions (Lickel, Hamilton, Wierzchowska, Sherman, & Uhles, 2000), these questions asked about the pair’s level of interaction, shared goals, and relationship duration: “They interact and communicate with each other frequently,” “They have many goals in common with each other,” and “They are very good friends who have a long history”. In the last grant period, we increased our sample size (N=168) by collecting additional data from both countries (n=80 US; n=88 Lebanese). This data is currently being analyzed.

In addition, based on our theory of culture and contagion research, we anticipate that conflicts are more contagious *across time* in collectivistic groups, with the result that conflicts persist much more across generations, including among individuals who were not involved in original conflicts. To test the idea that collectivistic individuals are more likely to transmit conflict information through their narratives across time, we had previously designed and piloted

a study with guidelines set forth in previous studies using the Bartlett method of serial reproduction (Lyons & Kashima, 2001; Lyons & Kashima, 2003). This method is applicable to study contagion processes and the distortion of collective memory, as it has been used to understand information transmission and collective memory for rumors and stereotypes (Lyons & Kashima, 2001; Lyons & Kashima, 2003). Groups of four participants each complete a chain of reproductions: the first person reads a story we provide that describes a group conflict, while the other three read and reproduce the version that is passed down to them from the previous person, akin to the way that collective memories are spread from generation to generation (i.e., using a telephone game metaphor). One major strength of this design is that despite the same starting point (researcher-created story), it potentially produces a story in the end that has been transformed to include information rich in the group-level biases of the storytellers, and lends itself to be analyzed with different approaches, as detailed below.

We successfully completed and published a study in the *Journal of Experimental Social Psychology* on the effects of ingroup conflict involvement on the types and strength of group biases that emerge in people's collective memories. Chains of participants received the initial story about two groups in conflict both of whom were strangers to them (Control condition) or one of whom were friends with the participants (Ingroup condition). We analyzed the stories produced at the beginning of the chains by the first person and at the end of those chains by the fourth person as a function of condition. Our investigation employed multiple statistical analyses from various angles, and together, they revealed a remarkable level of ingroup biases in the stories people retold as well as in their evaluations—that is, their take-home attitudes—about the conflict and the conflict participants.

First, we analyzed the content of the stories using our internally developed Honor Dictionary (discussed above). In particular, we were interested in the use of words related to *morality* and *wrongdoing*. Words belonging to the morality category reference qualities that contribute to the (non)integrity of a person or group. These words include ethic, (un)fair, right, justice, virtue, etc. Words in the wrongdoing category refer to acts of misbehavior and wrongdoing, and include wrong, lie, rude, guilt, etc. As expected, linguistic analyses conducted on these two categories showed increasing use of *morality* words within Ingroup chains compared to a consistent level in the Control condition chains. Furthermore, use of *wrongdoing* words remained consistent in the Ingroup condition as compared to the control condition in which it decreased from the first to fourth person as information is increasingly lost in transmission down the chain. Second, we also employed content coding analyses. Using the codebook developed last year, we coded each unit of thought in the reproduced stories. A team of trained coders tallied the frequencies of when a particular detail is distorted to exaggerate the blame of one of the groups versus when it is distorted to downplay the blameworthiness of one of the groups. Examples of blame exaggerations include stating ambiguous information as fact by omitting one group's expressions of denial; creating new information that implies the consistency and repetition of an isolated event; and exaggerating either actions or consequences. Blame attenuation includes making excuses (e.g. emphasizing extenuating circumstances) or justifications for a group's behavior (e.g. it was necessary; the other group deserved it); particularizing the occurrence of one's blameworthy behaviors; and providing information that a group showed conciliatory behaviors (e.g. making amends or reparations). Results showed that



ingroup bias is greatest when it comes to *attenuating the ingroup's blameworthiness*, suggesting that people's reproductions are distorted to downplay the fault or blame of one's own group. Additional analyses examined participants' ratings of empathy which were assessed through questions about how understandable, (in)appropriate, justified, etc., the groups' actions were relative to each other. We found that people in the Ingroup condition showed significantly higher and *increasing levels of empathy toward one's own group*, as compared to Control condition participants who showed a neutral and consistent level of empathy toward either group.

In tandem with the distortions in people's reproductions, people also showed *bias in their evaluations toward each group* if their group was involved in the conflict. Participants rated how well they thought various adjectives described each conflict group. These words encompassed both positive traits (e.g. respectable, honorable, moral) and negative traits (e.g. malicious, manipulative, cruel). Due to a drop in information between communicators down the chain, Control participants' positive and negative trait attributions for both groups diminish across the chain; however, positive attributions toward one's ingroup and negative attributions toward the outgroup remain stable within the Ingroup condition chains. These findings suggest that people remain steadfastly loyal to their ingroup members in spite of the circumstance that those ingroup members were equally deserving of blame originally. However, distortions in the retelling of the conflict lessened ingroup blameworthiness over time and disproportionately carried through the outgroup blameworthiness. This research appeared in the *Journal of Experimental Social Psychology* in 2014 and was quoted in the press.

Finally, we have also extended our theory to examine *revenge turned inward*. In our work thus far, the negative act was perpetrated by an out-group member. The question remains, however, what if the negative act is performed by an in-group member? Given greater in-group entitativity among collectivists, we expect that negative acts committed by an in-group member will spread to threaten the group image and thus will become contagious across the group. Collectivists are therefore expected to distance themselves from and punish in-group members to a greater extent than individualists. In the previous grant period, we collected data to investigate the hypothesis that collectivists indeed respond differently to in-group members' transgressions than individualists. In this study, after extensive piloting, students from East Asian and European American backgrounds read numerous scenarios in which a group member committed a wrongdoing. These scenarios varied in the extent to which the context was public or private. We found that in response to in-group transgressions, endorsement of collectivism predicted the tendency to withdraw from the situation and distance oneself from one's friend, mediated by feelings of shame and appraisals of image threat, but only when the situation was public. By contrast, people who emphasized individualism were less likely to withdraw from the situation, and they were more likely to repair the transgression, *particularly* when the situation was public. This work was presented at the 2013 *Annual Meeting of the Society for Personality and Social Psychology* (SPSP), New Orleans, LA, and the 2013 Conference of the *International Association for Cross-Cultural Psychology* in Los Angeles.

- **Antecedents and consequences of forgiveness**

In addition to the predictors of disputes and their evolution across networks, the MURI is concerned with understanding the factors that cause people to *forgive* others that harm them. Forgiveness has received widespread attention in the social and organizational sciences. However, it has also witnessed few attempts at empirical integration. In previous grant periods, MURI Graduate Fellow Ryan Fehr and collaborators completed a meta-analysis of the extant forgiveness literature, drawing from social, organizational, personality, clinical, and developmental psychology. In this empirical review, they meta-analyzed results from 175 studies and over 26,000 participants, developed a taxonomy of 22 unique predictors of forgiveness, and a new model of the antecedents of forgiveness. This manuscript was published in a premier journal, *Psychological Bulletin* (Fehr, Gelfand, & Nag, 2010), and was featured on *National Public Radio*, the *Chronicle of Higher Education*, and *Psychology Today*.

We also published a paper on the role of apologies in forgiveness. Apologies are useful social tools that can act as catalysts in the resolution of conflict and inspire forgiveness. Yet as numerous real-world blunders attest, apologies are not always effective. Whereas many lead to forgiveness and reconciliation, others simply fall on deaf ears. Indeed, despite the fact that apologies differ in their effectiveness, most research has focused on apologies as dichotomous phenomena wherein a victim either receives an apology or does not. Psychological research has yet to elucidate which components of apologies are most effective, and for whom. The research we published (Ryan & Gelfand, 2010) illustrates that elements present in apologies need to be congruent with the nature of the victim's self-construal in order to be effective. For example, people high on individualism expect that a good apology contains compensation; people high on collectivism expect that apologies contain recognition that moral violations to the group have occurred; and people high on relationality expect apologies to contain expressions of empathy. Two studies, reported in *Organizational Behavior and Human Decision Processes*, supported this theory. This paper also received the best paper award for new directions in conflict management at the Academy of Management in 2010 and was featured in *Psychology Today*.

Our work on forgiveness has moved beyond looking at antecedents to look at the consequences of forgiveness. Cultures across the globe perceive forgiveness as virtuous, desirable, and laudable. Themes of forgiveness pervade the world's major religions, and philosophical musings on the virtue of forgiveness have similarly persisted since antiquity. Given the widespread perception of forgiveness as a virtue unto itself, it is perhaps no surprise that research has overwhelmingly focused on the predictors of forgiveness – individual differences and situational contexts that determine when and if victims forgive their offenders. Paradoxically, this near unanimous agreement on the importance of these predictors has hampered empirical research on what happens after people forgive – the consequences of forgiveness for how victims feel, think, and behave.

We conducted 7 studies to examine the hypothesis that forgiveness is related to higher levels of empowerment and creativity. In Study 1 we demonstrated that trait forgiveness is positively associated with a general feeling of empowerment. In Studies 2-3, we expanded upon this initial finding by experimentally manipulating forgiveness and demonstrating its effect on two different implicit measures of empowerment. Specifically, we demonstrated that forgiveness

primes enhance the accessibility of the concept of empowerment (Study 2) and lead participants to perceive themselves as physically larger in the world than participants who are primed with unforgiveness (Study 3). Study 4 built on the results from Studies 1-3 by demonstrating that forgiveness primes reduce the perceived physical demands of climbing a hill. Studies 5-6 in turn demonstrate that forgiveness primes directly empower physical and mental action, enhancing performance on a jumping task (Study 5) and a creative problem solving exercise (Study 6). In our final study (Study 7), we demonstrated that the empowering effects of forgiveness are predicated on offender remorsefulness. When offenders remain unrepentant and unapologetic, the benefits of forgiveness for victim empowerment subside (Luchies et al., 2010). Together, the findings indicate that empowerment is a far-reaching consequence of forgiveness, with lasting implications for victim perception and behavior that extend far beyond the context of the victim-offender dyad. This paper is now conditionally accepted at the journal *Social Psychology and Personality Science*.

Finally, through our MURI efforts, we also developed a theory regarding forgiveness at a higher level of analysis—i.e., that *forgiveness climates* can and do exist, and their likely antecedents and consequences. In a paper that was accepted this year at the *Academy of Management Review* (Fehr & Gelfand, 2012), we introduce a multilevel model of forgiveness and present forgiveness climate as an organizational-level phenomenon that can help to explain when and why employees respond to conflict prosocially. In the first phase of our model we introduce restorative justice, compassion, and temperance as the core cultural values that enable forgiveness to emerge at higher levels of analysis. Through restorative justice values, organizations build forgiveness by emphasizing the importance of making amends and restoring broken relationships to health. Through compassion values, groups build forgiveness by emphasizing the importance of helping people who are suffering and in need, even if they have transgressed in the past. Through temperance values, groups build forgiveness by emphasizing the need to be calm, patient, and mindful, even after emotion-laden transgressions that might instill a desire for revenge. Each of these values is likewise associated with a number of leader traits and policies that ultimately enable forgiveness cultures to emerge. In the second phase of our model we focus on how forgiveness cultures affect sense making processes that occur after conflict occurs, particularly through empathy triggers, which encourage offenders to attune themselves to the suffering of their victims and encourage victims to attune themselves to their offenders' points of view; through emotional shifts, wherein offenders experience enhanced guilt while victims experience reduced anger; and through restorative changes, whereby offenders offer apologies to their victims, who in turn offer forgiveness to their offenders. In the final phase of our model we focus on the lasting effects of forgiveness climates for employees and their organizations. This paper received the *best theoretical paper award* from the Academy of Management in 2011.

## **Culture and Mediation**

The final set of studies within Experimental Thrust 2 is on culture and mediation. Mediation is a critical form of conflict resolution. Using a variety of strategies, mediators manage the relationship between the disputants and their respective constituencies, deal with the procedural and substantive issues of the dispute, and help to guide disputants to a voluntary settlement. Mediation plays an important role in the resolution of legal, organizational, and

community disputes, and it serves an especially vital function in areas lacking easy access to formalized legal avenues of conflict resolution, such as in the Middle East. While a large literature exists on mediation (reviewed by Gelfand et al., 2010), there is scant empirical attention to mediation outside of the West. This is particularly problematic given that attempts to deploy Western mediation tactics and strategies in non-Western cultures might be ineffective and could lead to further intercultural clashes (Abu-Nimer, 1998). This work will provide critical theory generation and empirical research on culture and mediation. This knowledge will ultimately be useful for mediation professionals who need to be able to successfully mediate conflicts between culturally diverse disputants.

- **Archival data on culture and mediation**

Led by Jonathan Wilkenfeld, the MURI team has analyzed numerous archival data on mediation and culture. By bringing together the fields of International Relations and Cross-Cultural Psychology, in true MURI interdisciplinary spirit, we are able to offer a unique approach to tackling the question of how mediation and culture interact – something studies in either field individually have not yet been able to accurately address – by combining psychological theories of culture with political theories of crisis mediation.

We conducted analysis on our merged dataset comprised of the International Crisis Behavior (ICB) dataset (one of the largest databases on international mediation), cultural datasets that we collated (the GLOBE dataset, which measures cultural characteristics based on survey responses of individuals), and cultural datasets that we collected and coded (data from the Ethnologue, Languages of the World database; Races of Humanity by Richard McCulloch; and religion data from Birnir and Satana). These cultural proxies arguably offer closer measurements of the concept of culture than previous studies examining the effects of culture on mediation (prior studies had relied on proxies such as geographical proximity, political system, or religion). These analyses were conducted at both the system-level – examining whether cultural differences between disputing parties affect the likelihood of disputants using a third-party mediator to resolve their conflicts and whether mediation was effective when it did occur (i.e., if there was a reduction in tensions) – and at the actor-level – examining whether various cultural dimensions of particular states affected how open they were to third-party mediators and whether or not mediation was effective in reducing tensions when it did occur.

Our work has now been published in the premier journal, the *Journal of Conflict Resolution*. We found, for example, that cultural variables collected by our team (measuring differences in language, race, and religion) have a negative effect on the likelihood of mediation occurring, both individually and when combined in an index. We expanded on these results by implementing a censored probit model, not previously used for studies in this field, to more accurately model this two-step phenomenon. Using this two-stage model, we were able to model the effectiveness of mediation efforts when mediation did occur, and found that in instances where mediation did occur, cultural difference did not play a role in how effective mediation efforts were in reducing tensions. These findings are promising, especially for practitioners, as they suggest that if culturally diverse disputants can somehow be brought to the mediation table (i.e., through the use of incentives), their cultural differences might not significantly affect mediation outcomes once mediation begins. Additional findings regarding the effect of individual states' cultural characteristics on their openness to mediation (i.e., requesting

mediation or accepting it when offered to them) suggest that certain cultural dimensions – such as collectivism and uncertainty avoidance – affect how open a state is to third-party mediation efforts, though they cease to affect how effective mediation outcomes are when modeled using a two-stage censored probit model. This marks one of the first times that the effect of specific facets of culture has been documented on mediation occurrence and efficacy, and offers insight into what might drive states to be more open to mediation.

During our grant, we have made use of the Mediating Intrastate Crises (MISC) dataset – a new dataset that looks at 116 mediated and unmediated, violent, African post-Cold War intrastate crises that have an ethno-political element. This complements our previous project nicely in its focus on the African region – a critical area that is increasingly becoming a strategic interest to DOD. We have focused our research on determining the efficacy of different mediators – domestic, regional, and extraregional – and the various mediation styles that they implement – facilitative, formulative, and manipulative – in helping these crises reach successful outcomes, both in the short-term (crisis management through reaching formal agreements) and long-term (conflict resolution through tension reduction). Findings from our work suggest that, in general, mediation plays a major role in managing violent intrastate ethnic crises in post-Cold War Africa in the short-term, particularly when mediators adopt a more directive (manipulative) mediation style, though its effect is less evident in the long-term. Through the use of binary logistic regression and bivariate probit models, we found that not all mediators are equally adept at using a more directive mediation style. The UN, for example, is a highly ineffective manipulative mediator. In the short-term, we found regional, domestic, and Western mediators to be effective crisis managers. However, we found regional and extraregional (Western and the UN) mediators to be poor conflict resolvers in the long-term. We found emerging evidence of an important role for domestic mediation in intrastate peace processes in Africa, most notably as a contributor to long-term conflict resolution; we highlighted this through the close examination of two case studies – an intrastate crisis between the Malian government and the FPLA mediated by North Malian traditional community leaders in 1992, and an intrastate crisis between the Angolan government and UNITA in 1998-2002 mediated by the Inter-Ecclesiastical Committee for Peace in Angola.

As conflict patterns have shifted in the post-Cold War era away from interstate conflict and crisis to intrastate conflict and crisis, it is critical that we determine whether the processes and patterns identified at the interstate level during our prior work under the MURI grant hold for the intrastate level, and where they diverge. Our work this past year marks one of the first times that the effect of mediator identity coupled with mediation style has been examined in the African civil conflict context – which has become an increasingly growing problem in recent years. The findings based on our work during this grant period are promising – especially their policy implications for the international community as well as for practitioners – as they suggest what types of mediators ought to lead mediation efforts in specific types of situations, as well as suggest what mediation styles may be most effective when implemented in certain contexts.

- **Experimental studies of culture and mediation**

Led by MURI graduate fellow Elizabeth Salmon with MURI faculty Sarit Kraus, our team has developed an experimental study and began to collect data to examine the types of mediator styles that are most effective in intercultural and intracultural disputes. We developed a new negotiation simulation of a community dispute based on the interview data collected in the United States and the Middle East. Prior to data collection, we completed multiple pilots in order to finalize the dispute simulation description, the mediator messages, and the negotiation interface for data collection to be culturally appropriate in both samples. Further, we worked with our Turkish collaborators to finalize the study measures and translate the materials into Turkish for use in the Turkish intracultural dyads. MURI fellow Elizabeth Salmon also worked with the Turkish team to develop a data collection strategy for the intercultural dyads, which included efficiently coordinating participant schedules over the seven hour time difference and participant assignment to mediation condition and player role.

In this study, participants from the United States and Turkey were asked to resolve a dispute with the help of an agent mediator. Based on research in political science and psychology, we examined the impact of different mediation styles (e.g., formulative versus manipulative versus no mediation) on conflict resolution in intracultural (e.g., Turkey-Turkey; US-US) versus intercultural (e.g., Turkey-US) disputes. We developed a virtual lab that combines video conferencing software with a negotiation interface through which the participants send formal offers. The offers sent through the negotiation interface are monitored by the agent mediator, which calculates alternative offers and send messages or offers to the participants through the interface. The agent is building on AutoMed, a mediator that Sarit Kraus developed for computerized negotiations to mediate conflicts between human negotiators (see additional description of the agent below in *Thrust IV*). The video conferencing software allows participants to see and hear each other in real time, and allows us to record these interactions for later behavioral coding. In turn, the negotiation interface provides an avenue for tracking participants' offer behaviors and facilitates communication between the participants and the mediator.

We collected 55 intercultural dyads that negotiated from labs located at the University of Maryland and Sabanci University in Istanbul, Turkey. We also collected 52 Turkish intracultural dyads and 58 American intracultural dyads. During the laboratory dispute simulation sessions, participants reviewed the dispute simulation description and were given a brief computer tutorial on the web-based negotiation interface used during the simulation. Dyads were randomly assigned to one of three mediation conditions. In the no mediation condition, the participants negotiated without mediator intervention. In the two mediation conditions, the agent mediator sent potential offers to the participants (e.g. "I have an offer for you. I think that you will both like this solution."). In the manipulative mediation condition, the agent also sent messages to the participants to press them to find a resolution (e.g., "You are taking too long to reach an agreement. If you do not reach an agreement, I will take 30 points from both of your final scores."). After the disputants reached a solution or the time limit elapsed, the experimenter ended the video conference and logged the participant off of the negotiation interface. The participants then completed a survey about their satisfaction with the outcome of the negotiations and answered a series of questions about the negotiation experience, their partner, the mediator, and the simulation.

Our results provided support for our hypothesis that intercultural disputes are better resolved with manipulative (forceful) mediation styles. Further analyses explored the interaction between mediation style and dispute difficulty markers. Previous research (e.g., Lim & Carnevale, 1990) has suggested that mediators adapt their behavior to the disputing situation, and that the effectiveness of mediation styles varies based on dispute characteristics. Based on this research, we tested whether the effectiveness of the mediation styles in the current study varied based on dispute characteristics. The results showed a significant interaction between manipulative mediation and markers of dispute difficulty (e.g., openness to mediation, cultural intelligence, trust, disputant willingness to concede). Manipulative mediation produced higher pareto efficiency and subjective satisfaction in intercultural dyads in more difficult disputing conditions (low openness, low CQ, low trust, and low willingness to concede) but lower pareto efficiency and subjective satisfaction in intercultural dyads in more favorable conditions (high openness, high CQ, high trust, and high willingness to concede). This work was published in the *Journal of Organizational Behavior*. The project was also presented at the annual meeting of the *International Association for Conflict Management* in July 2013 (Salmon, Gelfand, Çelik, Kraus, Wilkenfeld, & Inman, 2013).

This research extends previous theory and research in several key ways. First, the results of the study highlight the fact that intercultural disputes are not monolithic; these conflicts vary on a number of components, including relationships with the third party and disputants' motivation, affect, and behavioral intentions. These factors have a dynamic impact on the effectiveness of third party intervention strategies; there is no "one size fits all" strategy for reaching resolution. Notably, this is the first known study to explore the impact of cultural intelligence, a key mechanism that may facilitate effective cross-cultural negotiations, in the mediation process. Second, this study is among the first to examine mediation in intercultural disputes using experimentally manipulated and standardized mediation styles; previous research has relied largely on correlational designs based on the mediators' self-reported strategy use. Third, this research is the first known study to gather measures of dispute difficulty from the disputants themselves, rather than from mediators' reported perceptions of dispute characteristics. In sum, this study has advanced the theoretical understanding of mediation in intercultural disputes.

In addition to completing the manuscript on the intercultural condition, we also conducted further analyses the American and Turkish intracultural dyads. Our analyses suggested that while the formulative mediator and especially the manipulative mediator produced higher scores for the American intracultural dyads as compared to dyads in the unmediated condition, there were no significant differences between the three conditions for the intracultural Turkish dyads. These results suggest that these two mediation styles, as conceptualized in the Western practice and study of mediation, may not be effective in disputes that occur between people from the Middle East. To further examine this possibility, we are analyzing the MURI interviews on culture and mediation. Our team has explored the descriptions of mediated conflict episodes as described in the interviews, and is in the process of developing a coding scheme that will allow us to understand the use of different mediation tactics based on the characteristics of the conflicts, with a particular focus on potential culture-specific tactics used by mediators in the ME.

This work reflects the interdisciplinary focus of this MURI—involving researchers from three different disciplines, political science, computer science, and psychology—along with collaborators from different cultures—who worked together to create new synergies that have important implications for theory and practice. In addition to examining the dynamics of intracultural and intercultural disputes, which represents a significant extension of previous research on mediation, this study also created a new virtual lab that can be used in intercultural experiments with participants living in different parts of the world, which provides a new method for researchers interested in studying real-time intercultural interactions. Accordingly, the virtual lab frees researchers interested in intercultural interactions from relying on expatriate samples and the potential selection biases associated with using these samples. The development of the agent mediator and new disputing case also provides new tools for the exploration of intercultural mediation. The agent mediator not only standardized the mediator behavior in the current study, but also displayed the ability to create a mediator that is appropriate for deployment in multiple cultures. The disputing case provided a standardized context for a community-based conflict that was realistic, relevant, and motivating for participants from different cultures. This case may serve as the basis for future explorations in intercultural disputing and mediation in community settings.

### **Experimental Thrust III**

#### **Team Leaders: Eduardo Salas, C. Shawn Burke, & Maritza Salazar, University of Central Florida**

Lead by MURI researcher Eduardo Salas, research in Experimental Thrust III examined the dynamic effects of culture on *collaboration* within targeted Middle Eastern and NATO countries. Work within this experimental thrust investigated a mix of collaborative tasks (i.e., planning, decision making, and creativity) and the effect that culture has on collaboration processes and outcomes. The aim of this research track was to further construct clarity about collaboration and to develop a theoretical understanding about how collaboration processes vary across cultures. As in Thrust II, we have focused our attention on basic psychological and social processes involved in collaboration, and on the factors that facilitate versus inhibit multicultural team effectiveness.

Experimental Thrust III conducted (a) experimental projects on the impact of culture on collaboration processes and (b) studies on individual difference and leadership factors that affect multicultural collaboration effectiveness. We have also translated the findings from previous theoretical and empirical work on the project into a series of publications, book chapters, and conference presentations as a way to disseminate findings and conduct outreach.

### **Interviews on Culture and Collaboration**

Drawing on data collected in previous project years, we further analyzed interviews conducted in the region for an understanding of approaches to collaboration in Iraq, Egypt, Jordan, Lebanon, Pakistan, Turkey, the UAE, and the U.S. The purpose of such analyses were to



deductively test whether statistical differences existed in the representations of collaboration across cultures. Finding from our content analysis were tested using text analysis. Specifically, the Linguistic Inquiry and Word Count (LIWC; Pennebaker, Booth, & Francis, 2007a) software was used to analyze the type and frequency of words used in the interview data from each country. Consistent with previous research, LIWC was used to examine similarities and differences in conceptualizations of collaboration across the six different samples. Consistent with work by Gibson and Zallmer-Bruhn (2001), however, we did not utilize such techniques in creating our word list. In their analysis of teamwork metaphors across cultures, the authors argued that using U.S. sources to develop word lists could fail to capture or misinterpret culturally embedded language. Similarly, to fully pick up on cultural differences, a data-based approach was used to develop our word list, rather than creating it through a westernized lens.

Once the initial word list was created, five coders independently categorized words into groups based on similar meanings or themes. For example, words such as *decide*, *consult*, *planning*, *consider*, *discuss*, *thinking*, *reflect*, *information*, *ideas*, and *data* were grouped together in a category labeled “information processing.” Next, the first and second authors engaged in a series of verbal analyses and discussions in which they merged and refined the resulting categories. Several categories resulted, capturing various dimensions of the collaboration construct. These categories served as dictionaries and were used to perform the LIWC text analyses. Specifically, the program functions by searching the dictionaries while the interview data is being processed to look for matches. In this way, frequencies are calculated indicating the percentage of interview words that fall into each dictionary, or category. Interview data from each country was analyzed separately to allow for cross-cultural comparisons. Following the analyses, the mean percentage of interview words representing each category was calculated for every country (i.e., the percentages for all of the interviewees in each country were averaged). Finally, a series of independent sample t-tests was conducted to determine if there were statistical differences in the types of words used across countries. Every possible pair of countries was examined, resulting in a total of 15 comparisons for each category of words. Analyses revealed that the Middle Eastern samples generally used significantly more words falling into the “external rewards” category when conceptualizing collaboration than did the U.S. sample. Additionally, LIWC’s “achieve” and “money” default dictionaries yielded similar results providing convergent evidence that Middle Eastern cultures might place a greater emphasis on the external rewards associated with collaboration than do their American counterparts. We also explored variation in the results using the Schwartz’s Values LIWC dictionary.

## **Projects on Culture and Team Processes**

We made significant progress on a number of studies on culture and collaboration processes. We have investigated the following two lines of research: 1) *how culture influences information sharing and integration*, and 2) *what individual and situational factors enhance or inhibit these cultural influences*. Experimental and survey studies have been conducted to assess whether cultural differences in power distance affect willingness to share information, and the impact of this on team creativity in the presence of a high status member. Specifically, we proposed that team creativity would be lower in high power distance teams compared to low power distance teams. The data we collected also examine moderating factors such as team norms (critical thinking vs. agreement focus). Research has suggested that these critical thinking

norms can positively affect information sharing and decision making quality in teams, whereas consensus norms have the opposite affect (Postmes, Spears, & Cihangir, 2001). Hence, we predicted that critical thinking norms could counter the relationship between high power distance orientation and team creativity outcomes in teams. Our research was conducted in three-person teams, each with a high status (upperclassmen) member, both in Lebanon and the United States. Data has been collected from 44 teams and transcriptions of team interaction have been examined to better understand information processing dynamics. We have also completed behavioral coding and are beginning to analyze the data.

Drawing on an extensive review of the empirical and theoretical research, our team also developed and submitted an integrated theoretical framework for publication (*Groups and Organizational Management*, Conceptual Issue) that develops a cross-cultural framework of employee voice in the global workplace. We first defined voice and then examined the role of cultural values, beliefs, norms, and contextual factors that can facilitate or inhibit voice across cultures. Finally, we discussed the implications of the model for cross-cultural and organizational behavioral research and practice focused on employee voice. The manuscript revision has been submitted.

As with research on negotiation in Thrust II, trust is also an important relational factor in successful collaborations. There is substantial research on the construct of trust and trust development; however, there is minimal research investigating trust violations and trust repair in collaborative contexts. In multicultural teams, trust may be particularly fragile and trust violation may be a result of cross-cultural misunderstanding. Hence, there is a strong need to better understand how culture influences responses to trust violations and effectiveness of trust repair strategies in collaboration contexts. Research has suggested, for example, that the use of apologies helps to repair damaged trust. However, this research is almost exclusively based in westernized populations and has not begun to explore any cross-cultural differences. Therefore, the primary goal of one of our comparative cross-national laboratory studies was to examine if, and how, the effectiveness of trust repair efforts differs across cultures in collaborative contexts. The effectiveness of three manipulated trust repair strategies (no response, apology, and account) was tested using students from universities in the United States (U.S.) and in the United Arab Emirates (UAE). The results of the study indicated that fatalism, or the belief that events in life are meant to occur, was negatively related to initial trust and positively related to initial distrust toward one's collaborative partner. It was also found that higher levels of fatalism were associated with more severe trust damage after a trust violation. Regarding the trust repair strategies, accounts were more effective at repairing trust than no response for high fatalism participants whereas apologies were more effective than accounts at reducing distrust after a violation for low fatalism participants, providing partial support for the idea that trust repair strategies are more effective when matched to the cultural self-construal of the victim. Finally, initial distrust and trust directly after the violation were predictive of revenge taking on the other player.

In summary, we've learned that culture, specifically fatalism, has a significant influence on the degree to which individuals trust and distrust others in a collaborative setting. Furthermore, when integrity-based trust violations occur, the effectiveness of various trust repair strategies depends upon the self-construal of the victim. Finally, trust and distrust after a violation are predictive of whether or not individuals will take revenge upon the violator. These

findings have significant implications for intercultural collaboration such that depending upon an individual's self-construal, repair strategies may be more or less effective in repairing trust; in turn, if trust is not repaired after a violation, there is potential for counterproductive revenge behaviors. Revision to the manuscript has been made following constructive reviews from the *Journal of Organizational Behavior*.

In another study of cross-cultural differences in trust and trust violations, we are examining cross-cultural differences in the influence of competence (i.e., ability) versus integrity violations on trust and teamwork processes among individuals who vary along the dimension of face concerns, as well as evaluating the mechanisms through which these various types of violations impact trust and distrust. Furthermore, we will evaluate the effectiveness of different trust repair strategies (i.e., apology, account, no strategy) on repairing trust after these different types of trust violation to determine 1) the impact of competence versus integrity violations on trust and distrust in cultures that are lower or higher on face concerns and 2) cross-cultural differences in the utility of various repair strategies in repairing competence- versus integrity-based trust. Data analysis is currently being conducted.

### **Projects on Factors that Facilitate versus Inhibit Multicultural Collaborations**

As with Thrust II, we were interested in examining the factors that help versus hinder processes in multicultural teamwork settings. We examined both individual differences and situational factors (e.g., organizational commitment, leadership) in these efforts.

- **Identity processes and performance in homogeneous and multicultural teams and communities**

Paralleling Thrust II in negotiations, we investigated how *identity processes* affect the generation of new knowledge in inter-cultural collaboration. In this vein, a study was implemented based on the notion that team ideas may be most creative when their subgroup identities (cultural) and superordinate identities (team) are simultaneously made salient in multicultural teams. Additionally, within this thrust, we have learned about the role of dual identity in creative team outcomes when the teams are culturally diverse. Results from a laboratory study suggested that the creativity of slogans generated is greater in inter-cultural groups when both a superordinate (e.g., shared team identity) and a subgroup identity (e.g., cultural identity) are made salient. In teams where ethnic identity was salient, analysis suggested that the experience of a superordinate team identity led to more novel team slogans. We have done additional analyses based on feedback from a manuscript submitted to *Journal of Organizational Behavior*. Based on these additional analyses and corresponding findings this manuscript has been submitted to *Group and Organization Management*.

Along related lines, we have also explored how identity affects individuals' social networks, both within and outside of religious and cultural communities. The social identification of members is an important factor likely to affect a variety of social networks that are critical to the well-being of a community. Social identity theory suggests that individuals gain a social identity from the groups that they belong to and that members perceive and evaluate

members of their own groups more favorably than others (Brown, 2000; Tajfel, 1972; Hewstone, Rubin & Willis, 2002). This ingroup favoritism and out-group bias can potentially shape preferences for social interaction and ultimately social networks. In other words, social identity can shape one's willingness to connect with others. More specifically, in-group favoritism can increase interaction with group members, whereas out-group bias can hinder social networks across members of the broader community.

In a field study with local religious organizations, we have worked to collect survey and social network data to help us to understand how social identification associated with one's religious identity/affiliation (Muslim or Christian) may affect collaboration within and outside of one's faith organization in a pluralistic community. We examined how affiliation and identification with a marginalized, lower status religious organization affected interaction with others in the broader community. When members of the Muslim community are members of a minority religion, it may be the case that this social identity may be quite salient; however, this may not be the case for Christians. We investigated the effect of the perceived magnitude of the status differences between members of the organization and the broader society and its effect on the diversity of individuals' social networks (social, educational, job, and health). The comparison of marginalized and mainstream religious organizations provided an opportunity to understand how these structural factors influence social networks and other adjustment outcomes. Using a survey instrument, we collected social and religious measures, as well as data about respondents' attitudes, values and personality. A matched sample design was used, collecting survey data from members of two mosques and two churches that are located near one another, to control for SES and features of infrastructure, such as transportation availability. Qualitative data was gathered from individuals on the diversity of their social networks (low, moderate, and high) in order to gather information about the factors that hinder or facilitate connections with diverse others in the broader community. Data analysis is ongoing and prepared for manuscripts.

Finally, we have investigated collectivist and individualist orientations as predictors of team adaptation and performance after the removal of a team member. Most research in this area has focused on the removal of one team member with replacement by another (e.g., Levine, Choi, & Moreland, 2003). However, recent trends in today's economy provide the motivation to further investigate membership loss without replacement. Using a minimal group paradigm across collectivist and individualist societies both in the United States and in Israel (Israelis and Bedouins), we investigated team adaptation after the loss of a team member across the following three social identity conditions: a) ingroup - all members share a common team identity; b) outgroup - members share a common identity, with the exception of the member who will be removed; or c) decategorized - members participate as separate individuals. Teams of four people, all individualists or all collectivists, engaged in a computer-based planning task, which was an adaptation of Color Trails, where members must collectively move their pieces across a board game. Information about the board (e.g., traps and shortcuts) was distributed across the members and was shared during game play. A member was then removed, and the remaining three members continued to play the game. Drawing on motivation and social identity theory, we hypothesized that collectivist teams in the ingroup condition would perform and adapt better than the individualist teams, whereas individualists will perform better than the collectivist in the outgroup and decategorized conditions. Data has been collected from 14 teams from Israel and

20 teams in the United States. Due to difficulty collecting data, we were left with a small sample and are determining how to best analyze the data.

- *The influence of leaders on multicultural collaboration effectiveness*

We have also examined the influence of leaders on multicultural collaboration effectiveness. While leaders have been shown to have a tremendous impact on the performance of homogeneous teams, we do not yet understand the mechanisms that leaders need employ to facilitate the decrements in shared affect, behavior, and cognition that occur in multicultural teams. The driving question for this stream of research is: What leadership factors/forms of leadership facilitate success in multicultural decision making teams? To date there has been a dearth of research on this topic. We have aimed to identify conditions that make leaders more effective in multicultural teams with the goal of ultimately providing advice about how to promote positive relationships between leaders and team members in multicultural contexts. We took a multi-faceted approach to examine this question. Specifically, we combined a critical analytical review, survey-methodologies, and empirical laboratory studies.

With regards to efforts in the laboratory, we investigated three streams of research: one that focused on the impact of leader social distance, one focused on the impact of leader incivility, and one focused on methodologies. Specifically, we completed a study examining leader social distance where we looked at how team diversity, and specifically team power distance, influenced team affective states, team processes, and team performance. Furthermore, we explored the degree to which a socially distant leadership style would affect the team's experience and performance. We posited that leader social distance would interact with team levels of power distance, because leader social distance, being the distance that a leader maintains from followers (Antonakis & Atwater, 2002), is conceptually similar to the cultural value of power distance. To explore this, 124 gender-matched 4-person student teams (as well as a gender-matched confederate leader) completed a problem-solving task, the board game "Pandemic." In this task, members worked together using their unique roles and information to cure and stop the outbreak of diseases.

In male teams, we found that variance in team levels of collectivism interacted with leader social distance, such that team affective states were more positive when collectivism values were diverse and leaders were socially close. Furthermore, team variance in tolerance for ambiguity negatively influenced team process; this trend was worsened under socially close leadership. In female teams, socially close leadership moderated the effect of diverse team power distance (PD) values, such that high PD variance was positively related to positive team affect under socially close leadership, but this relationship was reversed under socially distant leadership. This same leadership interaction effect was also seen in the relationship of tolerance for ambiguity (TFA) variance and team processes. However, this effect was reversed when predicting team performance: socially distant leaders yielded a positive relationship between TFA variance and performance, while socially close leaders produced a negative relationship. Finally, team PD diversity interacted with leaders' social distance to predict team viability, such that socially close leaders yielded high team viability in diverse teams, while socially distant leaders led to lower team viability in diverse teams.

This study highlights the importance of taking into account the functionality of a particular leadership style (i.e., leader social distance) and team composition (i.e., values diversity) when designing teams for high performance. It is important to note that deep-level diversity played a significant role in team emergent states, processes, and performance, even in an ad hoc team.

Continuing on the theme of leader distance effects, we analyzed (and submitted for publication) the results of the laboratory study conducted on leader incivility. Incivility is an increasingly studied construct, but it is still fairly nascent. Incivility has been defined as low-grade aggression with ambiguous intent to harm (Andersson & Pearson, 1999). It is an extremely common occurrence, and given the role that recipient perception plays in the experience of incivility, it is likely common in cross-cultural teams. Accordingly, we explored the role of cultural values on the experience of incivility within teams. Because incivility is low-grade and lacking intent, it is difficult to curb or punish. One method that has been suggested to curb incivility in the workplace is the development of a high-civility organizational culture, one in which incivility is discouraged at a cultural level (Cortina, 2008; Pearson & Porath, 2005). Another side of incivility that has not been studied at length is leader incivility, even though leaders are likely more prone to incivility, given their increased immunity from resultant punishment (Campana, 2009). Because leader incivility may be more common and more harmful, and because incivility on the whole is likely experienced more often in a cross-cultural context, it is important to understand the effect of leader incivility on team processes while taking relevant cultural values into account.

To explore this, we manipulated team cultural values and organizational norms in the context of a simulated business environment. The cultural value of interest is power distance, because PD is particularly relevant to the way individuals perceive and interact with leaders. We manipulated power distance through priming techniques, creating matched teams of either high or low power distance. Organizational norms were also manipulated, creating an environment that was either encouraging or discouraging of civility. Two participants then interacted with a confederate leader, after having been primed for high or low PD and high or low civility. During their interaction, the confederate leader was increasingly uncivil towards both participants, at which point the leader leaves. In all, this study explored the effect that cultural values and organizational norms can have on the experience of incivility, and how cognitive reactions (e.g., justice perceptions) and affective experiences (e.g., anger, frustration) can drive team processes (e.g., conflict, communication) and performance. At the individual level of analysis, we found 2- and 3-way interactions between PD values, organizational civility norms, and anger reactions in predicting perceptions of conflict (such that the anger-conflict relationship was stronger under high civility conditions, and that this interaction was even stronger with high power distance individuals). At the team level, we found that maximum perceptions of relationship conflict in a team negatively predicted team performance, but that when teams had high civility norms, task conflict positively predicted performance (where it had no effect on performance in low civility teams). The findings of this study were originally submitted for review at *Organizational Behavior and Human Decision Processes*' special issue on justice. Based on the feedback obtained, the manuscript was reconceptualized and resubmitted to *Journal of Applied Psychology*.

We also conducted a set of studies that explored how cultural values such as power distance and collectivism may impact followers' perceptions of how appropriate it is when various members of a team or organization attempt to engage in certain leadership functions (e.g., giving feedback, goal-setting, managing team boundaries, etc.). Recently, Morgeson, DeRue, and Karam (2010) classified leader roles into four categories: internal/formal, internal/informal, external/formal, and external/informal. Furthermore, based on a synthesis and review of the literature, they laid out 15 behaviors that are necessary for teams to function effectively. According to functional leadership theory (cf., McGrath, 1962), any person (or persons) who enacts these behaviors is "functionally" a leader. In their article, Morgeson and colleagues (2010) posited that certain leader roles are well suited to engage in these behaviors. Drawing from work on implicit leadership theories (Lord, Brown, Harvey, & Hall, 2001), we posited that an important aspect of functional leadership effectiveness is the degree to which followers perceive leadership attempts as legitimate and appropriate. Furthermore, we posited that cultural values may partially determine the perceived fit between leader role and function.

To explore these questions, 178 participants (university students as well as professionals) completed a series of online surveys. These surveys contained team-based scenarios in which participants were exposed to the four aforementioned leader types, as well as the 15 leader behaviors. Participants were asked, based on the specific team and organizational scenario within which these leaders worked, to rate how appropriate they felt that it would be for that particular leader to attempt to engage in that function. Furthermore, participants took measures assessing their cultural values of power distance (PD), collectivism (COLL), and tolerance for ambiguity (TFA). We found a main effect for leader role, such that the internal/formal leader was perceived as the most appropriate to engage in all of the leader functions. Furthermore, we found that collectivism had a moderating effect on this relationship, such that participants high in collectivism perceived internal *informal* leaders as being more appropriate to enact team leadership. Tolerance for ambiguity also had an effect, such that the preference for internal/formal leadership was significantly higher when TFA was high than among other participants.

This study extends the notion of implicit leadership theories (Lord et al., 2001) from prototypes of leader characteristics to prototypes of leader organizational roles and functions, and the way they interact. We deemed this extension Implicit Functional Leadership Theories. IFLT may be helpful in understanding followers' reactions to leadership attempts given particular organizational positions. We also showed that, to some extent, cultural values may impact the way these leadership attempts are perceived. While the effects of cultural values were small (albeit significant in some places), we assessed these effects on a global level (i.e., across all leadership behaviors simultaneously). Future research should explore the effect of cultural values on perceptions of role-function "fit" at an individual behavioral level as this may tease apart whether certain behaviors are better suited to particular leader roles given certain cultural values.

We have also conducted two studies focused on methodological issues as a result of discussions that occurred after some of the initial studies were conducted. Specifically, our discussions surrounded the issue of whether or not there was enough variability in leader distance within the population we were sampling from and if we could make inferences of

causality based upon measures that were not influenced by an experimental manipulation. As such, we sought to develop a contextually relevant power distance manipulation to resolve both of these issues.

To date, very little research has investigated priming the cultural variable of power distance, however, research has shown that individualism and collectivism primes have been successful. Although these primes have been successful, some of them did not take place in contextually meaningful scenarios (e.g., Samoan warrior). To this end, we created two contextually relevant (e.g., business setting) primes that were designed to either increase power distance or decrease power distance. Our first study sought to demonstrate our prime's effectiveness.

Initial results demonstrated mild success. Though our prime was able to impact attitudes relating to power distance, we did not find that it impacted theoretically related behaviors. After our first study, we realized that there might be external (e.g., prime characteristics) and internal (e.g., person characteristics) factors impacting the effectiveness of the prime. Thus, we subsequently conducted an additional study looking at an external factor (e.g., wording valence of the prime) and internal factors (e.g., need for cognition of the participant). Although this study found that in most cases the positive or negative wording valence did not matter much concerning prime effectiveness, we did find that those with low need for cognition were more susceptible to our power distance prime. This was demonstrated through the prime impacts on both attitudes and behavioral intentions. This data has been analyzed and submitted to the Society for Industrial and Organizational Psychology's Annual Conference.

The final component of Thrust III was a revised critical analysis of the literature on leadership in multicultural collectives. Based upon feedback from an *Academy of Management* presentation, additional literature was extracted and a framework has been produced to highlight the need for a multilevel focus in understanding what leadership functions may be necessary across different levels of multicultural collaborations. Specifically, individual, team, and organizational level leadership needs and functions were targeted. Furthermore, this work looks at leadership functions necessary in multicultural environments, rather than targeting specific cultures as has been done in the previous literature. This manuscript was written and submitted to *Group and Organization Management* for publication. During the time frame of the last report it was still under review.

In all, Experimental Thrust III has shed new light on basic psychological and social processes involved in collaboration, situational and individual difference factors that dynamically affect collaboration across cultures, and factors that facilitate and inhibit multicultural team effectiveness. All of these efforts have important implications for the science and practice of collaboration.



## **Experimental Thrust IV:**

**Team Leaders: Sarit Kraus, University of Maryland and Bar Ilon University; Peter Coleman, Columbia University; and Paul Hanges, University of Maryland**

Research in Experimental Thrust IV examined how dynamical and computational modeling can help better understand culture and negotiation and collaboration. Traditional approaches to negotiations and collaboration fail to situate specific cause-and-effect relationships within broader temporal dynamics (Vallacher, Read, & Nowak, 2002). As an alternative, researchers in Project InterACTION used dynamical-systems models to examine cultural dynamics as they unfold overtime, and to specify non-linear dynamics that often go undetected. Computational and agent based modeling was also used to study cultural differences in negotiation behavior and to develop culturally intelligent computer agents.

- **KBAgent and CT agent studies**

The rapid dissemination of technology such as the Internet across geographical and ethnic lines is opening up opportunities for computer agents to negotiate with people of diverse cultural and organizational affiliations. To negotiate proficiently with people in different cultures, agents need to be able to adapt to the way behavioral traits of other participants change over time.

In this grant, Sarit Kraus, in collaboration with Michele Gelfand and Ya'akov Gal, developed and improved the implementation of a CT agent (PURB) that had been designed for repeated bilateral negotiation when agreements are not enforceable. PURB models and adapts its behavior to the individual traits exhibited by its negotiation partner. The agent's decision-making model combines a social utility function that represents the behavioral traits of the other participant with a rule-based mechanism that uses the utility function to make decisions in the negotiation process. PURB negotiated with human subjects in the U.S. and Lebanon in situations that varied the dependency relationships between participants at the onset of the negotiation. There was no prior data available about the way people would respond to different negotiation strategies in these two countries. Results showed that people from Lebanon and the USA played differently. In particular, subjects in Lebanon were significantly more reliable than subjects from the USA. PURB was able to adopt a different negotiation strategy to each country. Its average performance across both countries was equal to that of people. However, the agent outperformed people in the United States, because it learned to make offers that were likely to be accepted by people while at the same time being more beneficial to the agent. In contrast, the agent was outperformed by people in Lebanon because it adopted a high reliability measure which allowed people to take advantage of it. This was published in *ACM Transactions on Intelligent Systems and Technology*.

Extending this work, we built the Personality Adaptive Learning (PAL) agent that is one of the *first culturally sensitive agents* to be developed. PAL receives, as an input, data from previous games of people in a given country. It builds a model of the people of this country and uses it in its decision-making. In particular it learns separate models for whether people accept

offers, the extent to which they commit to agreements, and the effect of the agent's own reliability on its future success. Different models were generated for each country. Using these models, PAL explicitly reasons about the tradeoff between being reliable and generous towards people of a given culture and the ramifications of its actions for future success, given its model of how people of the specific culture retaliate and reward its actions. PAL used no rules-based mechanism. Most importantly, while PURB didn't take the culture of its negotiation partners into account, PAL changed its behavior based on the culture of its partner.

We used traditional machine learning techniques to train models about people's behavior using PURB data and human versus human games in the USA. However, the data collected in Lebanon using PURB was too homogeneous—both the human subjects and PURB were very reliable. As such, there were no examples from which PAL could learn how people in Lebanon will respond to non-reliable behavior from their negotiation partners, and the model that PAL built was that people in Lebanon will always keep their agreements. Therefore, we developed a non-reliable agent and used it for data collection in Lebanon to capture more variation. Thereafter, we compared the performance of PAL using these models with new people for the USA and Lebanon.

We evaluated PAL by recruiting 157 subjects from three countries (adding Israel to the USA and Lebanon). These included 48 students studying in the Beirut area, 46 students from the greater Boston area, and 63 students from universities in Israel. Each participant played a single game with the PAL agent, making a total of 157 games. At least 14 games were played in each of the dependency relationships in each country. Our results showed that PAL was able to outperform people in all dependency conditions and in all countries: On average, PAL achieved 192.6 points in the U.S., compared to 75.77 points for people; 132.6 points in Lebanon, compared to 94.86 points for people; and 152.75 points in Israel, compared to 97.85 points for people. The best performance for PAL and the worst performance for people occurred in the U.S: PAL's average performance in the U.S. was significantly higher than its performance in Lebanon and Israel, while people's average performance in the U.S. was significantly lower than in Lebanon and Israel. These results are also supported when analyzing the number of times PAL got to the goal: For all dependency conditions, PAL was able to get to the goal significantly more often in the U.S. than in Lebanon and Israel, and people were able to reach the goal significantly less often in the U.S. than in Lebanon and Israel. PAL actually played differently in the three countries and we analyzed its behavior and provided detailed explanations.

To illustrate how PAL adapted its behavior in different countries, we include two examples of the evaluation games in Israel and Lebanon. In the Lebanon example, PAL began by accepting a 2-chip-for-2-chip proposal and transferring both chips following the agreement. In the next agreement, PAL offered the chips to get to the goal. From the training games PAL learned that people in Lebanon were highly reliable. Therefore, PAL did not send any chips to the person following this agreement. In contrast, the person sent his promised chips to PAL, allowing PAL to get to the goal. This game was typical of Lebanon, in that games were relatively short, and people were generally reliable. In Israel, games were longer, and people were less reliable in the training games than in Lebanon. Specifically, in our example in Israel, PAL was fully reliable following the first two agreements, while the person did not send any of its promised chips. As a result, PAL did not send any chips for the third and fourth agreements. In

the fifth agreement (a 1-chip-for-1-chip proposal), PAL was fully reliable. Lastly, for the sixth agreement (a 1-chip-per-3-chip proposal), which allowed PAL to get to the goal, the human was fully reliable, while PAL did not send any of its three promised chips. This example demonstrates PAL's ability to establish a reciprocal relationship with its partner.

Our next goal was to design a general agent that can negotiate in different settings without needing input from experts regarding deployment in each specific setting. This is necessary to decrease the cost of the development of such agents. In an effort to satisfy this goal, we developed a new agent—MCL. To provide a general agent that can negotiate in many settings, we propose an extension of the search capabilities of the agent, as compared to PAL. Since PAL searched for only two levels of the game tree and only a relatively small branching factor, we had to use several game specific rules to improve its results. These rules should be developed by an expert. This process increases the cost of the development of such agents. When the search capabilities are improved there is no need for such rules. However, the game tree of CT is very large and it is not possible to search it in real time. Therefore, MCL uses Markov chain Monte-Carlo (MCMC) techniques, which allow it to handle the expected troublesome CT game combinatorial explosion. An important aspect of the deployment of MCMC in a search tree is modeling the opponent. If time permitted to run a large of simulation of the tree development, then assuming uniform distribution for the opponent is useful. However, due to time constraints in the CT paradigm, we found that a preliminary version of MCL that used uniform distribution played badly. Thus, MCL agent uses PAL human models in order to simulate the other player. This deployment leads to better performance of MCL and made it into culture sensitive agent since for each country he uses a different behavioral model of the other player. However, this MCL version was too slow. Given the real-time aspect of MCL and the reluctance of the other players to wait a few minutes for offers and responds we had to restrict the time spent by MCL on the simulations of the tree development. We ran a pilot with the new MCL version that showed that this version played badly against people. To face this challenge we developed a new MCL version that uses PAL human models in order to simulate MCL's actions (instead of using uniform distribution) in addition to using these models to simulate the other player.

We ran experiments in Israel with the new version of the MCL. We found out that: (i) In all dependency conditions MCL's score was higher than the score of the human subjects it played with; (ii) For the Co-dependent condition MCL's score was higher than that of PAL's. Furthermore, human players' scores when playing with MCL were higher than human players' score when playing with PAL. That is, MCL was able to increase *both sides' scores* in this condition; (iii) In the Independent condition PAL and MCL's scores were similar; and (iv) In the Dependent condition PAL's score was higher than that of MCL's. In all, these results are very promising demonstrating that it is possible to develop a culture sensitive agent without the need of expert's involvement. We improved MCL's performance in the Dependent condition by tuning its parameters more carefully. The new version of the MCL played significantly better in the DD condition in Israel than PAL. We ran also an experiment in the USA in the DD condition. Here the results were that PAL played better than MCL. To try to explain the differences we checked the accuracy of the models for the actual players against PAL and MCL. Note that the model was trained on data from human vs human games and humans that played against PURB. It seems that, in general the accuracy of the models, in USA was much lower than in Israel and

the accuracy of predicting the decisions of humans in USA playing against MCL was the lowest (acceptance prediction was 38.69% and transfer prediction was 45.8824% much less than random (50%)). We expect that improving the accuracy of the prediction models will improve MCL's performance.

In our MURI research, we also built an automated mediator, AniMed, to be used as a standardized mediator for studying the effect of mediator's style on intra- and inter- culture negotiations (discussed above in *Thrust II*). AniMed is a facilitator mediator that follows negotiations and proposes solutions that are relevant for the parties. It uses a proposal generation strategy that is aimed at increasing the social benefit of the negotiating parties. To validate the benefits of using AniMed in negotiations, experiments were first conducted with people in Israel who negotiated face-to-face on a neighborhood domain dispute, by means of video conferencing. The results demonstrate significant increase to both the social welfare and the individual utilities of both parties, compared to negotiations in which another state-of-the-art automated mediator or no mediator was involved. Through our MURI grant, we also developed a version of AniMed that is a *manipulator mediator* and is capable of punishing the negotiators. As discussed above, Elizabeth Salmon and collaborators collected data from Turkey and the USA using the two versions of AniMed to investigate which mediation styles are most effective in managing intercultural and intracultural disputes, and found some very interesting results. This is of the first research to implement a manipulative computer agent mediator. This work was published in the *Journal of Organizational Behavior*.

Based on our interviews on *Wasta* (discussed above in *Thrust I*), we also started new research on the psychology of corruption in different countries. We defined a 4-player CT game for this study, making sure that no framing would occur. That is, corruption, bribery, or *Wasta* do not appear in the description of the game. We called the game "The Olympic City" CT game. The story the subjects are told is that a city is preparing to host the summer Olympics by creating the necessary infrastructure ("projects"). The government appointed an auctioneer to choose contractors to carry out projects. Three players play the roles of the constructors and one player is the auctioneer. The auctioneer has full authority to make decisions without the input of the government. There are multiple rounds in the game for choosing a constructor for a given project. At the beginning of each round the players can chat and can send chips to one another. Then they send their bids to the auctioneer, who reaches a decision.

We ran experiments in the USA (112 rounds) and Israel (111 rounds). We found out that in the USA there were 40 rounds where the winner hasn't been the bidder that submitted the highest bid (36%). In Israel there were 35 rounds (31%) with such observations. If we consider only the first round, the results are quite similar, with the USA 8/28 cases where corruption occurred and in Israel 7/28 where corruption occurred. One interesting observation is the differences between Israel and the USA with regard to *who gains from the corruption*. In both countries, of course, the government loses from the corruption. However, in the USA the auctioneer's score increases significantly while the bidders' score decreases. In Israel the bidders' score increases significantly and the score of the auctioneers increases only slightly. This year we compared these results to those that we get in China. We found out that in 56% of the rounds played in China the winner hasn't been the bidder that submitted the highest bid. These recent results follow the CPI, in that China was the country that exhibited the largest amount of

corruption. Similar to Israel the bidders' score in China increases significantly when corruption occurred and the score of the auctioneers increases only slightly. As in USA and Israel, also in China the government losses from corruption.

One goal of this study was also to quantify and predict when corruption occurs. In constructing our models, we considered all game specific data and general demographic attributes. Game specific information included: the initial position of each bidder, the round number, the board configuration, and the distance of that bidder from the goal. We also considered the known outcome of the game: how much the state profited from the winning goal. Demographic information included the bidders' age, sex, and country. We intentionally did not consider private information relating to messages and chip exchanges or identity of winning bidders. We employed a standard decision tree classifier using ten-fold cross validation. We first considered a cross-cultural model for corruption. We observed that the decision tree for all of the data in predicting corruption had the following rule: If  $\text{StateProfit} \leq 15$ , then a series of three rules involving the distance of Bidder1 from the goal, the Auctioneer's gender, and Bidder2's age, otherwise, if  $\text{StateProfit} > 21$  then there is no corruption, otherwise again a series of rules involving Bidder2's age and Bidder1's distance from goal. We found that the country of origin attribute did not constitute a main attribute within the decision trees. This was noted from the absence of this attribution from the output of the decision trees, implying that the rules primarily based on StateProfit are independent of the 3 countries we considered. However, as the mentioned above, we did observe that differences exist across cultures. Thus, we postulated that explicitly creating decision trees for each culture might yield additional insights. We found out that the accuracy of corruption models exclusively with the StateProfit attribute were more accurate and usually yielded higher recall than those with all attributes. This again confirms the significance of this attribute. Last, we observed the differences within the output of the decision tree itself and found differences in all countries. For example, for the decision tree for corruption exclusively with the StateProfit attribute in all three countries, we found that the algorithm chose a threshold of 12 as dividing between cases of corruption in Israel, 13 within the US and 14 within China. This implies that in each countries the threshold at which corruption can be identified differs across cultures.

Finally, we developed a new CT game, named the *contract game*, to study culture effect in three player negotiations. Two of the players play the role of service providers (SPs) and the third player plays the role of a customer (CS). The CS would like to obtain service from one of the SP (modeled as reaching that SP's goal square). Each SP players would like to convince the customer to subscribe to its service. All players would like to maximize the number of chips they have at the end of the game. There is complete information with regard to the players' chips, but negotiations are private. The negotiation protocol is of alternating offers. In the first round, the SP players send simultaneously their offers to the CS who can accept at most one of the offers. Next the CS can make an offer to one of the SP which can accept or reject it. In the third round it is again the SPs' turn to make offers and so on and so forth. Agreements are enforceable and the game ends when the CS reaches one of the goal squares or does not move for two consecutive rounds. At the beginning of the game the CS has enough chips to reach either goals. An important concept is "commitment offer" in which after the CS sends the agreed upon chips to one of the SPs he can't reach the goal of the other SP.

However, making a commitment is not mandatory in order to succeed in the game. Indeed, as we observed in our extensive empirical study, people are less likely to form binding commitments in the game than the computational agents we designed. We formally defined the notion of commitment between service providers and customers in the game and provided sub-game perfect equilibrium strategies for each of the players. Because service providers compete over the customer, the equilibrium contracts proposed by both service providers and customers are highly beneficial to the customer, but require a commitment from the customer that would prevent it from signing a contract with the other service provider. In equilibrium, the customer will agree to any contract proposal that provides it with a positive benefit, while the service provider will not accept a contract proposal that will not include a commitment made to it by the customer.

To evaluate computer agents that use the equilibrium strategies, we conducted extensive empirical studies in three different countries, the USA, Israel and China. We ran several configurations in which two human participants played a single agent participant in various role configurations in the game. We used agents that played several types of strategies in the game. In one of these profiles, both service providers and customer played sub-game equilibrium strategies. In another profile, the agent playing the role of the service provider played a different equilibrium strategy that considered the possibility that the customer will not reach the goal following a commitment, and that used a risk averse utility function to play the game. These different equilibrium strategies had a strong effect on the types of commitments the agents requested from each other in the game.

Our results showed that the computer agent using sub-game perfect Nash equilibrium strategies for the role of the customer was able to outperform people playing the same role in all three countries. In particular, the customer agent made significantly more commitment type proposals than people, and requested significantly more chips from service providers than did people. Also, the customer agent was able to reach the goal significantly more often than people. Moreover, in China, people were able to outperform the service provider agent using an equilibrium strategy, while in Israel the performance of the service provider agent was similar to that of people. Lastly, the agent using the risk averse equilibrium strategy that considered whether the customer would reach the goal was able to outperform people in the same role in all of the countries. Further analysis revealed that this was because the agent was able to make commitment offers that were likely to be accepted by the human player, while being more beneficial to the service provider than the commitment offers made by an agent using the alternative equilibrium strategy.

These results show that agents playing equilibrium strategies can make good proxies for human customers given that providers follow equilibrium strategies and there is competition over customers. The key contribution of this part of the project is that it is the first study on negotiation over contracts in three-player market games involving human and computer players in different countries.

## **Dynamical Modeling Projects**

- **Dynamical patterns of escalation of aggression across cultures**

Conflict has often been studied in a very static way, typically through an examination of individuals' presumed stable 'conflict resolution styles.' These MURI projects, led by MURI researchers Andrzej Nowak and Peter Coleman, were aimed at creating a new tool to study dynamical models of conflict escalation and de-escalation across cultures. A dynamical system can generally be conceptualized as the state of its elements at a given time, while a system's behavior can be described as a sequence of such states. The temporal evolution of a dynamical system can be generally mapped as several repeated measures of an object within a phase-space—a space defined by its most relevant parameters. If we draw a line from one measure to another in the order in which they appear, we will see the *state trajectory* of the object through phase-space over time. Such trajectories can reveal interesting patterns over time: they can evolve gradually, or exhibit abrupt, nonlinear shifts; they can stabilize over time, progress along some repeated cycles, or have an unpredictable, irregular character. From the point of view of the present project, the most interesting characteristics of such maps are nonlinear dynamics as well as the presence of *attractors*. Generally, an attractor is a position in the phase-space toward which the various data points appear to be pulled or attracted, and where they tend to stabilize over time. In attractor dynamics, the proportionality of causes and effects is disturbed: small changes in one local factor can produce huge, global effects, but also, global attempts to change a stable pattern can show no effect at all.

In this MURI research, we proposed that escalation and de-escalation dynamics can be fruitfully described and measured as state trajectories in a phase space. This provides theoretical and empirical methods to identify and precisely describe not only linear patterns of escalation, but foremost nonlinear phenomena in conflict dynamics. Sudden outbursts of conflict and large-scale consequences of minor variables on the whole system, from this perspective, can be described as catastrophic shifts, or attractor dynamics. Repeated cycles of escalation can be tracked and examined as periodic attractors. A conflict's intractability, understood as the chronic stabilization of conflicts at high levels of intensity, can be viewed as the influence of strong attractors pulling the social system toward conflict and harm. Properties of nonlinear systems may be of relevance for de-escalation and practical applications: the *hysteresis* effect, described in catastrophe theory, for example, explains how crossing certain thresholds lead to irreversible changes.

Through our MURI efforts, Bui-Wrzosinska, Nowak, and Coleman developed a *progressive scenario tool* to investigate a very basic dynamical system, where the response of one party to another party's conflict provocation behavior is tracked. The stimuli consist of a series of short descriptions (vignettes) of repeated provocation behaviors displayed by a colleague at work in a situation of task interdependence ("you are working on a common project at work"). Subsequent vignettes are scaled according to the level of destructiveness and aggressiveness of the behavior they represent. We created two different tools, one with a series of very severe provocations and the other with a series of benign, mild provocations. The response scale included a list of 30 behaviors scaled with regard to the level of destructiveness that they represent, from level 1 and 2 representing relatively constructive responses ("talking it over", "turning it into humor") through moderate levels 3 and 4 to extremely hostile and destructive level 5 and 6 behaviors ("hitting him/her"). The tool allows us to examine how individuals from different cultural groups react to acts of aggression and provocation and how their responses change over time.

The main focus of the studies was the exploration of changes of individual's behavioral repertoire in conflict escalation processes for people who vary in honor orientation (using scales we developed for this construct, as discussed in *Thrust I*). The process of conflict escalation, understood as conflict intensification over time, is usually viewed as highly destructive and difficult to manage. This is particularly true when people start to engage in competitive cycles of escalation (Pruitt, Kim, 2004), in recurring, destructive patterns of interactions (Lulofs, 1994), or when escalation reaches a point when conflict becomes fundamentally intractable (Coleman, 2003). On the other hand, social interactions oscillating around moderate levels of conflict prove central for learning (Johnson, Johnson & Smith, 2000), team creativity and performance (Losada, 1999), satisfactory close relationships (Back, 1951; Gottman, 2002; Pruitt & Kim, 2004), or, at the macro level, in the form of political debate, all of which are critical for peace and democracy (Smith, Johnson & Johnson, 1981, Reykowski, 1997). This would suggest that escalation processes are not always to be avoided, indeed, they may prove beneficial for the parties involved, as long as conflict does not get too far, and oscillates around safe, intermediary levels of intensity.

In our MURI research, we explored how honor orientation promotes or eliminates the possibility for positively processed conflicts through mid-range level escalation, and how honor orientation may trigger constructive or destructive patterns of behaviors. In particular, we examined differences in changes of people's behavioral repertoire in response to provocation among high versus low honor orientation individuals among 203 participants recruited from community samples. We predicted, for example, that individuals from cultures of honor would respond to provocations—even those that are mild—very quickly and with high levels of destructiveness (high use of level 6 behaviors) in order to show they are not vulnerable. In contrast, people with a low honor orientation were expected to prefer conciliatory responses to benign provocation, even in repeated provocation instances. It was also predicted that high honor orientation individuals would exhibit more *abrupt* changes over time such that moderate responses to provocations (level 3 and 4 behaviors) would vanish from the spectrum of possibilities in high honor orientation individuals. Put simply, we expected that escalation would move from initially very low to extremely high levels of aggressiveness among high honor oriented individuals. In contrast, we expected that low honor orientation individuals would use a moderate repertoire of responses across provocation scenarios. Individuals low on honor orientation were expected to generally react to increasingly aggressive acts in a linear, rational, tit-for-tat strategy. Our results provided support for these hypotheses. For example, we found that the use of extremely aggressive responses to provocation from level 6 of the conflict behaviors scale (i.e., aggressing someone physically, threatening someone, hurting someone as much as possible) for high versus low honor orientation individuals was significantly different. In the low provocation condition, where low-level provocation steps were repeated over time, low honor orientation was associated with practically no escalation to extreme levels of aggressiveness, while high honor individuals escalated in their response to provocation and used options from an extremely hostile and aggressive repertoire significantly more often. Moreover, in the high provocation condition, where highly aggressive provocations were repeated over time, low honor oriented individuals very *gradually used* more destructive options after repeated provocation, while high honor groups initially responded in a less aggressive way but *rapidly shifted* to higher levels of aggressiveness. The two groups also varied in how much they used moderately destructive behaviors. For example, for low levels of provocation, high honor individuals used moderate levels of conflict behaviors



(level 3 and 4) significantly more often than the low honor orientation group who used more low-level conflict behaviors in this condition. Conversely in harsh provocation scenarios, the low provocation group engaged intermediate levels of responses more often than the high honor orientation group who were less likely to use an intermediate response and “jumped” from low levels of destructiveness to very high levels of destructiveness. These results show how honor orientation impacts the way people respond to conflict provocation over time.

We also developed another study to show convergent validity for our above results using a different operationalization of our independent variable: honor. In the above study, we measured individual differences in honor orientation. To replicate these effects and allow for greater causal inferences, we developed procedures to temporarily activate an *honor* frame of mind (i.e., priming honor). For example, we make honor relevant concepts accessible in people’s minds by asking them to find a list of honor related words (e.g., *honor, honorable, respect, virtues, and reputation*) that are hidden in a letter matrix or having these words subliminally shown to them. We found a statistically significant interaction between the prime and the cubic function of aggression escalation,  $F(1, 79) = 4.72, p = .033, \eta^2 = .07$ . In particular, participants who were primed with honor concepts responded with increasingly aggressive behavior as the insult scenarios became more serious, whereas participants who were primed with neutral concepts did not show this pattern of results.

During the MURI grant, we also conducted a multidimensional scaling study to understand universal, yet culturally nuanced, dimensions of aggressive behavior (the dependent variable in our above studies). This paper was published in the *Journal of Organizational Behavior*. Using data from the interviews, input from collaborators in Israel, Japan, and Pakistan, and a systematic review of the aggression literature, we developed a comprehensive list of aggressive behaviors that vary across numerous previously defined dimensions (e.g., physical versus verbal, direct versus indirect, covert versus overt; Buss, 1961). A review of 26 different measures (most of which originated in the United States) generated a total of more than 400 aggressive items. To supplement these behaviors, interviews from our Middle Eastern sample were also examined, focusing specifically on questions describing conflict situations. Behaviors particular to the Middle East were then added to the existing corpus of items. From this corpus, repetitive, low frequency, and abstract items were removed, resulting in a list of 69 specific aggressive behaviors. This list was then evaluated by an international sample of subject matter experts from Pakistan, Israel, and Japan who rated each of the 69 behaviors on its relevance, importance, clarity, and severity. The final list of behaviors was selected based on the criteria above as well as representativeness of culture-specific and universal themes in the data. The final list of aggressive behaviors included: 1) Hit someone, 2) Ignore someone, 3) Damage someone’s property, 4) Push someone, 5) Steal from someone, 6) Threaten someone, 7) Insult someone publicly, 8) Yell at someone, 9) Use an aggressive tone of voice with someone, 10) Interrupt someone, 11) Make angry gestures at someone, 12) Exclude/ostracize someone, 13) Sabotage someone’s work, 14) Insult someone’s family publicly, and 15) Gossip (spread rumors) about someone behind their back.

We expected that universal dimensions might exhibit culture-specificity in terms of the meanings associated with each dimension. To illuminate these potential nuances, participants were also asked to rate each behavior on a series of unidimensional items related to the

mechanism through which the aggressive behavior is enacted as well as the target(s) of the aggressive behavior. To identify the mechanism and target criteria along which aggressive behaviors were to be evaluated, existing typologies of aggression were reviewed. A total of 42 articles were examined and 25 unique dimensions of aggression were identified (e.g., physical, verbal, instrumental, hostile, etc.). Simultaneously, the previously mentioned international sample of subject matter experts was asked to perform a Q-sort of the 69 aggressive behaviors into categories based on perceived similarity. Information from these two methods was combined to select the final mechanism and target criteria, which included the following mechanism-related items: [to what extent is this behavior] harmful, destructive, threatening, immoral, callous, disrespectful, verbal, physical, active, direct, passive, indirect, selfish, a demonstration of being superior, and humiliating; and the following target-related items: [to what extent does this behavior damage one's] reputation, emotional well-being, physical wellbeing, relationships, honor, dignity, face, status, autonomy, and competence.

In order to analyze the data, an aggressive behavior by aggressive behavior (15 x 15) diagonal matrix of proximities was created for each of the participants. Following Kruskal and Wish's (1978) procedure, American, Pakistani, Israeli, and Japanese participants' judgments were grouped by country, resulting in four sets of multiple individual matrices for the MDS analyses. We then used a dimension reduction technique to translate our data into meaningful sets of macro-dimensions describing the aggressive behavior space for each country. Per Kruskal and Wish (1978), we used multiple regression analyses to examine how the ratings of each behavior on these unidimensional (mechanism and target criteria) scales were predicted by its location in the multidimensional space. In statistical terms, the unidimensional item values were regressed onto the coordinate values in a given configuration.

The results provided support for shared, yet culturally nuanced, dimensions of aggression. Five total dimensions emerged: *damage to self-worth*, *direct versus indirect*, *physical versus verbal*, *infringement to personal resources* and *degree of threat*. The first two dimensions (damage to self-worth and direct versus indirect) emerged across all four nations. Physical versus verbal aggression emerged in Pakistan, Israel, and Japan (but not the U.S.). Infringement to personal resources emerged in Israel and the U.S. Finally, degree of threat emerged only in Pakistan.

*Damage to self-worth* involves behaviors directed toward making someone feel small, powerless, humiliated, or otherwise worthless. In both Pakistan and Israel, this dimension primarily represents assaults on one's honor, particularly through damage to one's social standing. Social exclusion was perceived as an especially severe threat to self-worth and communicates the vital importance of group membership in these typically clan-based societies. Results also showed that Japanese construals of damage to self-worth were highly imbued with morality, respect, threat, and harm, speaking to the gravity of these types of assault. In face cultures, where public image is of the utmost importance, assaults on one's worth are especially egregious. In contrast to the Middle East and East Asia, although the self-worth dimension emerged in the United States, it was not associated with as many meanings, and certain behaviors that have important implications for self-worth found in other cultures were not found in the U.S.

*Direct versus indirect aggression* relates to whether aggression is perpetrated directly toward the target of interest and is out in the open versus aggression directed toward someone or something other than the target as a way of harming the target, often in a concealed manner. One interesting difference concerns the fact that damage to relationships was associated with indirect aggression in the United States and Japan, but with damage to self-worth (i.e., honor) in Pakistan and Israel; this speaks to the relevance of honor to one's relationships in the Middle East. In addition, only in Japan was direct aggression perceived as destructive. Japan places a premium on humility, rather than self-assertion (as is consistent with a cultural logic of face; Leung & Cohen, 2011) and values maintaining social harmony. Accordingly, conflict is generally handled through indirect and covert means in Japan (Gelfand et al., 2001; Ohbuchi & Takahashi, 1994), and instances of direct aggression are seen as especially severe.

The *physical versus verbal aggression* dimension refers to damage caused through physical means (e.g., use of body parts and weapons) versus damage caused through spoken means. In both Pakistan and Israel, physical aggression was associated with harm to autonomy, thus implying that physical assaults (either to the body or to belongings) undermine one's ability to take care of the self. However, Pakistanis also evaluated exclusion as highly physical, whereas Israelis and Japanese did not. In tight-knit Pakistani communities, social exclusion may translate into real, physical consequences via the removal of both social support and even vital resources, Japanese primarily focused on the verbal end of this dimension and associated verbal assaults with damage to one's reputation, a key resource in face cultures. The emphasis on verbal, as opposed to physical aggression, in Japan is consistent a focus on avoiding large-scale disruption to social harmony. Whereas physical aggression results in easily observable consequences and thus calls attention to the perpetrator, verbal aggression is comparatively subtle.

The *infringements to personal resources* dimension fundamentally refers to the extent to which aggressive behaviors are directed toward damaging or taking away personal resources to which the target is rightfully entitled or has earned. It is particularly interesting that this dimension emerged in the U.S. and Israel because of the strong role of dignity in these cultures. The United States (and to a lesser degree, Israel) is a prime example of a dignity-based individualistic culture in which the self is defined by one's own endeavors, in which autonomy and justice are key concerns, and in which one's self-worth cannot be easily taken away (Leung & Cohen, 2011). Thus, behaviors that specifically speak to violations of one's own self advancement (e.g., sabotaging one's work) were seen as infringements upon one's personal resources. These behaviors were considered selfish because, in an individualistic culture where everyone has equal opportunity, no one deserves more opportunity than anyone else.

Finally, *degree of threat dimension* emerged only in Pakistan and, refers to the intensity of the potential physical or emotional pain that may be inflicted upon the victim. Notably, Pakistanis perceived verbal behaviors (e.g., yelling and using an aggressive tone) to be very threatening, which may reflect a norm in cultures of honor where aggressive intent is first stated and then enacted.

Beyond theoretical contributions, this work highlights the importance of understanding others' mental models when responding to potentially aggressive situations. What is considered a minor incident in one culture could be perceived as severe elsewhere due to important nuances in

cross-cultural representations of aggression. This work provides an initial foundation upon which we can build a more thorough understanding of aggression from emic and etic standpoints. These findings can also be used to better train and educate the military, government and businesses when engaging with individuals and groups from different parts of the world, particularly for people working within the context of conflict situations. This research appeared in *the Journal of Organizational Behavior*.

- **Projects on culture, complexity theory, and conflict**

In this project, MURI researcher Peter T. Coleman and colleagues applied an approach from complexity science, a branch of applied mathematics, to better understand conflict and conflict resolution across cultural differences. We were interested in identifying cultural factors that foster a *press for coherence and collapse of complexity* in situations of conflict, and result in complex rules for conflicts with members of in-groups, and different sets of simple rules for conflicts with members of out-groups. We suggest that there is a clear link between the *loss of complexity* and the development of strong attractors for conflict. In a system governed by attractor dynamics, even very different starting states tend to evolve toward the subset of states defining the attractor. For instance, most social relations are complex and multi-dimensional, with various mechanisms operating at different points in time, in different contexts, with respect to different issues, and often in a compensatory manner. The alignment of distinct relational elements into a single dimension (i.e. the most central and salient conflict issue), establishes positive feedback loops such that the issues have a mutually reinforcing rather than a compensatory relationship. All events that are open to interpretation are ultimately construed in a consistent fashion and promote coherent patterns of thought, emotion and behavior regarding other people in the conflict. The common state toward which diverse thoughts and behaviors converge represents a *fixed-point attractor* for the system. Even an unambiguous event that runs counter to the attractor can over time be assimilated to the attractor. A peaceful overture by a member of an out-group, for instance, may be seen as insincere or as a trick if there is strong sense of antagonism in the relations. On the other hand, a rude gesture by a close member of one's family or ethnic group may be readily discounted or even be seen as evidence of their amusing willfulness when coherent in-group rules are functioning.

Thus, attractors represent particularly strong and coherent patterns of thinking, feeling, and acting when in conflict. This collapse of complexity within groups or between groups can be fostered by a variety of psycho-social factors, all of which when increased lead to the development of cultural attractor landscapes for conflict with a few strong (wide and deep) attractors for constructive (in-group) and destructive (out-group) conflict orientations. These strong attractors are likely to lead to and be maintained by simple rules for conflict behaviors (if X, then Y), which will differ for each attractor – but remain simple and become automatic over time.

We applied this theory to examine culture, complexity and conflict in several studies run by Peter T. Coleman and collaborators in the conflict laboratory at *The International Center for Cooperation and Conflict Resolution (ICCCR)* at Columbia University. Phase 1 explored the relationship between cultural complexity and conflict dynamics, in particular helping us to gather specific sets of rules for conflict that lead to specific outcomes in direct relevance to a

negotiation game we employed in later phases of the study. In Phase 2, the level of complexity of the rules for conflict was manipulated for our participants on two levels: high and low complexity. When the dyads were brought in, they were randomly assigned to either the high or the low complexity conditions, both participants in the dyad being placed in the same condition. Then they engaged in a negotiation task with the assigned complexity rules and rated their satisfaction and subjective value attained in the negotiation. Our hypotheses were supported: higher complexity rules resulted in more satisfaction with negotiation processes and outcomes than low-complexity rules. For Phase 3 of this study, we extended our methods temporally, to examine negotiation dynamics over time, and to explore the effects of high-low complexity on the pay-off matrix of outcomes in addition to process satisfaction and self-report on outcome satisfaction. Results showed that higher complexity rules led to greater objective outcomes from conflict, with higher negotiated point totals, as well as a more egalitarian distribution of the points won. These higher scores and more egalitarian distributions were achieved by the high complexity group through the use of greater concessions taken in turns than were utilized by the low complexity group, suggesting greater development of trust between the participants in the high complexity condition. The subjective outcomes were also intriguing. Despite the objectively greater outcomes in scores, the high complexity group did not differ significantly in subjective experiences from the low complexity group, although they did differ in earlier phases of the study, indicating a much more nuanced connection between rule complexity and conflict dynamics than a straight-forward linear relationship. Phase 4 investigated this relationship further by decreasing the complexity of the simulation experience for the participants, while maintaining the integrity of the complexity manipulation, by simplifying the mechanics of the game. All the objective results from Phase 3 were replicated, lending strong support for their reliability. The subjective results showed that the high complexity group, in this level of complexity, had more positive experiences than the low complexity group. Considering together the results from all three of the quantitative phases of this study, we can see a possible curvilinear effect of complexity on conflict dynamics, with the benefits of complexity diminishing at higher levels, suggesting a tipping point. These intricate and revealing results have been written up together for publication, and were presented at the 25<sup>th</sup> Annual Conference of the *International Association for Conflict Management* in Stellenbosch, South Africa in July 2012.

Another project undertaken was the examination of key value dimensions and their effects on conflict attractor landscapes across cultures. This work began with a cultural adaptation of the Managerial Problem-Solving Assessment Tool (Coleman & Kugler, 2010), originally developed and studied with a U.S. population, which was adapted for use by Korean participants. Koreans have been found to differ from U.S. Americans in their orientations in power distance, independence-interdependence, and competition-cooperation, which we hypothesized would lead to Korean participants to exhibit different shapes and contours in their conflict attractor landscape. This cross-cultural comparison revealed that the two cultures do, in fact, differ significantly in their attractors. Perhaps the most interesting was the greater use of competitive orientations in the Korean population. Also of interest was how the ability to adapt to the power relationship, goal interdependence, and degree of interdependence in the conflict situation led to greater satisfaction, self-efficacy, and more positive work-related outcomes for the U.S. American population, but it did not have this effect for Koreans. To further explore the impact of cultural dimensions, the next stage of this research will include Chinese participants to

be compared with the U.S. and Korean populations. As Chinese culture has been found to differ from U.S. and Korean cultures along the key dimensions, this analysis will help identify which dimensions are associated with the differences in attractor landscapes and the effect these landscapes have on conflict dynamics and outcomes. The groundwork will be set to conduct a corresponding comparison with an Arabic-speaking population.

We also revised several standard measures of cross-cultural conflict resolution tendencies in our field in order to reconceptualize and redesign them as *dynamical measures* – instruments which can capture individuals' changing tendencies over time and across different situations. Traditional approaches rely on aggregated scores and assessments that position people along a scale, but such tools can only offer a *static* and *averaged* profile of the person's behaviors and responses and not the nuanced pattern of behaviors and responses that a person may exhibit in various situations. For instance, a traditional assessment tool on directness-indirectness may ask participants five questions on how much they prefer to be candid and open about their disagreements with the other party versus prefer to express their disagreements indirectly. The response scores would then be compiled to produce one overall score for directness-indirectness, which relies on the assumption that the participants have a central tendency that does not significantly differ depending on the situation. Our dynamical assessment tool being developed asks participants how direct or indirect they would be in the context of a specific scenario where cultural cues were indicated as to the directness-indirectness of the other party. The responses may be scored, not as a single aggregate along the direct-indirect dimension, but as a profile that showed the likeliness to be direct given specific cultural cues and the likeliness to be indirect given specific cultural cues. This allows participants to see when they adapt well to the cultural differences in a conflict, such as the cultural communication norms of the other party, and when they do not, as well as what behaviors they may use inappropriately due to chronic orientations and what behaviors they may need to practice so that they may use them strategically when called upon.

Our team also developed a dynamical measure for individualism-collectivism using a new method to study temporal data. Again, we avoided the static and averaged profile offered by existing measurements. Instead, our measure invites participants to relate to themselves a real experience of an important conflict they lived through, which they record privately. They then listen to the recording and code for themselves, using a software program designed for dynamical analysis, how individualistic or collectivistic they were being during the moment being discussed in their narrative. This data is collected each second, such that the result is a temporal data set allowing us to ascertain what the ratio of individualism and collectivism is for a given person, as well as during what times within a conflict (beginning, middle, end, throughout) a person may be more individualist or collectivist or patterns of switching back and forth. This reconceptualization of measuring individualism-collectivism has allowed us to see that people exhibit both individualistic and collectivistic orientations in a given conflict and that the different ratios for these orientations are able to predict their conflict style. For instance, people with a balance of individualistic and collectivistic orientations were more likely to utilize integrating conflict style more than individuals with either a strong individualistic or collectivistic orientation. Traditional measures are unable to detect these effects, because they approach these constructs as a unidimensional variable. However, our dynamical approach allows us to conceive of these dimensions as being orthogonal; we are therefore able to illustrate more nuanced effects

of cultural orientations on conflict styles. This research was presented at the 25<sup>th</sup> Annual Conference of the *International Association for Conflict Management* in Stellenbosch, South Africa in July 2012.

Finally, we investigated the cultural dimensions that may be the most fundamental in intercultural conflict, in order to construct a basic *culturally-situated model of conflict* and a measure for assessing its composition in individuals and groups (a MP-SAT for cultural dimensions). As with the power model, we identified through an examination of existing theory and research the three most key dimensions which constitute the basic state-space for culture in conflict: tightness versus looseness (Gelfand, 2006), openness to change versus conservation (Schwartz, 1992), self-transcendence versus self-enhancement (Schwartz, 1992). Profiles for the state-space regions and their associated patterns when in conflict have been compiled from the theoretical model.

### **Agent Based Modeling Projects on Culture and Negotiation and Collaboration**

Led by MURI researcher Andrzej Nowak, we have developed a computational model of culture and the negotiations referred to as *DYNEGO*. The model instantiates the key assumptions in our MURI regarding negotiation processes. First, the negotiation “table” is *multidimensional*—parties are not only negotiating the tangible issues (e.g., offers, counteroffers) but also the intangibles (e.g., trust, relationships, honor). Culture is an important determinant of the weights placed on different intangible, latent dimensions, and the rules by which they affect reactions to specific behaviors of the other party. What for one party is a negotiation concerning the building of a hospital (i.e., the *issues*), for the other may be a negotiation about *honor* or *trust*. Thus, culture needs to be modeled at a *latent level* in terms of variables in addition to the more *concrete level of behaviors* that negotiators are engaging in. Second, the negotiation table is *dynamic* and accordingly we need to model both linear and non-linear, catastrophic shifts over time. Cultural dynamics occur as actions of one party during negotiations affect the reactions on numerous intangible dimensions of the other party and vice-versa. What in one culture may be perceived as a demonstration of strength may in another be perceived as an insult, setting off a cycle of destructive dynamics. Finally, negotiations *don't end* at the table—dynamics at the table spread through networks and affect larger societal dynamics. Trust or hostility developed during the negotiations set the groundwork for carrying out the agreement and for future negotiations. It also has important consequences for the relations between the social groups, organizations, or nations represented by the negotiating parties, as stories of what happened during negotiations spread. Moreover, the relations between the groups provide social context for all future intergroup contact. Specifically, group relations can determine the instructions that negotiators get from the groups they represent, and the limits of what each group considers an acceptable agreement.

Computer simulations represent the tool of choice for studying our multidimensional and dynamic theory of negotiations. While many of the rules specific to culture and negotiations may be uncovered by empirical research, the fact that many rules operate at the same time makes it very difficult to predict their joint effects using other methods. Moreover, many feedback loops, involving many variables, operate during negotiations. Feedback loops may operate on different time scales and may go beyond the negotiators. For example, trust developed during the

negotiations may be transmitted to the respective societies and set conditions for achieving agreements that would have been inconceivable before. Accordingly, negotiations and the context in which they happen may be conceptualized as a dynamical system wherein the process of negotiations may be conceptualized as a temporal evolution of variables where the changes of some variables induce the changes of other variables in the system.

Formal modeling and computer simulations thus constitute a vital part of this project. The aim of our work is to construct a dynamical model of culture and negotiations and study its effects on the relations between the societies represented in the negotiation processes. The final model will be a composite model consisting of two interconnected models, where each model will describe a different level of the social reality. The first one, *DYNEGO* (Dynamic Negotiations) describes the cultural dynamics of the negotiation process at a micro level. It concentrates on the time course of a single negotiation. The second model, *CULTIN* (Cultural Integration) describes societal dynamics. This model concentrates on the evolution of attitudes and relations between the two social groups represented by the negotiation parties. The composite model will be used to investigate the interaction between the two levels of analysis—that is, it will explore the feedback between the individual and the aggregate models of social reality. Negotiations change the relations between the parties; these relations then spread to the society, which in turn sets the social context for future negotiations.

- ***DYNEGO+* (Dynamics of Negotiations) Model**

For this model computer simulations were constructed as an agent based model defined at two levels. At the high level, the model identifies key variables governing intercultural negotiations and defines the relationships between dynamical *latent variables* (progress on the issues, trust, and honor). At the low level, the model specifies precise low-level relations between specific behaviors of parties. The model also specifies how specific behaviors impact the high-level latent variables (e.g. threat -> decreased honor) and how the momentary values of the high-level variables influence the probability of specific behaviors (e.g. high trust -> generous offer). Such a multilevel architecture allows one to work with incomplete data and grow. Importantly, the rules of the agent's behavior reflect the knowledge acquired in empirical studies conducted in different cultures throughout the MURI efforts in *Thrusts I, II, and III*, and are based on existing literature.

*The Architecture of DYNEGO+*. Our basic model simulates interactions between agents from different “cultures” who engage in specific behaviors (e.g., make a selfish or generous offer, compliment the other, make a threat, insult the other, express pride or shame, among other behaviors). For each culture, a separate set of if-then rules governing the agent's behavior is specified in what we have referred to as an “*honor*” negotiation model versus an “*interest*” negotiation model. The rules in the honor and interest model describe how different *behaviors* in negotiations (e.g., threats, compliments, concessions) affect *critical latent variables* (i.e., trust, honor, satisfaction with progress on the issues) and also how the changes in the variables are related to changes in the agent's behaviors. The specific if-then rules can vary in the different cultures. In Middle Eastern cultures, for example, expressions of anger (i.e., a behavior) is perceived as a threat to honor (i.e., a latent variable). A threat to honor (i.e., latent variable), in turn, increases the probability of one agent threatening the other (i.e., a behavior). In Western



cultures, by contrast, expressions of anger may be perceived as a sign of power (e.g., having better alternatives). Perceptions of power may, in turn, may lower the other negotiator's limits which make it easier to reach agreement (cf., Adam, Shirako, & Maddux, 2010). Our simulation rules have been developed on the basis of *stylized facts* – generalizations derived from empirical studies conducted within MURI grant and from psychological theories and negotiation literature. For example, for the “interest” cultural model, the cultural rules derived from our research suggest that a) initial levels of trust are high (low betrayal aversion) (research from *Thrust II*); b) if trust or honor is violated, it isn't remembered very long; they can be restored relatively quickly and require only one or two repeated cooperative behaviors before they will be restored (research from *Thrust II*); c) expressions of pride (ego oriented emotions) reduce others' limits and increase concession making; expressions of shame (other focused emotions) reduce others' cooperation/concession making and increase limits (research in *Thrust II*); d) if progress is not made on the issues (a feeling of time urgency; i.e., *time is money*) one loses interest in negotiating (research in *Thrust II*), among other stylized facts from Bohnet, Gelfand, Kraus, Salas, and others. Different (and in some cases, opposite) rules were derived for the “honor” negotiation model based on our research and the extant literature. Culture not only influences the *behavior-variable* and *variable-behavior* linkages, it also affects the *weights* that are placed on the latent variables (i.e., what negotiators are trying to maximize: honor, trust, or progress on the issues) and can affect the *initial values* on these latent variables (e.g., higher trust in interest than honor models). Importantly, these rules are very flexible and can be adapted to reflect within-culture variation, personality differences, and gender, among other variables. A detailed list of the rules can be obtained from the PI.

We also added the new latent construct “*satisfaction with the issues*” (i.e., how do I feel about the progress on the issues), in addition to perceived levels of *honor* and *trust* which were latent variables implemented in the previous model. Because the new psychological construct “*satisfaction with the issues*” has been added in the *DYNEGO+* model, a new set of rules were developed which specified how negotiation behaviors affect this construct in both honor and interest models based on our own interviews in the ME and U.S. and extant theory and research. We have developed general logic statements describing the dynamics of this variable and we have defined specific rules that have been implemented used in the computer simulation program. We have also improved upon our logic of the latent variables of honor and trust in the current model.

Additionally, the new model expands upon the previous list of behaviors, systematically calibrates the weights of how various behaviors affect the psychological constructs of negotiating agents (e.g., honor, trust, satisfaction with the issues), and how the psychological constructs, in turn, affect the probabilities of each behavior. Based on the examination of negotiation transcripts and in consultation with our subject matter experts in the ME, we have significantly expanded the list of behaviors that we are implementing in the model. The current set of defined behaviors allows us to classify the vast majority of behaviors that occur in real cross-cultural negotiations. In particular, the behaviors in *DYNEGO+* can be divided into several classes, including for example:

- Offer behaviors (e.g., selfish offers, generous offer, positional commitments)

- Communication behaviors (e.g., chatting—relationship-oriented, chatting—instrumental/about the task)
- Trust signals (e.g., signals one's own competence, integrity, benevolence, religiosity)
- Relational/respect behaviors (e.g., shows respect for the other party, give compliments)
- Aggressive behavior (e.g., makes a threat, insult, criticism)
- Information exchange tactics (e.g., gives information about one's interests/preferences to the other, asks for information, reveals bottom line)
- Time orientation (e.g. signals patience and willingness to wait, signals time urgency).
- Expression of emotions (e.g., expresses anger, expresses gratitude)
- Persuasion (e.g., makes appeal to the facts/logic, makes emotional appeal, makes an appeal to social norms/social pressure)

In the model there are 58 behaviors. Accordingly, the impact of each behavior on each of the three constructs (trust, honor, and satisfaction with the issue) must be specified in rules, meaning making  $58 \times 3 = 174$  rules. We must also specify how much each construct influences each behavior, creating an additional  $3(\text{constructs}) \times 58(\text{behaviors}) = 174$  rules. Thus, there are a grand total of 348 rules for constructs and behaviors. Lastly, the rules for how behaviors affect other behaviors need to be specified. All totaled, the final program has approximately 1000 rules. These culture-specific rules have been refined, and their effects on psychological constructs and behaviors of the partner have been calibrated on the basis of new empirical evidence, interviews with experts, literature, and results of previous simulation runs with *DYNEGO* (a former version of *DYNEGO+*).

*DYNEGO+* also contains new rules that are qualitatively different than those in the earlier *DYNEGO* model. To allow for the definition of the culture independently of the simulation program and to increase clarity and transparency of the model, each culture has specific if-then rules that define it. The rules are defined as behaviors and coefficients of how they influence each of the constructs (e.g., trust, honor, satisfaction with issues). A different set of rules defines how the value of each constructs influences the probability of performing each behavior. Here thresholds can be defined below which a construct does and does not influence a behavior. For example, one threshold rule in the model specifies that it requires much less trust to start exchanging information and making offers in the interest model, whereas it requires much more trust in order to give information and exchange offers in honor model. Another set of rules defines how the behavior influences probability of specific other behaviors. The user of the program also can set up initial values of all the constructs.

*Mechanisms driving agents' behavior.* The *DYNEGO+* model assumes two basic mechanisms that drive the behavior of agents: *reactive* and *goal oriented*. The **reactive mechanism** is based on the assumption that every behavior of one party has direct and indirect consequences for the behavior of the other party (negotiation partner). The *direct consequences* are the implementation of the assumption that every behavior of one negotiation partner changes the probability of the same behavior in the other partner, e.g. insult increases probability of insult. In more technical terms each behavior has some level of activation, which determines the probability of performing this behavior. The behaviors of the partner change the activation levels of the behaviors of the actor. This mechanism on the psychological level corresponds to scripts or learned sequential patterns of behavior. For example a compliment may raise the level of

activation of a returned compliment and a “thank you” response. A threat raises activation levels and thus the probabilities of threat, insult, and breaking negotiations. *Indirect consequences* are the impact of an agent’s behavior on the values of the psychological constructs of its partner (e.g. honor, trust, and hidden limits of the issue). For example, an insult might decrease honor and trust. The values of the psychological constructs, in turn, increase or decrease activations of specific behaviors. For example, low values on both trust and honor increase activation and thus raise the probability of breaking the negotiation.

The second component of the *DYNEGO+* model is **strategic planning**. That is, agents can anticipate the effect of their behavior on the opponent based on their (correct or incorrect) *mental model* of the opponent. In this mechanism agents use the mental model of the opponent to *foresee the likely consequence* of each of their behaviors. The utility of each opponent response for the self is evaluated and is used to change the activation level of this behavior. High estimated utility leads to increasing activation, while low estimated utility results in decreasing activation of the behavior. Importantly, this mechanism incorporates **goals and intentions** into the model. Moreover, simulations can also vary the heterogeneity of goals (e.g., one can be 100% honor or 100% interest oriented, or can be 20% Honor -80% Issue, 40% honor, 60% Issue oriented, etc.). The anticipated consequences are related to the goals of the agent. Goals depend on culture: issue based cultures aim to increase outcomes of the issue whereas honor based cultures aim to increase trust and honor.

In *DYNEGO+*, negotiations are composed of a series of turns of behaviors for each partner. After the negotiator A performs a specific behavior (e.g. gives a compliment) toward the negotiation partner B, first the values of the psychological constructs (trust and honor) of B are updated using the rules of the culture of B (e.g. a compliment raises the value of honor). The values of the psychological construct are then used to change the activation levels of the behaviors of B (e.g. higher trust increases activation of giving a generous offer). The behavior of A also directly changes the activation levels of related behaviors of B. For example compliment on the part of A raises the activation and thus the probability of a compliment or expression of gratitude by B (e.g., the *reactive mechanism*).

In the *goal oriented planning* mechanism, B uses his or her mental model of A to anticipate likely reactions of A to each of his or her behaviors. The mental model is used to estimate the probability of each of A’s behaviors to each behavior of B. The expected utility of A’s behaviors in response to each behavior of B is computed using *the goals of the culture of B*. The utilities are used to change the activation level of the behavior B. Activations from the reactive and planning mechanisms are added. The response of B to the behavior of A is then randomly drawn for all the behaviors with probability proportional to the activation of the behavior. For example, according to the mental model of A that B has, if B gives a threat, A will likely react with insult and this will decrease the honor of B. For honor oriented B this will have high negative utility so activation of threat is decreased. If B is interest oriented, however, insult influences honor to a lesser degree, and a threat from B raises the probability of A giving generous offer, which has high utility. Interest oriented B would thus raise the activation level of threat.

Goal oriented planning, together with a reactive mechanism, are used as an input for the decision of which behavior to perform. The relative inputs of each component are a parameter of the model and can be varied in computer simulations. A fully reactive agent corresponds to a negotiator who reacts impulsively to each behavior the opponent displays and does not anticipate the consequences of his or her actions. A fully goal-oriented agent corresponds to a negotiator with full control of emotional reactions; such a negotiator is not driven by reactivity, but rather fully concentrates on how instrumental behavior is for achieving his or her goals.

*Usability of DYNEGO+*. Through our MURI efforts, we have finalized the development of a new architecture of the model. The revised model is intended to be used by the researchers or practitioners whereas the old model (*DYNEGO*) was intended to be used by the authors of the program. Moreover, in the new *DYNEGO+* model, the cultures (e.g., honor, interest) are defined independently of the code of the program, in a separate file, in EXCEL format. In practice it means that in *DYNEGO+*, a researcher or practitioner can modify the rules defining a culture, or define a new culture and run the program without the need to go into the code of the program and recompile the program after any changes. In other words, the new simulation platform defines *each culture as a separate module*. Separately defining all the rules of a culture not only makes the definition of each culture much clearer and easy to follow, but it also allows one to define new cultures and variants of cultures. For example, the culture of honor in the American South has some important differences from the culture of honor in the Middle East. The new platform makes it possible to have both variants of the honor culture represented in the program. With the new simulation platform it is possible to define several cultures in the overall model, and simply specify the culture of each negotiation party when it comes to running the simulations.

To make the simulation program more easily accessible for researchers, we have also developed a new interface of the program. The new interface is shown Appendix H. The new interface allows the researcher to define new cultures, define new rules, change existing rules, add new behaviors and delete existing behaviors, and adjust the values of psychological characteristics both in the beginning and while the simulation is in progress. The researcher can also dictate which behaviors are to be performed by each party at each moment to explore the effects of possible interventions and to explore tentative scenarios. The platform also allows the researcher to observe the temporal evolution of the negotiations and psychological constructs. In a separate window, the platform provides information at each step of the simulation as to which behavior was performed by each side, which rules were used, and what the consequences were for other behaviors and psychological constructs. The user can choose the level of informational detail. The dynamics of the main variables of the model are displayed both visually in the graphic window and as numerical values listed in the console. The new interface was designed by a specialist in usability of interfaces.

In sum, *DYNEGO+* is of the first computer simulations of its kind to model culture and negotiation in a comprehensive way. It has a number of important and unique features:

- *DYNEGO+* can integrate large and diverse research findings obtained in different cultures. The empirical results concern different levels of psychological and social

reality. The model can accommodate research findings from these different levels and integrate them into a working system.

- *DYNEGO+* takes a *flexible and dynamic approach to cultural differences*. It incorporates general IF-THEN mathematical rules connecting behaviors to behaviors, behaviors to latent variables, and latent variables to behaviors that are reflective of theory and empirically grounded knowledge. These rules can be modified to reflect within-culture diversity. This allows us to observe in computer simulations different negotiation scenarios resulting from specific set up rules. It also makes it possible to compare sequences of behaviors in computer simulations to behaviors observed in reality. More generally, this view of negotiations contributes an innovative way to conceptualize cultural effects on negotiation through IF-THEN rules that link psychological constructs and behaviors.
- *DYNEGO+* captures the *emergent and non-linear dynamics* of negotiations. The model concentrates on negotiations as coupled dynamical systems (i.e. a set of variables that influence each other and change over time as the result of mutual influences), and captures emergent and non-linear dynamics.
- *DYNEGO+* integrates *different theoretical traditions* in negotiation research. It portrays negotiations as a sequence of action-reactions, where each behavior of one partner elicits changes in psychological states and probabilities of behavior for the other partner (i.e., *reactivity*). The other way of thinking about negotiations is to view negotiations as the process of *strategic* (i.e. goal-oriented) decision-making. In this perspective, based on the tradition of research on reasoning, each negotiator tries to attain his or her goals and chooses the action that brings him or her closest to his or her goals. To our knowledge, the architecture of the model is especially unique in how it combines representations of reactive and rational processes, uniting the tradition of dynamical systems models that originated in physics with the tradition of agent based models and models of artificial intelligence that originated in computer science.
- *DYNEGO+* has an architecture that allows us to work with *incomplete data* and continuously expand the model as new data become available as a result of continuing empirical research. The model can thus grow and become more precise as we accumulate more empirical knowledge.
- *DYNEGO+* is flexible and user friendly. Cultural rules can be easily changed, new rules can be added, and the user can make changes to examine their impact on negotiation dynamics.
- *DYNEGO+* allows one to develop a tool for training cross-cultural negotiation skills on the basis of strong, empirical results coming from many studies. The model can also be used to test different strategies in negotiations on the ground.

*Computer Simulation Results of DYNEGO+ model.* In the simulations we have adopted the strategy of progressively adding complexity to the model by adding new dimensions guiding

agent's behavior. In the first set of simulations, the relative weight of planning vs. reactivity was varied, and we examined the importance of planning in cross-cultural negotiations (i.e., interest-honor) as compared to intracultural negotiations (i.e., honor-honor or interest-interest negotiations). The second set of simulations added motivation to the model and studied its effects. Motivation was defined as the degree to which own vs. opponent outcomes are taken into account. 100% concentration on own outcome can be understood as *Selfish*. 20% concentration on partner's outcomes as *Weak cooperation*, and 50% concentration on partner's outcomes as *Cooperation*. Here too we examined how motivation affects negotiation outcomes in intra and intercultural negotiations. The third set of simulations concentrated on the effects of *adding mental models* to predict opponent's reactions to behaviors. In these simulations it was assumed that each agent has a mental model of the opponent. In cross-cultural negotiations, the mental model may be correct (it uses the actual rules used by the opponent) or false (it uses own rules to predict opponent's reaction). The mental model is used to predict the reaction of the opponent to each of the agent's own possible behaviors. Each behavior is "mentally repeated" 100 times to obtain a probability distribution of opponent's reactions. The utility of the opponent's reactions to each action of self is used as an additional input for the decision. To examine these research questions, extensive simulations were run on 16 core computers. For each cell 100 simulations were run. We have used orthogonal factorial designs of up to 5 factors.

**Result Set 1:** In these simulations, we investigated whether reactivity and planning affect negotiation outcomes, as well as how culture (e.g., honor versus interest models of negotiations) affects negotiation results (e.g., ability to form an agreement, time to agreement, trust, honor). In the simulations we varied the proportions of concentration on issue versus honor for each negotiation partner. We ran 2 way ANOVAs, and found main effects for cultural condition, main effects for planning, and significant interactions between cultural condition and planning. Interest-Interest conditions resulted in the most agreements (54%), followed by Honor-Honor (30.5%), and cross-cultural negotiations least often resulting in agreements (17.5%). Planning produced significantly more agreements (52.7%) than no planning (15.3%). The results indicated that planning was particularly important in Honor-Honor negotiations and Honor-Interest negotiations. With no planning, Honor-Honor negotiations resulted in the same proportion of agreements as Honor-Interest negotiations (only 3%), and these two conditions were significantly different from Interest-Interest negotiations with no planning (40%). Even with planning, the lowest proportion of agreements was reached in cross-cultural negotiations (32%), which was significantly lower than the Honor-Honor (58%) and Interest-Interest (68%). These two conditions were not significantly different from each other.

The cultural conditions differed significantly with respect to the time taken to reach agreement. Simulations took the longest time for Honor-Honor negotiations (329 steps) as compared to Interest-Interest conditions (259 steps), and the shortest time occurred in Honor-Interest negotiations (183 steps). In addition, there was a main effect for planning. Planning led to longer negotiations (303 steps) than no planning (211 steps), and this also interacted with cultural condition. In no planning conditions, mixed cultures negotiations resulted in significantly shorter negotiations (155 steps) than the two other conditions which did not differ from each other (H-H 258 steps, I-I 219 steps). With planning, the longest negotiations were for Honor-Honor (437 steps). These results, taken together, illustrate strong difference in the chances of reaching agreement, and suggest that planning prevents breaking of negotiations,

especially when negotiating with the culture of honor.

Finally, in addition to reaching agreement, planning also led to higher trust, honor, and satisfaction, especially when negotiating with the culture of honor. With no planning, trust, honor, and satisfaction had relatively high values only in Interest-Interest negotiations; in Honor-Honor and Mixed cultures conditions the values of these variables were considerably low. Planning resulted in higher values of trust, honor, and satisfaction than no planning in all negotiation conditions. Cross-cultural negotiations, however, still had lower values with planning than the Honor-Honor and Interest-Interest conditions. This naturally raises the question: What can help improve intercultural interactions beyond planning? We return to the role of motivation and mental models in Results set 2 and 3.

In sum, the computer simulations we conducted have clearly shown that an increased focus on planning greatly increases chances to reach agreement and stay in negotiations. It also results in higher trust, honor, and satisfaction. By contrast, reactivity decreases chances of reaching agreement and increases chances of breaking negotiations. Planning is most important for reaching agreements in negotiations with the culture of honor. When negotiating with the culture of honor, in conditions of pure reactivity (or no planning), the chances of reaching agreements were extremely low. According to the results, cross-cultural conditions are the most difficult for parties to reach agreement and preserve trust, honor, and participant satisfaction, even with planning.

**Result Set 2:** In these simulations, we asked: how does the concentration on one's own outcome and motivation influence negotiations outcomes? Does it interact with honor versus interest-based negotiations? With 100% concentration on self, the agent takes into account only its own outcomes in determining its utility calculations. With concentration less than 100% on the self, the outcomes of the other are taken into account with the weight of 100% - % concentration on self. In the simulation we varied 100% self; 75% self vs. 25% other; 50% self vs. 50% other. Furthermore, motivation decides *how the outcomes* of the other are taken into account. With cooperative motivation, in addition to maximizing the agent's own outcomes, is also oriented to maximizing the outcomes of the other. With competitive motivation the agent is oriented to maximizing its own outcomes and minimizing the outcomes of the other. We ran ANOVAS to examine the main effects of concentration on own outcome, motivation, cultural condition, and their interaction. All of these simulations involved planning.

We found a number of very interesting results. First, the simulations showed that cooperative motivation resulted in a much higher proportion of reached agreements than competitive motivation. Moreover, this interacted with cultural condition. With competitive motivation there were almost *no agreements* when negotiating with the culture of honor. The lowest proportion of reached agreements with competitive motivation happened in mixed cultures negotiations. By contrast, competitive motivation had much smaller detrimental effects on reaching agreement when both negotiators were representing the culture of interest. Likewise, with 100% concentration on self, the lowest proportion of reached agreements occurred in the mixed cultures condition. This shows that for reaching agreements between the culture of honor and the culture of interest, the presence of cooperative motivation is critical. Interestingly, the simulations also indicated an interaction effect between motivation and culture of the opponent

such that selfish motivation led to *outcome disadvantages* for culture of interest when negotiating with honor-oriented cultures. By contrast, having a cooperative motivation decreased losses for interest culture agents when negotiating with honor culture agents, making the outcomes for both negotiators almost equal. Finally, cooperative motivation also resulted in higher levels of trust, honor, and satisfaction at the end of negotiations, and this was particularly important in mixed culture negotiations. That is, competitive motivation also decreased the trust and honor of honor culture agents, when the interest culture was negotiating with the culture of honor. Trust in negotiations between two partners from the culture of interest did not depend on motivation. These results underscore the importance of cooperative motivation, especially in negotiations with honor cultures.

**Result Set 3:** In these simulations, we focused specifically on cross-cultural negotiations and asked: How does the accuracy of the mental model of the opponent affect negotiation outcomes in cross-cultural negotiations? Does it interact with motivation and interest vs. honor models? Using false mental models (like assuming similarity to the self) is clearly detrimental. Indeed, our computer simulations showed that correct mental models increased negotiation outcomes. By contrast, having a false mental model resulted in a disadvantage in negotiation outcomes. Although the main effect of the accuracy of mental model is significant for both honor and interest agents in intercultural negotiations, it is the correctness of the mental model of *interest-based negotiators* in intercultural negotiations that is critical for agreements. Also, the interactions of motivation and mental models of the *interest agent* significantly predicts negotiation outcomes, while interactions of motivation and mental models of the *honor agent* do not have as large an impact on the outcomes of negotiations. For example, the proportion of reached agreements with the interest culture agent having cooperative motivation and the correct mental model was over 60%, while the honor agents' motivation and mental models did not predict agreements. More generally, if the opponent was from an honor culture, then a correct mental model of the opponent *only* helped increase outcomes if the agent took the opponents outcomes into account and had a cooperative motivation. Thus, having a cooperative motivation and understanding and satisfying others' honor goals through one's correct mental model of their utilities leads to high negotiation outcomes. This underscores the importance of understanding cognition (mental models) in conjunction with motivation when negotiating in honor and interest cultures.

Our future work will begin to incorporate societal dynamics into the model. One of the main assumptions of our research program, as discussed, is that negotiations don't end at the table—they are situated in the specific social context and have consequences that go beyond the negotiating partners. To study the relationship between cross-cultural negotiations and societal dynamics we will integrate the model of negotiations created in *DYNEGO+* and the model of culture integration from *CULTIN*. This model is discussed below.

- **CULTIN (Cultural Integration) model**

Our second model, the *CULTIN* model, is designed to study how relations between different societies depend on the attitudes that members of each culture hold about their own culture as well as the culture of their negotiation partners. This model is implemented in the formalism of cellular automata and is an extension of the seminal model of racial segregation



developed by Thomas Schelling. In the model, individuals are located in cells in a square grid. Some cells are unoccupied. Each individual belongs to a specific culture. An individual is characterized by the attitudes they hold towards their own as well as others' cultures. The crucial variable for the model is the individual's level of satisfaction with its current location. The individual's satisfaction with its current location depends on its neighbors as well as the individual's attitudes towards their neighbors' cultures. Each neighbor who belongs to a culture that the individual views positively increases the satisfaction of the agent. By contrast, each neighbor who belongs to a culture that the individual holds negative attitudes towards decreases the individual's level of satisfaction with their current location. In the course of simulations, randomly selected individuals compare their satisfaction in their current location to their satisfaction in an unoccupied new location. If their satisfaction in the new location is greater than their satisfaction with their current location, then individual moves. This process is repeated until there are no more movements by individuals.

Our simulations have initially revealed that depending on the combinations of attitudes towards the members of one's own culture and attitudes towards others' cultures, different scenarios may be observed. The basic scenarios follow the typology of John Berry's acculturation model. For example, separation of cultures occurs when there are mutual negative attitudes between members of the two cultures and positive attitudes towards one's own culture. Each culture forms separate clusters and contact between individuals belonging to different cultures is minimal. This configuration breeds intercultural conflict and makes cooperation between individuals belonging to different cultures very difficult. Disintegration occurs when a given culture has negative attitudes both towards their own group as well as the other's culture. Individuals from this culture live in isolation and are not able to cooperate either with their own or the other culture. Assimilation results when individuals have positive attitudes towards the other culture and negative attitudes towards their own culture. They lose their cultural heritage and dissolve into the other culture. Integration describes a scenario wherein the individuals have positive attitudes both towards their own and the other culture. They form clusters with others from their own culture, but maintain contact and are able to cooperate with the other culture.

Computer simulations conducted during previous periods have gone beyond this basic typology of cultural integration. They have revealed, for example, that in order for intercultural contact to be maintained, positive interest in the other culture is critical and tolerance is not sufficient. Our computer simulations have also highlighted the crucial role that a small number of individuals with positive attitudes towards outgroup members play in cultural dynamics. Despite their small numbers, these individuals can function as interfaces, forming links between cultures, and have a strong impact on the resulting cultural landscape.

Our simulation also tested models where agents could not only change their locations, but could also influence each other's attitudes. In this model, the neighboring agents converge in their attitudes in a way described by the Dynamic Theory of Social Impact. To separate the effects of the segregation process from the process of social influence, we let the process of segregation run until it reached the equilibrium. Then the slow process of acculturation was allowed to operate. The introduction of attitude change produced qualitatively different results in most cases, facilitating integration among people from different cultural groups. For example, an interesting result was observed in the dynamics that occur when a majority individual with a

positive attitude toward minorities interacts with two minorities, one of whom has a positive attitude toward the majority and one of whom has a negative attitude. In the beginning of the simulations, with only the segregation rule operating, the first minority was integrated into the majority since both groups had positive attitudes towards each other. The second minority separated from the majority but integrated with the first minority. When the process of social influence was allowed to take effect, the first minority transmitted their positive attitudes toward the majority to the neighboring members of the minority group. The newly acquired positive attitudes made these minority individuals seek contact with majority members. The majority member as well as the first minority members formed a bridge connecting the second minority to the majority and opened up the minority group to the influence of positive attitudes towards the outgroup. This paved the way for a stable integration between members of the two groups that initially chose to separate. These results clearly indicate the importance of individual differences in attitudes for cultural integration. Even if the average attitudes in a group are negative, individuals with positive attitudes can act as liaisons and open up avenues for positive attitudinal change. In order to explore this effect in more detail, the next version of this model will introduce variation of individual attitudes in both the minority and the majority group. These results have been written up and published (de Raad, Nowak & Borkowski, 2013; Nowak, de Raad, & Borkowski, 2012).

In future research, both of these models (*DYNEGO+* and *CULTIN*) will be further refined and developed. In the final step the two models will be integrated. The composite model will be used to investigate the societal consequences of the negotiation process. The attitude changes modeled in the *DYNEGO+* model will be used as input in the *CULTIN* model. A run of the *DYNEGO+* model will be used to set attitudes in a particular location in the social space. Then the *CULTIN* model will investigate the effects of the spread of the negotiation's resulting attitudes. The new attitudes and the resultant relationships will then be used as initial conditions for the *DYNEGO+* model, etc. The composite model will be used to investigate the effectiveness of different negotiation strategies depending on the culture and the initial relationship between the parties. The goal is to establish a set of effective negotiation strategies for establishing cooperative relations between different cultures.

## Summary

Project InterACTION provided a systematic examination of culture and negotiation and collaboration, with a particular focus on the Middle East. *Thrust I* advanced an understanding of core cultural values, norms, and beliefs within the Middle East. *Thrust II* examined dynamic effects of culture on psychological and social processes in negotiation. *Thrust III* examined dynamic effects of culture on collaboration processes. *Thrust IV* examined how dynamical modeling and computational modeling can help us to understand culture and negotiations and collaborations. We developed and solidified a very high caliber research team in the Middle East as well as develop a virtual intercultural laboratory. We initiated many collaborative projects across the team that span multiple methodologies (qualitative, experimental, survey, archival, computational) within each thrust. We have published 50 papers in peer reviewed journals, 29 book chapters, 240 presentations, 32 conference proceeding publications, 42 manuscripts, 1 edited book and 1 special issue, 16 spin off grants, 58 honors and awards, 77 references to our work in the media, 18 Graduate MURI student theses in progress, and had over 70

undergraduates volunteering on MURI projects. The MURI Virtual Brownbag Series invited speakers from across teams and disciplines. In all, we capitalized on our interdisciplinary team to advance novel interdisciplinary and dynamic approaches to culture and collaboration and negotiation which have significant theoretical and applied value.

## APPENDIX A: PUBLICATIONS, PRESENTATIONS, HONORS, AWARDS

List of papers submitted or published under ARO sponsorship since the inception of the grant.

### (A) PAPERS PUBLISHED IN PEER-REVIEWED JOURNALS

Azaria, A., Aumann, Y., & Kraus, S. (2013). Automated agents for reward determination for human work in crowdsourcing applications. *Autonomous Agents and Multi-Agent Systems*, 1-22.

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Imai, L., & Gelfand, M. J. (2009). Culture and negotiation: Interdisciplinary perspectives. In R. S. Bhagat & R. M. Steers (Eds.), *Handbook of culture, organizations, and work* (pp. 334-372). Cambridge, UK: Cambridge University Press.

Wildman, J. L., Xavier, L. F., Tindall, M., & Salas, E. (2010). Best practices for training intercultural competence in global organizations. In K. Lundby & J. Jolton (Eds.), *Going global: Practical applications and recommendations for HR and OD professions in the global workplace* (pp. 256-300). New York: Routledge Academic.

### **(c) PAPERS PRESENTED AT MEETINGS, BUT NOT PUBLISHED IN CONFERENCE PROCEEDINGS**

August 2013-May 2014

Feitosa, J., Cruz, D., Lacerenza, C. N., Moynihan, L. E., & Salas, E. (August, 2014). *Ethnic identity: Measurement equivalence studies across ethnicities and time*. Symposium conducted at the Academy of Management, Philadelphia PA. \* FINALIST of the 2014 Carolyn Dexter Best International Paper Award \*

Feitosa, J., Kreutzer, C., Kramperth, A., Kramer, W., & Salas, E. (August, 2014). *Expatriate adjustment: Considerations for selection and training*. Symposium conducted at the Academy of Management, Philadelphia, PA.

Gelfand, M. J. (April, 2014). Understanding cultural differences in a globalized world. Invited Keynote Address, Emerging Markets Forum, Smith School of Business.

Gelfand, M. J. (April, 2014). *Culture's constraints: Differences between tight and loose cultures*. Invited Talk, Department of Psychology, University of Virginia.

Wiese, C. W., Coultas, C. W., Burke, C. S., & Salas, E. (2014, April). Manipulating Power Distance: Towards an Adaptive Cultural Priming Methodology. Poster presented at the annual meeting of the Society for Industrial Organizational Psychology, Honolulu, Hawaii

Gelfand, M. J. (2014, April). Culture's constraints: Understanding the differences between tight and loose cultures. Invited Tedx Talk, Society for Industrial and Organizational Psychology, Honolulu, Hawaii.

Gelfand, M. J., (May, 2014). *Culture's constraints: Differences between tight and loose cultures*. Invited Talk, Department of Management, Washington University.

Gelfand, M. J., (February, 2014). *The etiology of conflict cultures*. Invited Talk, Culture Preconference, Society for Personality and Social Psychology.

Gelfand, M. J., (November, 2013). *On the etiology of conflict cultures*. Invited Keynote Address, Workplace Health Conference.

Gelfand, M. J., (October, 2013). *Differences between tight and loose cultures*. Invited Talk, EvOS, Binghamton University.

Previous years:

Antino, M., Rico, R., & Sánchez-Manzanares, M. (2013, May). *How do faultline teams learn? Exploring the roles of climate for participative safety and change-oriented leadership*. Paper presented to the 16<sup>th</sup> EAWOP conference, Münster: Germany.

Azaria, A., Richardson, A. & Kraus, S., (2013, May). *Autonomous agent for deception detection*, in Proc. Of HAIDM (In AAMAS).

Azaria, A., Richardson, A., Elmalech, A., Rosenfeld, A., Kraus, S. & Sarne, D. (2013, May). *On Automated Agents Rationality*, HAIDM (In AAMAS).

Azaria, A. & Kraus, S. (2013, May). Advice provision in multiple prospect selection problems, HAIDM (In AAMAS).

Burke, C. S., & Grossman, R. (Chairs) (2013, April). *Examining shared leadership in virtual teams: Theoretical and empirical insights*. Symposium presented at the 28<sup>th</sup> Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Burke, C. S., Shuffler, M. L., & Fiore, S. (2012, August). *Leadership structure: Mitigation*

*strategies for decrements in virtually distributed teams.* In M. Shuffler, T. Koehler, & C. W. Wiese (Chairs), *Virtuality and cultural diversity in teams: Creating challenges or opportunities.* Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA.

Burke, C.S., Shuffler, M.L., & Fiore, S. (2012, August). In M. Shuffler, C. Wiese, T. Koehler (Chairs), *Virtuality & cultural diversity in teams: Creating challenges or opportunities?* Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA.

Casper, C., Biemann, T., Rico, R., & Sánchez-Manzanares, M. (2013, May). *I'm with you! Investigating the relationship between team situational models and performance.* Paper presented to the 16<sup>th</sup> EAWOP conference, Münster: Germany.

Coultas, C., Salazar, M. R., Burke, C. S., & Salas, E. (2013, April). *Effects of cultural values/norms on affective responses to incivility.* In N. M. Ashkanasy, J. M., Diefendorff (Chairs), *Context, emotions, and performance.* Symposium presented at the 28<sup>th</sup> Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Fehr, R. and Gelfand, M. J. (2012, August). *Forgiveness from the top: How leaders build forgiving organizations.* Paper presented at the Annual Meeting of the Academy of Management, Boston, MA.

Fehr, R., Zheng, M., Tai, K., Narayanan, J., & Gelfand, M. J. (2012, August). *Forgiveness empowers victims after conflict.* Paper presented at the Annual Meeting of the Academy of Management, Boston, MA.

Feitosa, J., Moynihan, L. E., Lacerenza, C. N., Cruz, D., & Salas, E. (April, 2013). *Examining the factor structure of the multigroup ethnic identity measure.* Poster submitted to the 28th annual meeting of the Society of Industrial Organizational Psychology, Houston, TX.

Fulmer, C.A., Lim, B. C., & Hanges, P. (2012, August). *Trust at the team level: Characteristics of leaders and members.* Paper presented at the annual conference of Academy of Management, Boston, MA.

Gelfand, M. J., Brett, J. M., Imai, L., Tsai, H. H., Gunia, B. C. (2012, August). *Where are two heads better than one? Teams and solos negotiating deals in the U.S. and Taiwan.* Paper presented at the Annual Meeting of the Academy of Management, Boston, MA.

Gelfand, M. J. (September, 2012). *Culture's constraints: Differences between tight and loose cultures.* Invited Address, Alexander von Humboldt foundation, Heidelberg, Germany.

Gelfand, M. J., (October, 2012). *Culture's constraints: Differences between tight and loose cultures.* Invited Address, Conference of the Society of Experimental Social Psychology, Austin Texas.

Gelfand, M. J. (October, 2012). *Dynamic models of the effect of culture on collaboration and negotiation*. Invited talk given to Alan Shaffer, Principal Deputy Assistant Secretary of Defense, Department of Defense, at the University of Maryland.

Gelfand, M. J. (November, 2012). *Conflict cultures in organizations: How leaders shape conflict cultures and their organizational level consequences*. Invited talk, John F. Kennedy School of

Gelfand, M. J. (December, 2012). *Conflict cultures in organizations: How leaders shape conflict cultures and their organizational level consequences*. Invited talk, FACE conference, Maui, Hawaii.

Gelfand, M. J. (January, 2013). *Dynamic models of the effect of culture and negotiation and collaboration*, Invited Address, Pentagon, Alan Shaffer group.

Gelfand, M. J., (March, 2013). *Culture's constraints: Differences between tight and loose cultures*. Invited Talk, Department of Management, University of Utah.

Gelfand, M. J., (April, 2013). *Culture's constraints: Differences between tight and loose cultures*. Invited Talk, Fuqua School of Business, Duke University.

Gelfand, M. J., (April, 2013). *Culture's constraints: Differences between tight and loose cultures*. Invited Talk, Department of Psychology, University of Kansas.

Gelfand, M. J., Severance, L., Lee, T., Bruss, C. B., Latif, H., El Moghazy, A. A., Mustafa, S. (2013, June). *Getting to Yes: Pathways of Reaching Integrative Agreements in Negotiations in Egypt and the U.S.* Paper presented at the regional meeting of the International Association of Cross-Cultural Psychology, Los Angeles, CA.

Gregory, M. E., Zajac, S., Bedwell, W. L., Kramer, W. S., & Salas, E. (2013, April). *Culture and transactive memory systems*. Poster presented at the 28th Annual Conference of the Society for Industrial-Organizational Psychology, Houston, TX.

Grossman, R., Salazar, M. R., Salas, E., & Spencer, J. M. (August, 2012). *Understanding collaboration across cultures: What matters?* Poster presented at the American Psychological Association Annual Convention, Orlando, FL.

Kim, R. & Coleman, P.T. (2013, July). *Is being adaptive better than being cooperative all the time? Conflict tendencies at work in South Korea*. International Association for Cross-Cultural Psychology. Los Angeles, California.

Kishi, R., Quinn, D., Wilkenfeld, J., Gelfand, M., Eralp, P., Owens, D., & Salmon, E. (2013, July). *Adapting Mediation to the Intrastate Crisis Context*. Paper presented at the 26<sup>th</sup> annual International Association of Conflict Management conference, Tacoma, WA.

Kramer, W. S., Savage, N. M., Davis, C., Shuffler, M. L., Burke, C. S., & Salas, E.

(2013, April). *Tolerance for ambiguity's impact on emergence of leadership and outcomes*. In J. Hirshberg, W. S. Kramer, & N. M. Savage (Chairs), Team leadership in culturally diverse, virtual environments. Symposium presented at the 28<sup>th</sup> Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Kraus, S. (2013). *Culture sensitive negotiation agents* (invited talk), Gaming and military simulations, Neeman Workshop of Science, Technology and Security, Tel-Aviv University.

Lee, T. L., Gelfand, M. J., & Kashima, Y. (2013, June). *Perpetuation of intergroup conflict via biased communication and distortion of memory*. Talk presented at the annual meeting of International Association for Cross-Cultural Psychology, Los Angeles, CA.

Leslie, L. M., Harrington, J. R., & Gelfand, M. J. (2013, April). *Diversity in context: The multilevel consequences of conflict cultures*. In J. L. Waldman, & A. L. Thayer (Cochairs), The impact of culture on teams: Combining complementary research. Symposium conducted at the annual conference of the Society for Industrial and Organizational Psychology, Houston, TX.

Lun, J., Muhammad, R., Cameron, L., & Gelfand, M. (2013, June). *The cultural psychology of social connections in the Middle East and the US*. Poster presented at the International Association of Cross-Cultural Psychology regional conference, Los Angeles, CA.

Lun, J., Gelfand, M., & Mohr, R. (2013, January). *Learning culture in everyday situations: Situational constraint and social perception*. Talk given at the Society of Personality and Social Psychology meeting, New Orleans, LA.

Lyons, S., & Gelfand, M.J. (2013, January). *The role of cultural models of self-worth in responses to ingroup transgressions*. Poster presented at the Annual Meeting of the Society for Personality and Social Psychology (SPSP), New Orleans, LA.

Lyons, S., & Gelfand, M.J. (2013, June). *The role of cultural models of self-worth in responses to ingroup transgressions*. Poster presented at the Regional Conference of the International Association for Cross-Cultural Psychology, Los Angeles, CA.

Quinteiro, P.M., Cural, L., Passos, A.M. & Rico, R. (2013, May). *Coordination in management teams: Do cohesion and virtuality really matter?* Paper presented to the 16<sup>th</sup> EAWOP conference, Münster: Germany.

Rico, R. (2013, April). *Unique Challenges of Distributed Multiteam System Processes and Performance*. Panelist discussant at the 28<sup>th</sup> SIOP Meeting, 2013, Houston, TX. USA.

Roos, P., Gelfand, M. J., Nau, D., & Lun, J. (2013, June). *Societal Threat Increases Evolved Punishment of Norm Violators in Cultural Groups*. Poster presented at the regional conference of the International Association for Cross-Cultural Psychology in Los Angeles, California.

Salmon, E. D., Gelfand, M. J., Gal, K., Kraus, S., & Ting, H. (2013, June). *When time is not*

*money: Why Americans lose out at the negotiation table.* Paper presented at the regional meeting of the International Association of Cross-Cultural Psychology, Los Angeles, CA.

Salmon, E. D., Gelfand, M. J., Çelik, A. B., Kraus, S., Wilkenfeld, J., & Inman, M. (2013, July). *Cultural contingencies of mediation: Effectiveness of mediation styles in intercultural disputes.* Paper presented at the 26<sup>th</sup> annual meeting of the International Association for Conflict Management, Tacoma, WA.

Shuffler, M. L., Burke, C. S., Fahey, R. J., & Salas, E. (2013, April). *Collective orientation's influence on shaping leadership in virtually distributed teams.* In J. L. Wildman & A. L. Thayer (Co-Chairs), *The impact of culture on teams: Combining complementary research.* Symposium presented at the 28<sup>th</sup> Annual Conference for the Society of Industrial and Organizational Psychology, Houston, TX.

Shuffler, M. L., Burke, C. S., & Fiore, S. (2012, August). *Leading distributed teams: The influence of composition and virtual tools.* In K. M. Bartol, E. M. Campbell-Bush (Chairs), *Advances in highly virtual teams: Key composition, leadership, and shared process components.* Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA

Shuffler, M.L., Wiese, C.W., & Koehler, T. (2012, August). *Virtuality & cultural diversity in teams: Creating challenges or opportunities?* Symposium presented at the Annual Meeting of the Academy of Management, Boston, MA.

Stillwell, A., Gelfand, M. J., Ting, H., Salmon, E. D., & Fulmer A. (2013, June). *Correlates of national impatience.* Paper presented at the regional meeting of the International Association of Cross-Cultural Psychology, Los Angeles, CA.

Wiese, C.W., Shuffler, M.L., & Horn, Z. (2013). *The digital frontier: Facilitating teamwork through bits and bytes.* Panel to be presented at the 28th Annual Conference of the Society for Industrial Organizational Psychology, Houston, TX.

Wildman, J. L., Thayer, A. L., Salas, E., & McDonald, D. P. (2013, April). *The impact of cultural values on team mediators: A meta-analysis.* In J. L. Wildman & A. L. Thayer (Co-Chairs), *The impact of culture on teams: Combining complementary research.* Symposium conducted at the annual meeting of the Society for Industrial and Organizational Psychology, Houston, TX.

Chung, C., Coleman, P. T., & Gelfand, M. J. (2012, July). *Conflict, culture, and complexity: The effects of simple versus complex rules in negotiation.* Paper presented at the 25<sup>th</sup> annual conference of the International Association for Conflict Management in Stellenbosch, South Africa.

Cook, J., Davis, C., Sablon, K., Wiese, C.W., Shuffler, M.L., & Burke, C.S. (2012, March). *Leadership across levels in multicultural collaborations.* Presented at the annual meeting of Industrial Organizational and Organizational Behavior, Orlando, FL.

Coultas, C., Grossman, R., Feitosa, J., Salas, E., & Carter, N. (2012, April). *Training for cultural competence: A meta-analysis*. Poster presented at the 27th annual meeting of the Society of Industrial Organizational Psychology, San Diego, CA.

Coultas, C.W., Shuffler, M.L., Wiese, C.W., Burke, C.S., & Salas, E. (2012, April). *Implicit functional leadership theories: Leader legitimacy given hierarchy and context*. Poster presented at presented at the 27th Annual Conference for the Society for Industrial and Organizational Psychology, San Diego, CA.

DiazGranados, D. (2012, May). *The influence of social distance on multicultural teams*. In C. S. Burke (Chair), Looking at the impact of culture on collectives. Invited presentation at the 24<sup>th</sup> Annual Convention of the Association of Psychological Science, Chicago, IL.

DiazGranados, D., Burke, C. S., Salas, E., & Smith-Jentsch, K. (2011, August). *The influence of leader social distance in multicultural teams*. In M. L. Shuffler & D. DiazGranados (Co-chairs), Leading across cultures: Emerging research trends from multiple levels. Symposium presented at the 71<sup>st</sup> Annual Conference of the Academy of Management, San Antonio, TX.

DiazGranados, D., Salas, E., Smith-Jentsch, K., & Burke, C. S. (2012, April). *Can leaders influence the performance of multicultural teams?* In D. DiazGranados & K. Smith-Jentsch (Co-chairs), How and when does team composition affect performance? Symposium presented at the 27<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

Feitosa, J., Salazar, M. R., & Salas, E. (2012, March). *Ethnic diversity in teams: Consequences to idea generation*. Poster presented at the 33rd Annual Industrial-Organizational Psychology and Organizational Behavior (IOOB) conference, Orlando, FL.

Feitosa, J., Salazar, M. R., & Salas, E. (2012, March). *The impact of superordinate and subgroup identities on creativity*. Paper presented at the 33rd Annual Industrial-Organizational Psychology and Organizational Behavior (IOOB) conference, Orlando, FL.

Feitosa, J., Salazar, M. R., & Salas, E. (2012, May). *Idea generation across ethnicities*. Poster presented at the Congresso Brasileiro de Psicologia Organizacional e do Trabalho (CBPOT), Rio de Janeiro, RJ, Brazil.

Fulmer, C. A., & Gelfand, M. J. (2013, June). *Collectivists' trust recovery depends on the severity of the violation*. Paper presented at the annual conference of International Association for Conflict Management, Tacoma, WA.

Gelfand, M. J. (2012, March). *Culture's constraints: Differences in tightness and looseness across 33 nations*. Invited Talk, University of Michigan.

Gelfand, M. J. (2012, April). *Culture's constraints: Differences in tightness and looseness across 33 nations*. Invited Talk, Stanford University.



Gelfand, M. J. (2012, May). *Culture's constraints: Differences in tightness and looseness across 33 nations*. Invited Talk, Carnegie Mellon University.

Gelfand, M., & Lun, J. (2011, October). *The structure of situation as a mediator of macro and micro cultural processes*. Presentation given at the Society of Experimental Social Psychology conference. Washington DC.

Kim, R. & Coleman, P. T. (2012, July). *Dialectics of culture and conflict: A dynamical reconceptualization and measure of individualism and collectivism*. Paper presented at the 25<sup>th</sup> annual conference of the International Association for Conflict Management in Stellenbosch, South Africa.

Kraus, S. (2012, March). *Computer agents for human persuasion: Sustainability, health applications and world peace*. Invited talk at the AAAI Spring Symposium on Game Theory for Security, Sustainability and Health.

Lun, J., Gelfand, M., Bruss, B., Su, J., Al-Dabbagh, M., Aycan, Z., Dagher, M., Latif, H., Shabka, H., Khashan, H., & Soomro, N. (2012, June). *The value of honor in the Middle East*. Presentation at the conference "Culture, identity, and change in the Middle East: Implications for Conflict and Negotiation", organized by H. Bowles, Michele Gelfand, & May Al-Dabbagh, Harvard University.

Lun, J., Gelfand, M., & Mohr, R. *Attitudes toward deviance in tight and loose cultures* (2012, January). Poster presented at the Culture Preconference at the Annual Meeting of the Society for Personality and Social Psychology (SPSP), San Diego, CA.

Lyons, S., Lun, J., & Gelfand, M. (2012, January). *Dual identities and intercultural cooperation*. Poster presented at the Culture Preconference at the Annual Meeting of the Society for Personality and Social Psychology (SPSP), San Diego, CA.

Nowak, A., Gelfand, M. J., & Borkowski, W. (2012, June). *Computational models of culture and negotiation: Exploring emergent dynamics*. Presentation at the conference "Culture, identity, and change in the Middle East: Implications for Conflict and Negotiation", organized by H. Bowles, Michele Gelfand, & May Al-Dabbagh, Harvard University.

Severance, L., & Gelfand, M. J. (2012, April). *The dynamics of dissent: Gender and status effects*. In G. F. Fernandes (Chair). Deciphering gendered responses to organizational conflict. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology (SIOP), San Diego CA.

Shuffler, M. L., Burke, C. S., & DiazGranados, D. (2011, August). *Leading across cultures: Emerging research trends from multiple levels*. Symposium at the Academy of Management Annual Conference, San Antonio, TX.

Thayer, A. L., Shuffler, M. L., Salas, E., Kozlowski, S. W. J., Mathieu, J. E., Tannenbaum, S. I., Marks, M. A., & Rico, R. (2012, April). *Critical considerations of teamwork research and*

*practice: The next frontier*. Panel presented at the 27th annual meeting of the Society for Industrial and Organizational Psychology, San Diego, CA.

Wiese., C.W., Shuffler, M. L, Burke, C. S., & Salas, E. (2011, August). *Leadership in multicultural collaborations: A review and future research agenda*. Paper presented at the Annual Academy of Management Conference, San Antonio, TX.

Wildman, J. L., Salazar, M. R., Qureshi, R., & Salas, E. (2012, April). *Fatalism, trust repair, and revenge in a collaborative work context*. Poster presented at the Annual Meeting of the Society for Industrial and Organizational Psychologists, San Diego, CA.

Wildman, J. L., Thayer, A. L., Lazzara, E. H., Salazar, M., & Salas, E. (2012, July). *Trust and distrust in teams: Empirical evidence for a new research paradigm*. Poster presented at the Annual Meeting of the Interdisciplinary Network for Group Research, Chicago, IL.

Bohnet, I. (2010, September). *Complex negotiations: The role of culture*. Presentation at the Said Business School, University of Oxford, Oxford Program on Negotiation, Oxford, UK.

Bohnet, I. (2010, October). *Behavioral economics, trust, culture and gender*. Presentation at Harvard Kennedy School, Doctoral Seminar, Cambridge, MA.

Bohnet, I. (2011, January). *The role of trust in negotiation*. Paper presented in the Merchants Leasing Negotiation Workshop, Boston, MA.

Chung, C. (2011, July). *Dynamical systems approach to conflict communications assessments*. Paper presented at the regional conference of the International Association for Cross-Cultural Psychology in Istanbul, Turkey.

Chung, C., Coleman, P. T., & Gelfand, M. (2011, July). *Conflict, culture, and complexity: The effects of simple versus complex rules in negotiation*. Paper presented at the 24<sup>th</sup> annual conference of the International Association for Conflict Management in Istanbul, Turkey.

Coleman, P. T. & Kugler, K. (2011, July). *Tracking adaptivity: Developing a measure to assess adaptive conflict orientations in organizations*. Poster presented at the 24<sup>th</sup> annual conference of the International Association for Conflict Management in Istanbul, Turkey.

Coleman, P. T., Kugler, K., & Vallacher, R. (2011, July). *Regulatory focus dynamics and conflict: Investigating the relationship and ratios of prevention and promotion orientations to social conflict*. Paper presented at the 24<sup>th</sup> annual conference of the International Association for Conflict Management in Istanbul, Turkey.

Coultas, C., Bedwell, W. L., Salas, E., Burke, S. (2011, April). *Scalpels, not hacksaws: Culturally competent coaching*. Presented at the 26<sup>th</sup> annual meeting of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.

Coultas, C. W., Grossman, R., Feitosa, J. F., & Salas, E. (2011, July). *Training for differences: A meta-analysis exploring what works and what doesn't in cross-cultural training*. Presentation at the INGRoup conference in Minneapolis, MN.

Coultas, C. W., Wiese, C. W., Shuffler, M. L., Burke, C. S., & Salas, E. (2011, July). *Contextual leadership: The impact of team type and leader role on followers' perceptions of leader effectiveness*. Poster presented at the 2011 INGRoup conference, Minneapolis, MN.

Efrat-Treister, D., Severance, L., Gelfand, M. J., Lyons, S., Rafaeli, A., Nowak A., et al. (2011, July). *Understanding aggression through the lens of cultural values of honor and dignity*. Poster presented at the annual meeting of the European Congress of Psychology, Istanbul, Turkey.

Fehr, R. & Gelfand, M. J. (2010, August). *Hedonic for some? Culture of honor and the affective consequences of revenge*. Presentation at the Academy of Management conference, Montreal, Canada.

Fehr, R. (2010, August). *On the (un)intended consequences of forgiveness: Creativity after conflict*. Presentation at the Academy of Management conference, Montreal, Canada.

Fehr, R. (2011, April). *Cultural intelligence abroad: Goal attainment during international sojourns*. Presentation at the Society for Industrial and Organizational Psychology (SIOP) conference, Chicago, Illinois.

Fulmer, C. A., & Gelfand, M. J. (2011, June). *Trust after violations: Cultural orientation and dynamic patterns*. Paper presented at the International Association for Cross-Cultural Psychology Conference, Istanbul, Turkey.

Fulmer, C. A., & Gelfand, M. J. (2011, July). *How do I trust thee? Dynamic trust profiles and their individual and social contextual determinants*. Paper presented at the annual International Association for Conflict Management, Istanbul, Turkey.

Fulmer, C. A., & Gelfand, M. J. (2011, July). *Trust across multiple organizational levels: A review and analysis of progress and future directions*. Paper presented at the annual International Association for Conflict Management, Istanbul, Turkey.

Fulmer, C. A., et al. (2011, July). *Trust and trust violation in negotiation: A cross-cultural qualitative comparison*. In Hollingshead, A. & Kim, P. (Chairs), *Trust violations across contexts: From cross-cultural negotiations to brand communities on Facebook*. Symposium conducted at the annual International Association for Conflict Management, Istanbul, Turkey.

Gelfand, M. J. (2010, December). *Culture as affordances and constraints. A multilevel analysis of situational constraint across 33 nations*. Invited Departmental Colloquium, Department of Psychology, University of Waterloo.

Gelfand, M. J. (2011, May). *Culture's constraints: Differences in tightness and looseness across 33 nations*. Invited Departmental Colloquium, Department of Psychology, Northwestern University.

Gelfand, M. J. (2011, June). *Culture's constraints: Differences in tightness and looseness across 33 nations*. Invited C Colloquium, Sabanci University, Istanbul, Turkey.

Gelfand, M. J. (2011, June). *Culture's constraints: Differences in tightness and looseness across 33 nations*. Invited Keynote Address, International Association for Cross-Cultural Psychology, Istanbul, Turkey.

Gelfand, M. J. (2011 June). *Culture and identity motives symposium*. Invited Discussant. International Association for Cross-Cultural Psychology, Istanbul, Turkey.

Gelfand, M. J., Fulmer, C. A., Kruglanski, A. W., Abdel-Latif, A. H., Khashan, H., Shabka, H., & Moaddel, M. (2011, June). *Fatalism and risky outcomes: Cultural and individual levels of analysis*. Paper presented at the International Association for Cross-Cultural Psychology conference, Istanbul, Turkey.

Gelfand, M., Shteynberg, G., Bell, C., Lyons, S., & Lee, T. (2011, January). *Culture and conflict contagion: The role of vertical collectivism in the spread of social conflict*. Poster presented at the annual meeting of the Society for Personality and Social Psychology (SPSP), San Antonio, TX.

Hanges, P.J. & Kyriillidou, M. (2011, March). *Organizational climate and diversity assessment: A value-based approach manifested through the ARL ClimateQUAL assessment protocol*. In S. Town (Chair). *Managing Change in Academic Libraries in a Strategic Way: The Nature of Evidence for Change Management*. Symposium presented at the third annual conference of the Qualitative and Quantitative Methods in Libraries, Athens, Greece.

Inman, M., Kishi, R., & Wilkenfeld, J. (2011, March). *Cultural heterogeneity and the mediation of interstate crises*. Paper presented at the 52<sup>nd</sup> annual convention of the International Studies Association, Montréal, Québec, Canada.

Inman, M., Kishi, R., & Wilkenfeld, J. (2011, April). *Culture and international crisis mediation*. Paper presented at the UMD International Relations Workshop, College Park, MD.

Kim, R., Coleman, P. T., Chung, C., & Kugler, K. (2011, July). *Culture and conflict landscapes in organizations*. Paper presented at the 24<sup>th</sup> annual conference of the International Association for Conflict Management in Istanbul, Turkey.

Kishi, R., Inman, M. & Wilkenfeld, J. (2011, July). *Culture and mediation in international crises*. Paper presented at the 24<sup>th</sup> annual International Association of Conflict Management conference, Istanbul, Turkey.

- Kraus, S. (2010, December). *Agents that negotiate proficiently with people*. Invited talk at the 8th European Workshop on Multi-Agent Systems, Paris, France.
- Kraus, S. (2011, March). *Agents that negotiate proficiently with people*. Keynote talk at Social Computing, Behavioral-Culture Modeling conference (SBP), Maryland, USA.
- Kraus, S. (2011, May). *Automated agents for human persuasion*. Invited talk at the Agent-based Complex Automated Negotiations Workshop at AAMAS, Taipei, Taiwan.
- Kraus, S. (2011, June). *Automated agents for human persuasion*. Key note speaker at the Bar-Ilan Symposium on Foundations of Artificial Intelligence BISFAI, Ramat-Gan, Israel.
- Kugler, K. & Coleman, P. T. (2011, July). *Moral conflict and complexity: The dynamics of constructive versus destructive discussions over polarizing issues*. Paper presented at the 24<sup>th</sup> annual conference of the International Association for Conflict Management in Istanbul, Turkey.
- Lin, R., Gev, Y., & Kraus, S. (2011, May). *Facilitating better negotiation solutions using AniMed*. In Proceedings of the Fourth International Workshop on Agent-based Complex Automated Negotiations (ACAN'11), Taipei, Taiwan.
- Lun, J., Gelfand, M. J., Bruss, C. B., et al. (2011, June). *The cultural psychology of honor: Evidence from 8 nations*. Presentation given at the International Association of Cross-Cultural Psychology regional conference, Istanbul, Turkey.
- Lyons, R., Shuffler, M.L., & DeChurch, L. (Co-Chairs). (2011, April). *Understanding the implications of modern organizational changes for team leadership*. Panel presented at the 26th annual meeting of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Salazar, M., Coultas, C. W., Grossman, R., & Feitosa, J. (Co-Chairs) (2011, April). *Culture and diversity: Current and future theoretical and practical approaches*. Panel held at the 2011 Society for Industrial and Organizational Psychology (SIOP) conference, Chicago, IL.
- Severance, L., Lyons, S., Gelfand, M. J., Nowak, A., Bui-Wrzosinska, L., Rafaeli, A., et al. (2011, April). *Mapping the structure of aggression across cultures*. In J. Huang & A. M. Ryan (Chairs). One brick at a time: Cultural context effects at work. Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Shuffler, M. L. & Hunter, A. (2011, April). *Developing culturally competent leaders: Current theory, research, & lessons learned*. A symposium accepted to the 26th annual conference of the Society for Industrial and Organizational Psychology (SIOP), Chicago, IL.
- Wildman, J. L., Shuffler, M. L., Burke, C. S., & Salas, E. (2010, August). *Trust and distrust in multicultural teams: A theoretical framework*. Paper presented at the annual meeting of the Academy of Management, Montreal, Canada.

Bedwell, W. L., DiazGranados, D., Salas, E., & Burke, C. S. (2010, April). *Bridging the cultural divide: Towards intercultural collaboration effectiveness*. Paper presented at the 25<sup>th</sup> Annual Conference for the Society of Industrial and Organizational Psychology (SIOP), Atlanta, GA.

Bohnet, I. (2010, July). *Incentives and trust*. Presentation at Humboldt University, Economics Seminar, Berlin, Germany.

Bohnet, I. (2010, June). *Why women and men trust others*. Presentation at the annual International Association for Conflict Management, Cambridge, MA.

Bohnet, I. (2010, March). *The role of trust in decision making*. Panel presentation at the Deutsche Bank Women in Business conference, Frankfurt, Germany.

Bohnet, I. (2010, January). *Fostering trust*. Presentation at HBS, Seminar on Behavioral Decision Making, Cambridge, MA.

Bohnet, I. (2009, December). *The elasticity of trust*. Presentation at INSEAD, Decision Making Seminar, Fontainebleau, France.

Bohnet, I. (2009, September). *How to promote trust*. Presentation at the 100<sup>st</sup> anniversary celebrations of the Stockholm School of Economics, Stockholm, Sweden.

Fehr, R., Gelfand, M. J., & Nag, M. (2010, June). *The road to forgiveness: A meta-analytic synthesis of its situational and dispositional correlates*. Paper presented at annual conference of the International Association of Conflict Management, Boston, MA.

Fulmer, C. A., & Gelfand, M. J. (2010, June). *Dynamic trust processes: Trust dissolution, recovery, and stabilization*. Paper presented at the annual conference of International Association for Conflict Management, Boston, MA.

Fulmer, C. A., Gelfand, M. J., & Hanges, P. J. (2010, April). *Modeling trust as a growth mixture model*. In P. J. Hanges & C. A. Fulmer (Chairs), New developments in modeling longitudinal and dynamic data. Symposium conducted at the annual conference of Society for Industrial and Organizational Psychology (SIOP), Atlanta, GA.

Gelfand, M. J. (2010, June). *Intersections between culture and gender in negotiations and decision-making: New theoretical and methodological perspectives*. Discussant at annual conference of the International Association of Conflict Management, Boston, MA.

Gelfand, M. J. (2010, April). *Dynamical models of culture and collaboration and negotiation*. Briefing given to the L3 Associates, Simons Hall, University of Maryland.

Gelfand, M. J. (2010, March). *Culture as constraints and affordances: A multilevel analysis of situational constraint across 35 nations*. Invited Departmental Colloquium at the MIT Sloan School of Management, Cambridge, MA.

Gelfand, M. J. (2010, January). *Culture as constraints and affordances: A multilevel analysis of situational constraint across 35 nations*. Invited Departmental Colloquium at the Singapore Management University, Singapore.

Gelfand, M. J. (2009, October). *Lessons learned on managing large scale cross-cultural research projects*. Invited keynote address at the Multicultural Psychology Consortium, Michigan State University, East Lansing, MI.

Gelfand, M. J. (2009, November). *The world is not flat: How culture shapes mind, behavior, and society*. Invited keynote presentation at the Distinguished University Scholar Teacher Lecture Series, University of Maryland, College Park, MD.

Gelfand, M. J., Fulmer, C. A., Kruglanski, A. W., Abdel-Latif, A. H., Khashan, H., Shabka, H., & Moaddel, M. (2010, July). *Cultures of fate: Implications for risk-taking*. In C. S. Burke & M. Salazar (Chairs), Impact of culture on collaboration and negotiation. Symposium conducted at the 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.

Gelfand, M., Lun, J., Bruss, C. B., Al-Dabbagh, M., Aycan, Z., Dagher, M., Abdel-Latif, A. H., Shabka, H., Khashan, H., Soomro, N., Severance, L., Fulmer, A., Salmon, E., Lyons, S., Minacapelli, L., Sharvit, K., & Kruglanski, A. (2010, May). *The cultural psychology of honor: Evidence from 8 nations*. In M. Moaddel & M. J. Gelfand (Co-organizers), Workshop on theoretical and methodological issues in the study of values in Islamic countries, Cairo, Egypt.

Gelfand, M. J., Lun, J., & Feinberg, E. (2009, November). *Culture and extremism*. In M. Hogg, A. Kruglanski, & K. van den Bos (Organizers), Conference on Uncertainty and Extremism, Claremont Graduate University, Los Angeles, CA.

Hanges, P. J. (2009, October). *Managing a multi-national team: Lessons from project GLOBE*. Invited keynote address at the Multicultural Psychology Consortium, Michigan State University, East Lansing, MI.

Kraus, S. (2010, August). *Automated negotiation*. Invited tutorial at the 19<sup>th</sup> European Conference on Artificial Intelligent August, Lisbon, Portugal.

Kraus, S. (2010, July). *Automated negotiation*. Invited tutorial at the South Eastern European Multi-Agent Systems Summer School, Bucharest, Romania.

Kraus, S. (2010, May). *Human-computer negotiation: Learning from different cultures*. Presentation at the 8<sup>th</sup> International Workshop on Programming Multi-Agent Systems, Toronto, Canada.

Kraus, S. (2010, May). *General opponent modeling for improving agent-human interaction*. Presentation at the 12th International Workshop on Agent-Mediated Electronic Commerce, Toronto, Canada.

Lafree, G., Gelfand, M. J., Feinberg, E., & Fahey, S. (2010, June). *Culture and terrorism*. Paper presented at the European Association of Psychology and Law, Gothenberg, Sweden.

Liu, L., Friedman, R., Barry, B., Gelfand, M. J., & Zhang, Z. (2010, July). *How to build consensus in negotiation? A dynamic theory of mental models within and across cultures*. In C. S. Burke & M. Salazar (Chairs), Impact of culture on collaboration and negotiation. Symposium conducted at the 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.

Lyons, S., Lun, J., & Gelfand, M. J. (2010, June). *The interplay of cultural and shared identities in intercultural negotiations*. Paper presented at the annual conference of International Association of Conflict Management, Boston, MA.

Salazar, M. R., Grossman, R., & Riches, O. (2010, July). *Creativity across cultures: The role of power distance and team norms on creative task performance*. Paper presented at the 5<sup>th</sup> Annual Meeting of the Interdisciplinary Network for Group Research, Washington, DC.

Shuffler, M. L., Burke, C. S., Salas, E., & Gelfand, M. J. (2010, July). *Multicultural teams: Critical team processes and guidelines*. In C. S. Burke & M. Salazar (Co-Chairs), The impact of culture on collaboration and negotiation. Symposium presented at the 3rd International Applied Human Factors and Ergonomics Conference, Miami, FL.

Shuffler, M. L., Burke, C. S., Salas, E., & Gelfand, M. J. (2010, July). *Creating synergy in multicultural teams: Critical team processes*. Poster presented at the 5<sup>th</sup> Annual Meeting of the Interdisciplinary Network for Group Research, Washington DC.

Shytenberg, G., Gelfand, M. J., Imai, L., Mayer, D., & Bell, C. (2010, June). *Individual differences in the social contagion of justice: Who is most influenced by the (un)just treatment of another?* Paper presented at annual conference of the International Association of Conflict Management, Boston, MA.

Ting, H., Gelfand, M. J., & Leslie, L. M. (2010, July). *Culture and escalation of commitment*. In C. S. Burke & M. Salazar (Chairs), Impact of culture on collaboration and negotiation. Symposium conducted at the 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.

Wildman, J. L., Lazzara, E. H., Salazar, M., & Salas, E. (2010, July). *Trust repair in intercultural teams: A review and propositions*. Paper presented at the 5<sup>th</sup> Annual Meeting of the Interdisciplinary Network for Group Research, Washington, DC.

Wildman, J. L., & Salas, E. (2010, July). *The effect of ethnic diversity on perceived similarity, trust, and collaboration*. Paper presented at the 5<sup>th</sup> Annual Meeting of the Interdisciplinary Network for Group Research, Washington, DC.



Wilkenfeld, J. (2009, October). *When things break down: Myth and reality in international politics*. Invited keynote presentation at the Distinguished University Scholar Teacher Lecture Series, University of Maryland, College Park, MD.

Al-Issis, M., & Bohnet, I. (2008, October). *Does insurance increase trust? Institutional design in Jordan*. Paper presented at the Workshop on Economic Experiments in Developing Countries at CIRANO, McGill, Montreal, Canada.

Barnhard, A. M., Wildman, J. L., Bedwell, W. L., Diaz-Granados, D., Lazzara, E. H., Porter, M. S., Xavier, L., et al. (2009, March). *What is collaboration? A multidisciplinary review*. Poster presented at the annual Human Factors and Applied Psychology Florida Student Conference, Daytona Beach, FL.

Bedwell, W. L., & DiazGranados, D. (Co-Chairs). (2009, July). *Interdisciplinary perspectives on collaboration: A panel discussion*. Panel discussion held at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.

Bohnet, I. (2009, March). *Incentives and trust—Insights from behavior economics*. Presentation at the Center for Public Leadership conference on Building Trust at the Harvard Kennedy School, Cambridge, MA.

Bohnet, I. (2009, March). *Incentives and trust—Insights from behavior economics*. Presentation at the 2008-2009 exploratory seminar series on Cooperation and Human Systems Design at the Radcliff Institute for Advanced Study, Cambridge, MA.

Bohnet, I. (2009, February). *Trust and insurance*. Paper presented at the Program on Negotiation, Harvard Law School, Cambridge, MA.

Bohnet, I. (2008, December 22). *Trust—Insights from behavioral economics*. Key note address at the conference of Swiss Economists at the University of Zurich.

Bedwell, W. L., Wildman, J. L., DiazGranados, D., Lazzara, E. H., Shuffler, M. L., Xavier, L., et al. (2009, July). *What is collaboration? A multidisciplinary review*. Poster presented at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.

Burke, C. S., Salas, E., & Gelfand, M. (2009, April). *Effective teamwork in multicultural organizations: An obtainable goal?* In K. Lundby & J. Jolton (Chairs), *Going global: A new volume from SIOPs professional practice series*. Paper presented at the 24<sup>th</sup> Annual Conference for the Society of Industrial and Organizational Psychology, New Orleans, LA.

Cohen, D. (2008, July). *Honor, dignity, and face cultures*. Presentation given at the JFK School of Government, Harvard University.

Coleman, P. (2009, June). *Navigating power and conflict: Lessons from the laboratory*. Invited presentation at Kyushu Law School, Kyushu University, Fukuoka, Japan.

Coleman, P.T., Bartoli, A., Chung, C., Nets, R., Gelfand, M. (2009, June). *Surveying Attractor Landscapes for Conflict: Investigating the Relationship between Conflict, Culture and Complexity*. Paper presented at the 22<sup>nd</sup> Annual Conference of the International Association for Conflict Management in Kyoto, Japan.

Coleman, P. T., Mitchinson, A., & Kugler, K. (2009, June). *Adaptation, integration, and learning: The three legs of the steady stool of conflict resolution*. Paper presented at the 22<sup>nd</sup> Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

DiazGranados, D., Bedwell, W. L., Wildman, J. L., Xavier, L. F., Lazzara, E. H., Shuffler, M. L., & Salas, E. (2009, July). *Multicultural collaboration: What makes it work?* Poster presented at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.

Gelfand, M. J. (2008, Spring). *Project INTERACTION: Dynamical models of culture and collaboration and negotiation*. Presentation given at the Vice President for Research Office, University of Maryland. Guest: John Miller.

Gelfand, M. J. (2009, Spring). *Project INTERACTION: Dynamical models of culture and collaboration and negotiation*. Presentation given at the Vice President for Research Office, University of Maryland. Guest: Robin Staffin.

Gelfand, M. J. (2009, June). *Discussant: The frontiers of culture and negotiation research*. In J. M. Brett (Chair), The third generation of culture and negotiation research. Symposium presented at the 22<sup>nd</sup> Annual Conference of the International Association of Conflict Management, Kyoto, Japan.

Kugler, K., & Coleman, P. T. (2009, June). *Moral conflict and complexity: The dynamics of constructive versus destructive discussions over polarizing issues*. Paper presented at the 22<sup>nd</sup> Annual Conference of the International Association of Conflict Management, Kyoto, Japan.

Lazzara, E. H., Bedwell, W. L., Wildman, J. L., DiazGranados, D., Shuffler, M. L., Xavier, L., et al. (2009, July). *Collective orientation and team performance*. Poster presented at the 4th Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO.

Mitchinson, A., & Coleman, P. T. (2009, June). *Attribution and conflict: A vicious cycle driven by complexity*. Paper presented at the 22<sup>nd</sup> Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

Mitchinson, A., Coleman, P. T., Bui-Wrzosinska, L., & Nowak, A. (2009, June). *The nature of adaptivity: A theoretical discussion*. Paper presented at the 22<sup>nd</sup> Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

Musallam, N., & Coleman, P. T. (2009, June). *Understanding the spread of malignant conflict: A dynamical systems perspective*. Paper presented at the 22<sup>nd</sup> Annual Conference of the International Association of Conflict Management in Kyoto, Japan.

Rosen, M. A., Wildman, J. L., Bedwell, W. L., Fritzsche, B. A., Burke, C. S., & Salas, E. (2008, September). *Diagnosing friction points in multicultural performance: A rationale and measurement approach*. Paper presented at the 52<sup>nd</sup> Annual Human Factors and Ergonomics Society Conference, New York, NY.

### **PROJECT INTERACTION MURI Virtual Brownbag Series**

The MURI Virtual Brownbag Series invites researchers who are involved in MURI and leading scholars in related fields to give virtual presentations of recent theories and findings to facilitate collaborations and research progress.

Klafehn, J. (2014, April 30). *In search of the magic bullet: Assessing cross-cultural competence in the U.S. Army*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Vallacher, R. (2014, April 2). *Who should suffer? Consistency and compensation as competing attractors in justice dilemmas*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Han, S (2014, November 8). *In-group favoritism in brain activity to others' suffering: what, why and how*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Graham, J. (2013, March 27). *What can political ideology reveal about human morality?* Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Erez, M. (2013, April 22). *Global and local Identities: Implications for leadership, reward allocation, emotion display norms and creativity*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Traum, D. (2013, May 23). *Cultural Models for Virtual Human Dialogue*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Rand, D (2011, October 5). *Punishment, reward, and the evolution of cooperation*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Geller, A. (2012, November 1). *Using Computational Social Science for Analytics and Decision Support in Afghanistan*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Stephens, N. (2012, November 7). *Social class, choice, and agency*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Khashan, H. (2011, December 19) *The decline of Arab authoritarianism and the challenge of popular sovereignty*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Schug, J. (2012, March 2). *Culture, friendship, and relational mobility*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Golbeck, J. (2012, April 9). *Computing trust in social networks*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Sullivan, D. (2012, May 10). *Collectivism and the meaning of suffering*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Bar-Tal, D. (2010, November 18). *Culture of conflict: Development and consequences*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Cioffi-Revilla, C. (2010, December 9). *Agent-based models of conflict with radicalization*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Ginges, J. (2011, May 19). *Moral barriers to cooperative outcomes in inter-cultural interactions*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Hong, Y.-Y. (2011, March 9). *Cultural neuroscience: Examples and reflections*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Paluck, E. (2010, October 14). *Deference, dissent, and dispute resolution: An experimental intervention using mass media to change norms and behavior in Rwanda*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Salazar, M., Salas, E., Burke, S. & Feitosa, J. (2011, April 20). *The effect of cultural diversity on team processes and performance*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Benoit, T. S. (2010, February 16). *High risk ethnography*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Lewis, M. (2010, January 12). *Modeling observer attributions*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Gratch, J. (2009, October 22). *Emotions in human-agent interactions*. Presentation at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Artstein, R. (2009, April 23). *Affecting the perception of personality and culture in virtual humans*. Paper presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Kraus, S., & Gal, K. (2009, March 31). *Automated agents for human-computer decision-making*. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Moaddel, M. (2009, February 12). *Religious regimes, liberal values, political violence, and the donkey in the mud: Findings from values surveys*. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Nowak, A., & Bui-Wrzosinska, L. (2008, November 26). *Identifying trajectories in conflict escalation: Presenting a research paradigm for the study of conflict reaction patterns over time*. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

Bohnet, I., & Al-Issis, M. (2008, October 23). *Vulnerability and trust: Experimental evidence from Jordan*. Presented at the MURI Virtual Brownbag Series, University of Maryland, College Park.

## **WORKSHOPS AND CONFERENCES HOSTED**

Goldman, B., Gelfand, M. J., & Shapiro, D. (2013, February). *Toward a multi-level perspective in negotiation and conflict research in organizations*, Conference hosted by University of Arizona.

Bowles, H., Gelfand, M. J., & Al-Dabbagh (2012, June). *Culture, identity, and change in the Middle East: Implications for Conflict and Negotiation*, Conference hosted at the John F. Kennedy School of Government, Harvard University (with a keynote address from the Nobel Peace Laureate Tawakel Karman).

Gelfand, M. J., & Lun, J. (2011, June). *Qualitative and quantitative methods in cross-cultural research*. Workshop presented at the International Association for Cross-Cultural Psychology.

Bohnet, I. (2010, April). *Negotiating for leadership: An executive program for women in senior positions*. Workshop presented at the Dubai School of Government, UAE.

Hanges, P. J. (2010, January). *Neural Network and Adaptive Systems*. Workshop presented to the Police Psychological Services Division, Singapore.

Moaddel, M. & Gelfand, M. J. (2010, May). *Theoretical and Methodological Issues in the Study of Values in Islamic Countries*. Workshop conducted in Cairo, Egypt.

Bohnet, I. (2009, January). *Negotiation and leadership for Middle Eastern women leaders*. Executive program at the Dubai School of Government, Dubai, UAE.

Hanges, P. (2009, May). *Nonlinear dynamic models: Neural network and agent based analysis*. Workshop delivered to the Center for Advancement in Research Methods and Analysis, Virginia Commonwealth University, Richmond, VA.

Sycara, K. P., Gelfand, M. J., & Abbe, A. (2009, July). *Modeling intercultural collaborations and negotiation (MICON)*. Workshop conducted in conjunction with the 21<sup>st</sup> International Joint Conference on Artificial Intelligence, Pasadena, CA.

**Panel Activities:**

Gelfand, M. J. (April, 2013). Panelist, *Digital frontier: The future of culture and virtuality research*, W. Kramer & N. Savage (Chairs), Society for Industrial and Organizational Psychology, Houston Texas.

Fehr, R. (2012, August). *Restorative justice: Integrating multidisciplinary perspectives on research and practice*. Professional development workshop panelist. Academy of Management Conference, Boston.

Gelfand, M. J. (2012, June). *Values and value change*. Panel chaired at the conference on Conference on Culture, identity, and change in the Middle East: Implications for conflict and negotiation, organized by H. Bowles, Michele Gelfand, & May Al-Dabbagh, Harvard University.

Kraus, S. (2012, March). *Fundamental challenges of applying game theory for security, sustainability and health*. Panelist at the AAAI Spring Symposium on Game Theory for Security, Sustainability and Health.

Salmon, E. D. (2012, April). Panelist. *Errors in organizations*. Panel at the Annual Meeting of the Society for Industrial and Organizational Psychology, San Diego, CA.

Burke, C. S. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), *Interdisciplinary research: Challenges and solutions*. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Fulmer, C. A. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), *Interdisciplinary research: Challenges and solutions*. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Gal, K., & Gelfand, M. J. (2010, June). Panelists. In M. J. Gelfand & L. Weingart (Co-Chairs), *Combining and social science approaches to negotiation: Opportunities and challenges*. Panel conducted at the annual conference of the International Association for Conflict Management, Boston, MA.

Gelfand, M. J. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), *Interdisciplinary research: Challenges and solutions*. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Nowak, A., & Gelfand, M. J. (2010). Panelists. In M. J. Gelfand & L. Weingart (Co-Chairs), *Combining and social science approaches to negotiation: Opportunities and challenges*. Panel conducted at the annual conference of the International Association for Conflict Management, Boston, MA.

Salmon, E. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), *Interdisciplinary research: Challenges and solutions*. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Severance, L. S. (2010, April). Panelist. In M. J. Gelfand & E. Salmon (Co-Chairs), *Interdisciplinary research: Challenges and solutions*. Panel conducted at the annual meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.

Gelfand, M. J. (2009, July). Panelist in "*Looking ahead: Synergizing computational and social science approaches*" in IJCAI workshop on Modeling Intercultural Collaboration and Negotiation (MICON).

Kraus, S. (2009, July). Panelist in "*Looking ahead: Synergizing computational and social science approaches*" in IJCAI workshop on Modeling Intercultural Collaboration and Negotiation (MICON).

Kruglanski, A. (2009, July). Panelist in "*Looking ahead: Synergizing computational and social science approaches*" in IJCAI workshop on Modeling Intercultural Collaboration and Negotiation (MICON).

#### **PEER-REVIEWED CONFERENCE PROCEEDING PUBLICATIONS (OTHER THAN ABSTRACTS)**

Gal, Y., Rosenfeld, A., Kraus, S., Gelfand, M., An, B., & Lin, J. (2014). A new paradigm for the study of corruption across cultures. International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction (SBP), Maryland, MD.

Barrett, S., Agmon, N., Hazon, N., Stone, P., Kraus, S. (2014). Communicating with unknown teammates, *ECAI 2014*.

Haim, G., Gal, Y., Kraus, S., and An, B. (2014). Equilibrium Strategies for Human-Computer Negotiation, *ECAI 2014*.

Sless, L., Hazon, N., Kraus, S., Wooldridge, M. (2014). Forming coalitions and facilitating relationships for completing tasks in social networks, *AAMAS 2014*.

Rosenfeld, A., Zuckerman, I., Segal-Halevi, E., Drein, O., Kraus, S. (2014). NegoChat: A Chat-Based Negotiation Agent, *AAMAS 2014*.

Azaria, A., Aumann, Y., & Kraus, S. (2012). Automated strategies for determining rewards for human work, *AAAI 2012*.

Azaria, A., Rabinovich, Z., Kraus, S., Goldman, C.V., & Gal, Y. (2012). Strategic advice provision in repeated human-agent interactions, *AAAI 2012*.

Barrett, S., Stone, P., Kraus, S. and Rosenfeld, A. (2013). Teamwork with Limited Knowledge of Teammates, *AAAI 2013*.

Bitan, M., Gal, Y., Kraus, S., Dokow, E. & Azaria, A. (2013). Social Rankings in Human-Computer Committees, *AAAI 2013*.

Bitan, M., Gal, Y., Dokow, E., & Kraus, S. (2012, June). Social rankings in human-computer committees. Workshop on Human-Agent Interaction Design and Models, Valencia, Spain, online proceedings.

Fenster, M., Zuckerman, I., & Kraus, S. (2012). Guiding user choice during discussion by silence, examples and justifications, *ECAI 2012*.

Haim, G., Gal, Y., & Kraus, S. (2012). A cultural sensitive agent for human-computer negotiation, *AAMAS 2012*.

Hazon, N., Lin, R. and Kraus, S. (2013). How to Change a Group's Collective Decision? Proc. Of *IJCAI*.

Peled, N., Gal, Y., & Kraus, S. (2012, June). *Learning to reveal information in repeated human-computer negotiation*. Workshop on Human-Agent Interaction Design and Models, Valencia, Spain, online proceedings.

Peled, N. Gal, Y. & Kraus, S. (2013). An Agent Design for Repeated Negotiation and Information Revelation with People. National Conference on Artificial Intelligence (AAAI), Bellevue, WA.

Lin, R., Kraus, S., Agmon, N., Barrett, S. & Stone, P. (2011). Comparing agents' success against people in security domains. *Proceedings of AAAI*.

Peled, N., Gal, Y., & Kraus, S. (2011). A study of computational and human strategies in revelation games. Ninth international conference on *Autonomous Agents and Multi-Agent Systems (AAMAS)*, Taipei, Taiwan.

Rosenfeld, A., & Kraus, S (2011). Using Aspiration Adaptation Theory to improve learning. Proceedings of 9th international conference on *Autonomous Agents and Multi-Agent Systems (AAMAS)*, Taipei, Taiwan.

Haim, G., Gal, Y., Kraus, S., & Blumberg, Y. (2010). Learning human negotiation behavior across cultures. *Proceedings of the 11<sup>th</sup> Annual Conference of Group Decision and Negotiation*, Delft, Netherlands.

Lin, R., Kraus, S., Oshrat, Y., & Gal, K. (2010). Facilitating the evaluation of automated negotiators using peer designed agents. *Proceedings of the 24<sup>th</sup> Advancement of Artificial Intelligence Conference*, Atlanta, GA.



- Lin, R., Oshrat, Y., & Kraus, S. (2010). Automated agents that proficiently negotiate with people: Can we keep people out of the evaluation loop? *Proceedings of the 3rd International Workshop on Agent-Based Complex Automated Negotiations*, Toronto, Canada.
- Shakarian, P., & Roos, P. (2011). Fast and deterministic computation of fixation probabilities in evolutionary graphs, *Sixth IASTED International Conference on Computational Intelligence and Bioinformatics*.
- Shrot, T., Aumann, Y., & Kraus, S. (2010). On Agent Types in Coalition Formation Problems. *Proceedings of the 9<sup>th</sup> International Conference on Autonomous Agents and Multi-agent Systems*, Toronto, Canada.
- Stone, P., Kaminka, G., Kraus, S. & Rosenschein, J. (2010). Ad Hoc Autonomous Agent Teams: Collaboration without Pre-Coordination. *Proceedings of the 24<sup>th</sup> Advancement of Artificial Intelligence Conference*, Atlanta, GA.
- Stone, P., & Kraus, S. (2010). Teach or not to teach? Decision making under uncertainty in ad hoc team. *Proceedings of the 9<sup>th</sup> International Conference on Autonomous Agents and Multi-agent Systems*, Toronto, Canada.
- Bedwell, W. L., Wildman, J. L., DiazGranados, D., Shuffler, M. L., Salas, E., & Burke, C. S. (2009). Towards a theoretical framework of intercultural collaboration. *Proceedings of the Modeling Intercultural Collaboration and Negotiation Workshop*, 1-9, *IJCAI*.
- Bui-Wrzosinska, L., Gelfand, M., Nowak, A., Severance, L., Strawinska, U., Formanowicz, M., & Cichocka, A. (2009). A dynamical tool to study the cultural context of conflict escalation. *Proceedings of the Modeling Intercultural Collaboration and Negotiation Workshop*, 40-49, *IJCAI*.
- Fulmer, C. A., & Gelfand, M. J. (2009). Are all trust violations the same? A dynamical examination of culture, trust dissolutions, and trust recovery. *Proceedings of the Modeling Intercultural Collaboration and Negotiation Workshop*, 56-65. *IJCAI*.
- Lin, R., Kraus, S., Tykhonov, D., Hindriks, K., & Jonker, C. (2009). Supporting the design of general automated negotiators. In T. Ito, M. Zhang, V. Robu, & S. Fatima (Eds.), *Proceeding of ACAN2009: The 2nd International Workshop on Agent-based Complex Automated Negotiations*, 32-39.
- Lin, R., Oshrat, Y., & Kraus, S. (2009). Investigating the benefits of automated negotiations in enhancing negotiation skills of people. *Proceedings of the 8<sup>th</sup> international conference on Autonomous Agents and Multiagent Systems*, 345-352.
- Lin, R., & Kraus, S. (2009). Designing automated agents capable of efficiently negotiating with people--Overcoming the challenge. *Proceedings of the 7th European Workshop on Multi-Agent Systems*, Ayia Napa, Cyprus.

Oshrat, Y., Lin, R., & Kraus, S. (2009). Facing the challenge of human-agent negotiations via effective general opponent modeling. *Proceedings of the 8<sup>th</sup> international conference on Autonomous Agents and Multiagent Systems*, 337-384.

**(d) MANUSCRIPTS SUBMITTED**

Aguado, D., Rico, R., Sánchez-Manzanares, M. & Salas, E. Development of the KSA's for Teamwork 2.0. Under Revision, *Group Dynamics*.

Al-Issis, M., & Bohnet, I. Does insurance increase trust? Experimental evidence on institutional design in Jordan and the United States. Under review, *Journal of Public Economics*.

Carr, R., Raboin, E., Parker, A., & Nau, D. Theoretical and experimental analysis of an evolutionary social-learning game. Under review, *Autonomous Agents and Multi-Agent Systems*.

Fulmer, C. A. & Gelfand, M. J. Trust after violations: Are collectivists more or less forgiving? Manuscript under revision, *Journal of Trust Research*.

Gelfand, M. J., & Harrington, J. R., The motivational force of descriptive norms: Cultural, situational and individual predictors. *Under revision, Journal of Cross-Cultural Psychology*.

Lun, J., Gelfand, M. J., Bruss, C. B., Aycan, Z., Dagher, M., Latif, H., Khashan, H., Soomro, N., Severance, L., Fulmer, A., Salmon, E., & Lyons, S. Qualitative analysis of subjective culture in the Middle East: Strategies, processes, and challenges. Under review for M. Moaddel and M. J. Gelfand (Eds.) Theoretical and methodological issues in studying values in the Middle East.

Roos, P., Gelfand, M. J., Nau, D., Zuckerman, I., & Lun, J. Societal threat and the evolution of punishment of norm violators across cultural groups. Invited 2<sup>nd</sup> revision for *Organizational Behavior and Human Decision Processes*.

Shteynberg, G., Gelfand, M. J., Imai, L., Bell, C. B., & Mayer, D. When others' injustices matters: The role of collectivism and epistemic needs. Invited revision, *European Journal of Social Psychology*.

Wiese, C. W., Shuffler, M. L., Burke, C. S., & Salas, E. Leadership in Multicultural teams: A review and multilevel framework. Under review, *Group and Organization Management*

Wiese, C. W., Kramer, W. S., & Shuffler, M. L. Multicultural Teamwork: Creating Challenges or Opportunities? Under review, *Small Group Research*.

Wildman, J. L., Fiore, S. M., & Salas, E. Are trust and distrust same-same but different? Scale validation and theoretical exploration. Under review, *Academy of Management Journal*

## MANUSCRIPTS IN PROGRESS

Bohnet, I., Herrmann, B., Paryavi, M., & Zeckhauser, R. Choosing the game you want to play. The demand for gift exchange in Oman, the United States and Vietnam. Manuscript in preparation.

Bruss, C. B., Gelfand, M. J., Lun, J., et al. The linguistic signature of honor: A new tool for diagnosing honor frames in text. Manuscript in preparation.

Bui-Wrzosinska, L., Nowak, A., Coleman, P. T., Tan, R. Y., & Vallacher, R. Are they with us or against us? The effects of need for closure on conflict orientations and catastrophic escalatory dynamics. Manuscript in preparation.

Carr, R., Gelfand, M., Roos, P., & Nau, D. The role of resource availability in the evolution of out-group hostility. Manuscript in preparation.

Chung, C., Coleman, P. T., & Gelfand, M. Conflict, culture, and complexity: The effects of simple versus complex rules in negotiation. Manuscript in preparation.

Coleman, P. T., Kugler, K. G., & Vallacher, R. Regulatory focus dynamics and conflict: Investigating the relationship and ratios of prevention and promotion orientations to social conflict. Manuscript in preparation.

Coultas, C., Salazar, M., Burke, S., & Salas, E. Untitled in-progress manuscript on the group-level effects of leader incivility on process and performance. Manuscript in preparation.

Coultas, C., Salazar, M., Burke, S., & Salas, E. Untitled in-progress manuscript on the individual level effects of cultural values and explicit policies on perceptions of and reactions to leader incivility. Manuscript in preparation.

Fehr, R., & Gelfand, M. J. Forgiveness facilitates creative task performance. Manuscript in preparation.

Feitosa, J., Moynihan, L. E., Lacerenza, C. N., Cruz, D., & Salas, E. Ethnic identity measurement: Examining its validity and reliability. Manuscript in preparation.

Gelfand, M. J., Fulmer, C. A., et al. The risk of fate: The impact of fatalism on risk-taking. Manuscript in preparation.

Gelfand, M. J., Lee, T., Severance, L., Bruss, C. B. Et al., Getting to Yes: The linguistic signature of the deal in the U.S. and Egypt. Manuscript in preparation.

Gelfand, M. J., Lun, J., & Mohr. The influence of ecological priming on psychological processes. Manuscript in preparation.

Gelfand, M. J., Stillwell, A., Salmon, E., Fulmer, A., & Saucier, G. National correlates of impatience. Manuscript in preparation.

Grossman, R., Feitosa, J., & Salas, E. Training for cultural competence: A meta-analysis. Manuscript in preparation.

Grossman, R., Salazar, M., & Salas, E. Understanding collaboration across cultures: What matters? Manuscript in preparation.

Kim, R., Coleman, P. T., Chung, C., & Kugler, K. Are cooperation and adaption in conflict worth the effort? A comparison of U.S. and Korean conflict tendencies at work. Manuscript in preparation.

Kim, R. & Coleman, P. T. Dialectics of culture and conflict: The combined effect of individualism-collectivism on conflict styles. Manuscript in preparation.

Lun, J., Gelfand, M.J., & Mohr, R. Culture in everyday situations: Situational strength and causal attribution. Manuscript in preparation.

Lun, J., Gelfand, M. J., Bruss, C. B., et al. The cultural psychology of honor: Evidence from 8 nations. Manuscript in preparation.

Lyons, S., Lun, J., & Gelfand, M. J. Think global and local: The benefit of dual identities for intercultural cooperation. Manuscript in preparation.

Lyons, S. & Gelfand, M.J. The role of cultural models of self-worth in responses to ingroup wrongdoing. Manuscript in preparation.

Quinn, D., Kishi, R., Wilkenfeld, J., Gelfand, M., Eralp, P., Owens, D., & Salmon, E. Adapting mediation to the intrastate crisis context. Manuscript in preparation.

Salazar, M., Grossman, R., & Salas, E. Creativity across cultures: The role of power distance and team norms on creative task performance. Manuscript in preparation.

Salazar, M., Feitosa, J., & Salas, E. Creativity in multicultural teams: The role of dual identification. Manuscript in preparation.

Salazar, M., Grossman, R., & Salas, E. Defining collaboration: A cross-cultural investigation of collaboration metaphors across the United States and the Middle East. Manuscript in preparation.

Salmon, E., Gelfand, M. J., Gal, K., Kraus, S., Ting, H., & Fulmer, A. When time is *not* money: why Americans lose out at the negotiation table. Manuscript in preparation.

Thayer, A. L., Rico, R., & Salas, E. Did you mean to do that? The role of individualism-collectivism in the violation and repair of competence- and intent-based trust. Manuscript in preparation.

Ting, H., Gelfand, M. J., Leslie, L. M., Gunia, B., & Galinsky, A. Culture and escalation of commitment. New data collection; Manuscript in preparation.

Wildman, J. L., & Salas, E. Antecedents and outcomes of trust (and distrust) in ad-hoc decision-making teams. Manuscript in preparation.

Wiese, C. W., Shuffler, M.L., Burke, C.S., & Salas, E. Leading multicultural collaborations: A multilevel perspective. Manuscript in preparation.

## **BOOKS**

Edited Books and Volumes:

Sycara, K., Gelfand, M. J., & Abbe, A. (Eds.) (2013). *Models for intercultural collaboration and negotiation*. New York: Springer.

Edited Special Issues:

Salas, E., & Gelfand, M. J. (2013). Collaboration in multicultural environments. *Journal of Organizational Behavior, Volume 36*.

## **HONORS AND AWARDS**

Kraus, S. (2014). IFAAMAS Influential Paper Award, 2014, for Onn Shehory and Sarit Kraus. Methods for task allocation via agent coalition formation. *Artificial Intelligence*, 101(1-2): 165-200, 1998

Feitosa, J., Cruz, D., Lacerenza, C. N., Moynihan, L. E., & Salas, E. (August, 2014). *Ethnic identity: Measurement equivalence studies across ethnicities and time*. Presented at the Academy of Management, Philadelphia PA. \* FINALIST of the 2014 Carolyn Dexter Best International Paper Award \*

Gelfand, 2014 William A. Owens Scholarly Achievement Award, Society for Industrial Organizational Psychology, best paper published in 2013 (for Gelfand, Leslie, Keller, & De Dreu, Conflict Cultures in the *Journal of Applied Psychology*)

Gelfand, Keynote Address, 2014, Emerging Markets Forum, Negotiating History, Culture, and Institutions in Foreign Markets.

Wheeler, J. Awarded National Science Foundation Graduate Fellowship. \$90,000 total, 2014.

Salmon, E. (2014) Graduate Student Fellowship, Society for Industrial and Organizational Psychology, \$3,000.

Gelfand, M. J., and co-authors. Winner, Gordon Allport Intergroups Relations Prize (\$500.00) for best published paper in 2011. Society for the Psychological study of Social Issues, 2012.

Gelfand, M. J., Elected fellow, Academy of Management, 2013

Gelfand, M. J., Keynote address. International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, January 2013.

Gelfand, M. J. Named one of 20 top psychology professors in Maryland.  
<http://onlineschoolsmaryland.com/top-college-professors-in-maryland/psychology/>, 2013.

Harrington, J. Awarded National Science Foundation Graduate Fellowship. \$90,000 total, 2013.

Kishi, R. Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM), 2013.

Kishi, R. Jennings Randolph Peace Scholarship, United States Institute of Peace, 2013.

Kishi, R. Graduate Student Summer Research Fellowship, University of Maryland, College Park, 2012.

Lun, J. American Association for the Advancement of Science (AAAS) Science and Policy Fellowship 2013-2014.

Salas, E. Recipient, Losey Award from the Society for Human Resource Management, 2012.

Salmon, E., Recipient, Phi Delta Gamma Graduate Fellowship for Interdisciplinary Research, University of Maryland, 2013.

Wilkenfeld, J. BSOS Dean's Medal, University of Maryland, College Park, 2012.

Wilkenfeld, J. Gerner Award for Innovation in Teaching in International Studies, International Studies Association, 2012.

Wilkenfeld, J. Folke Bernadotte Academy (Sweden), Program in Conflict Prevention, "Mediating Intrastate Crises", 2007-2012.

Crosby, B. (2012). Diversity fellowship, University of Maryland, College Park.

Crosby, B. Invitee, The Odum institute intermediate statistical workshop, University of North Carolina, Chapel Hill.

Gelfand, M. J. (2012). Featured in career profiles in *Science* (M. Price, May 18, 2012) ([http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2012\\_05\\_18/car.edit.a1200055](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2012_05_18/car.edit.a1200055)).

Gelfand, M. J. (2011). Won the new Anneliese Maier Research Award from the Alexander von Humboldt Foundation in Germany (Prize is \$335,000) (<http://www.newsdesk.umd.edu/uniini/release.cfm?ArticleID=2577>).

Lyons, S. (2012). START Research Award, \$5,000.

Lyons, S. (2011). National Science Foundation Summer Travel Award, Japan, Hokkaido University and University of Tokyo.

Lyons, S. (2011). Psi Chi Psychology Honor Society Graduate Research Grant (\$1500).

Salas, E. (2012). Received the Distinguished Professional Contributions Award (awarded by the Society of Industrial and Organizational Psychology).

Salas, E. (2012). Received Scholarship of Teaching and Learning Award (University of Central Florida).

Salas, E. (2012). Joseph E. McGrath Award for Lifetime Achievement in the Study of Groups (awarded by the Interdisciplinary Network of Group Research).

Salas, E. (2011). Elected President of the Human Factors and Ergonomics Society.

Salas, E. (2011). Awarded the Friends of INGroup Award (award by the Interdisciplinary Network of Group Research for professional contribution to the network), 2011.

Salas, E. Inducted in UCF's Millionaire's Club (Research Funding Recognition).

Bohnet, I. (2011). Elected Dean of the John F. Kennedy School of Government.

Chung, C. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Fehr, R. (2011). Academy of Management Best New Directions Paper Award, Conflict Management Division. The forgiving organization: Building and benefiting from a culture of forgiveness.

Fehr, R. (2011). The International Association for Conflict Management Outstanding Dissertation Award (for a dissertation published in 2009 or 2010). On the (Un)intended consequences of forgiveness: Creativity after conflict.

Fulmer, C. A. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Fulmer C. A. (2011). Graduate Student Summer Research Fellowship, University of Maryland.

Fulmer, C. A. (2011). Lim Kim San Fellow, Singapore Management University.

Fulmer, C. A. (2011). Outstanding Reviewer Award, OB Division, Academy of Management.

Gelfand, M. J. (2011). Keynote Address, International Association for Cross-Cultural Psychology, Istanbul, Turkey.

Kim, R. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Kishi, R. (2011). Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) Scholarship at Columbia University, International Association for Conflict Management (IACM).

Kraus, S. EMET Prize (2010). The EMET Prize is an annual Israeli prize given for excellence in academic and professional achievements that have far reaching influence and significant contribution to society.

Lyons, S. L. (2010). Awarded National Science Foundation Graduate Fellowship.

Gelfand, M. J., Leslie, K., & De Dreu, C. (2010, August). Best Paper Award for New Directions in the Study of Conflict, Conflict Management Division, Academy of Management Conference. Cultures of conflict: How leaders and members shape conflict cultures in organizations.

Fehr, R. (2010). IACM DRRC Student Scholarship Award.

Fulmer, C. A. (2010). IACM DRRC Student Scholarship Award.

Fulmer, C. A. (2010). Graduate Student Fellowship, Singapore Management University.

Fehr, R., & Gelfand, M. J. (2009). Best Paper Award for New Directions in the Study of Conflict, Conflict Management Division, Academy of Management Conference. But I said I was sorry! On the importance of matching apologies to victim self-construals.

Gelfand, M. J. (2009). Elected President of the International Association of Conflict Management.

Gelfand, M. J. (2009). Distinguished University Scholar Teacher, University of Maryland, College Park.

Gelfand, M. J. (2010). Nominated Fellow of the Association for Psychological Science.

Salas, E. (2010). Elected President of Society for Industrial and Organizational Psychology.



Wilkenfeld, J. (2009). Distinguished University Scholar Teacher, University of Maryland, College Park.

Lin, R., Oshrat, Y., and Kraus, S. (2009). *Investigating the benefits of automated negotiations in enhancing negotiation skills of people*. Proceedings of AAMAS 2009, pp 345-352 was the runner-up for Best paper Award of AAMAS09; came second out of 651 submissions from which 132 contributions were accepted as full papers.

## **SPIN OFF GRANTS AND FELLOWSHIPS**

Gelfand, M. J. (PI). The strength of social norms across cultures: Implications for conflict and cooperation. MINERVA grant, ~800,000.

Harrington, J. Awarded National Science Foundation Graduate Fellowship. \$90,000 total.

Burke, C. S. (2/2012-4/2013). Employment and Integration of Female Engagement Teams in Operational Force. Sponsor Army Research Institute. Sub to ICF Incorporated, \$61,680.

Gelfand, M. J. (6/2012-6-2017). Anneliese Maier Research Award, Alexander von Humboldt Foundation, \$335,000.

Gelfand, M. J., & Nau, D. (11/2011-11/2014). Conflict contagion: Computational and social science perspectives. U.S. Airforce, \$1,197,021.00.

Kruglanski, A. (PI) and Gelfand (co-PI) (2012-2015). MINERVA award, ~\$3M.

Coleman, P. T. & Chung, C. (2011). Dynamical Systems Approach to Conflict Communications Assessments. Sponsor: Teachers College Dean's Fellowship Program for Teaching and Diversity, \$2,500.

St. Benoit, T. (PI) (2/2011-1/2012). Human Effects Advisory Program. \$250,000.

St. Benoit, T. (PI), Salas, E., Burke, S., Schatz. (Co-PIs). (estimated 7/1/2011 to 6/30/2012). High Risk Ethnography (HRE) Concept. 95<sup>th</sup> Civil Affairs Brigade. 500,000.

Fulmer C. A. Graduate Student Summer Research Fellowship, University of Maryland. \$5,000.

Lyons, S. L. Awarded National Science Foundation Graduate Fellowship. \$90,000 total.

Gelfand, M. J. (co-PI) (2010). National Science Foundation SF ARI-R2 renovation grant in part to build virtual intercultural laboratory, \$1.5M.

Gelfand, M. J., & Kruglanski, A. (8/2009-8/2012). Center for Language and Cultural Analysis, PI: Amy Weinberg. Army Research Laboratory, 500K.

Fulmer, A., & Gelfand, M. (2009). Are All Trust Violations the Same? A Dynamical Approach to Trust Dissolution, Trust Recovery, and Cross-Cultural Differences Sigma Xi Grants-in-Aid, 2009 (\$800).

Nicholson, D., Salas, E., & Burke, C. S. (2009). Human, Social, and Cultural Behavior – Intelligent Resource Operational Network for Training. Sponsor: OSD, \$589K.

Salas, E., & Burke, C. S. (2009). Human Terrain Systems. Subcontract to Georgia Technical Research Institute, 522K.

### **NEW CASE STUDY:**

Salmon, E., & Gelfand, M. J. (in preparation). *Community disputing: An intercultural case.*

### **MURI WEBSITE DEVELOPMENT**

Website developed for the MURI Project Interaction: [www.muriculture.com](http://www.muriculture.com)

### **MEDIA ATTENTION**

Lee, T., Gelfand, M. J. (2014, April). The ugliest game of telephone: The way I hear it, our enemies are to blame. <http://www.psmag.com/navigation/books-and-culture/game-telephone-way-hear-enemies-blame-80301/>.

Harrington, J. & Gelfand, M., J. (2014, June). Tightness-Looseness: A new way to understand differences across the 50 states. Scientific American. <http://www.scientificamerican.com/article/tightness-and-looseness-a-new-way-to-understand-differences-across-the-50-united-states/>.

Harrington, J. & Gelfand, M., J. (2014, May). How “tightness” and “looseness” explains the U.S. political map. Washington Post. [http://www.washingtonpost.com/blogs/the-fix/wp/2014/05/23/how-tightness-vs-looseness-explains-the-u-s-political-map/?tid=HP\\_politics](http://www.washingtonpost.com/blogs/the-fix/wp/2014/05/23/how-tightness-vs-looseness-explains-the-u-s-political-map/?tid=HP_politics).

Harrington, J. & Gelfand, M., J. (2014, May). Why political scientists think Oregon is really a “loose” state. The Oregonian [http://www.oregonlive.com/maps/index.ssf/2014/05/why\\_political\\_scientists\\_think.html](http://www.oregonlive.com/maps/index.ssf/2014/05/why_political_scientists_think.html).

Harrington, J. & Gelfand, M., J. (2014, May). Beyond Red and Blue: Study of States finds “Tight” and “Loose” states. UMD Right now. <http://www.umdrightnow.umd.edu/news/beyond-red-vs-blue-study-states-finds-tight-vs-loose>

Roos, P., Gelfand, M., J., Nau, D., Carr, R. (2013, December). Game theory used to explain evolution of “third party punishment. Phys.org. <http://phys.org/news/2013-12-game-theory-evolution-party.html>

Roos, P., Gelfand, M., J., Nau, D., Carr, (2013, December). Crime and Punishment: interdisciplinary researchers explain “third party” evolution. UMD Division of Research. [http://www.otc.umd.edu/news/news\\_story.php?id=7832](http://www.otc.umd.edu/news/news_story.php?id=7832).

Roos, P., Gelfand, M., J., Nau, D., Carr, R. (2013, December). Why some communities police themselves, while others don't. The Atlantic, Citylab. <http://www.citylab.com/crime/2013/12/why-some-communities-police-themselves-while-others-dont/7865/>.

Roos, P., Gelfand, M., J., Nau, D., (2013, December). Third-party punishment – A game theory explanation of complex human behavior. Ain't a nerd, just a science addict. <http://www.aintanerd.com/third-party-punishment-a-game-theory-to-explain-complex-human-behavior/>.

Roos, P., Gelfand, M., J., Nau, D., (2013, December) In de buurtsuper verraad je een winkeldief eerder. <http://www.kennislink.nl/publicaties/in-de-buurtsuper-verraad-je-een-winkeldief-eerder>

Gelfand (2013, June). Some like it tight, some like it loose. Psychology today. <http://www.psychologytoday.com/blog/culture-conscious/201306/some-it-tight-some-it-loose>  
June 2013

Gelfand, M. J. (2013, May). Sacred values and the brain. <http://atheism.about.com/b/2013/05/31/sacred-values-and-the-human-brain.htm>

Gelfand, M. J. (2013, March). Collaborate: Multinational collaborations in culture and psychology. <http://www.apa.org/international/pi/2013/03/collaborate.aspx>

Gelfand, M. J (2013, April). After Boston bombings an outpouring of digital empathy [http://www.upi.com/Top\\_News/US/2013/04/18/After-Boston-bombings-an-outpouring-of-digital-empathy/3771366322873/](http://www.upi.com/Top_News/US/2013/04/18/After-Boston-bombings-an-outpouring-of-digital-empathy/3771366322873/)

Gelfand, M. J. (2012, December), Research matters: Language science and culture. UMD right now. [https://docs.google.com/open?id=0B8\\_meE79f0PDX2twN1hzNVFGc2c](https://docs.google.com/open?id=0B8_meE79f0PDX2twN1hzNVFGc2c)

Gelfand, M. J. (2012, November). Conflict cultures—That's how we roll at work. <http://www.ioatwork.com/conflict-cultures-thats-how-we-roll-io-psychology/>

Gelfand, M. J. (2012, October). Gelfand receives Anneliese Maier Research Award. Association for Psychological Science. <http://www.psychologicalscience.org/index.php/publications/observer/obsonline/gelfand-receives-anneliese-maier-research-award.html>

Gelfand, M. J. (2012, October). For arguments sake: Why conflict cultures matter. Forbes Magazine <http://www.forbes.com/sites/sebastianbailey/2012/10/19/for-arguments-sake-why-conflict-cultures-matter/>

Gelfand, M. J. (2012, October). Warmonger or Idealist? The roots of human conflict. *New Scientist*. <http://mynewscientist.tumblr.com/post/32674512999/warmonger-or-idealist-the-roots-of-human-conflict>

Gelfand, M. J. (2012, August). Harnessing conflict for organizational benefit. CIO talk radio. <http://www.ciotalkradio.com/archive.html>

Coleman, P. (2011, August). Every entrepreneur needs to embrace team conflict. *Forbes*. Retrieved from <http://www.forbes.com/sites/martinzwilling/2011/08/27/every-entrepreneur-needs-to-embrace-team-conflict/>

Coleman, P. (2011, October). Cracking intractable conflicts. WAMU The Kojo Nnamdi Show. Retrieved from <http://thekojonnamdishow.org/shows/2011-10-24/cracking-intractable-conflicts>

Coleman, P. T. (2011, October). The mathematics of Middle East conflict and peace. *Psychology Today*. Retrieved from <http://www.psychologytoday.com/blog/the-five-percent/201110/the-mathematics-middle-east-conflict-and-peace>

Coleman, P. APA (2012, July). Intractable conflicts. *APA Monitor on Psychology*. Retrieved from <http://www.apa.org/monitor/2012/07-08/conflicts.aspx>

Gelfand, M. J. (2012, Spring). Maryland Professor receives prestigious Humboldt international prize. *Maryland International*. (<http://www.international.umd.edu/sparkplug/common/images/oip/Spring1-2012.pdf>)

Gelfand, M. J. (2012, May). Featured in career profiles in *Science* (M. Price, May 18, 2012) ([http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2012\\_05\\_18/car.edit.a1200055](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2012_05_18/car.edit.a1200055))

Gelfand, M. J., & Kruglanski (2012, Spring). Are terrorists beyond redemption. *Christian Science Monitor*. <http://www.csmonitor.com/World/Middle-East/2012/0525/Are-terrorists-beyond-redemption>

Gelfand, M. J., & Kruglanski, (2012, Spring). Radio Interview, Baltimore NPR, Midday with Dan Rodricks, <http://www.wypr.org/stationprogram/midday-dan-rodricks>

Bohnet, I. (2011, June). Ask what you can do. *Neue Zürcher Zeitung*. Retrieved from [http://www.hks.harvard.edu/fs/ibohnet/researchpdf/NZZ\\_T+T\\_IrisBohnet.pdf](http://www.hks.harvard.edu/fs/ibohnet/researchpdf/NZZ_T+T_IrisBohnet.pdf)

Bohnet, I. (2011, February). How to promote trust in the Arab Middle East. Retrieved from: [http://www.economist.com/blogs/freeexchange/2011/02/economics\\_0](http://www.economist.com/blogs/freeexchange/2011/02/economics_0)

Fehr, R (2011, June) "Mark Halperin Apologized to Barack Obama. Will His Apology Be Effective?" in The New Republic. <http://www.tnr.com/blog/the-study/91147/mark-halperin-apologized-president-obama-will-his-apology-work>

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## APPENDIX B

### Interview Protocol I

<p>MIDDLE EAST INTERVIEW PROTOCOL: WASTA, NEGOTIATION/ CONFLICT/ FORGIVENESS</p>	<p>نظام مقابلة الشرق الأوسط: الواسطة/ المساومة / النزاع/ المساومة</p>
<p>Introduction: Hello, thank you so much for coming here today to talk with me. I really appreciate your kindness and your generosity in meeting with me today. Before we begin the actual interview, I'd like to tell you more about myself and about this research project. I am [name] and I work at as a [researcher/teacher/other role] at [institution] doing [research on/teaching classes on/etc.].</p>	<p>مقدمة: مرحبا بك، وشكرا جزيلاً على حضورك للتحدث معي اليوم، أنا ممتن جداً على تعاونك هذا. قبل أن نبدأ المقابلة الفعلية، أود إخبارك المزيد عن نفسي وعن مشروع البحث هذا. اسمي (الاسم) وأعمل بصفة (باحثة/ معلمة/ دور آخر) في (أذكر مكان العمل) وأقوم بـ(بحث/ تدريس موضوع/...الخ).</p>
<p>I also want to tell you a little bit about this research project. This research project is part of a large global social psychology study which looks at communication in different parts of the world. As you know, people from different cultures have different values and attitudes. They place different levels of important on relationships and family. And they vary in the ways they communicate with others. A lot of research has focused on how people in the US and Europe communicate and feel. Some research has looked at these issues in Asia (like Japan and China). But very little is known about these issues in the Arab world, so we are conducting this study with other researchers in other Arab countries to see how people in our part of the world fare when it comes to social psychological concepts such as communication, attitudes, and values.</p>	<p>مشروع البحث هذا هو جزء من دراسة عالمية لعلم النفس تطبق على مستوى عالمي في أنحاء مختلفة من العالم لدراسة العلاقات بين الناس وطرق تواصلهم مع بعضهم البعض والعوامل التي تؤثر على هذه العلاقات. وكما تعلمون، قيم وسلوكيات الناس تختلف باختلاف ثقافتهم، فهم يقيمون العلاقات العامة والأسرية بطرق مختلفة ويصنفونها بمستويات مختلفة، كما تختلف طرق تخاطبهم مع الآخرين. ولقد أجريت في السابق العديد من البحوث التي ركزت على الطريقة التي يتخاطب ويشعر فيها الناس في الولايات المتحدة الأمريكية وأوروبا، وأجريت بعض البحوث المماثلة في آسيا (مثل اليابان والصين)، لكن لا يعرف إلا القليل عن العالم العربي. بناء عليه، نحن نطبق هذه الدراسة بالتعاون مع باحثين آخرين في العالم العربي للتعرف على الطريقة التي يشعر فيها الناس في العالم العربي تجاه مفاهيم اجتماعية معينة مثل العلاقات والتواصل والسلوكيات والقيم.</p>
	<p>هذه المرة الأولى التي يطبق فيها مشروع بحث إقليمي على هذا النطاق في بلدان مختلفة من العالم</p>

It is the first time that a regional research project of this scope is carried out in different countries in the Arab world and it is a really important contribution to our research area. I can't tell how appreciative we are that you are supporting this research initiative by taking part in it.

The interview will take about one to two hours. I will ask you some questions and give you a chance to answer each. Some questions might sound a bit similar or repetitive. If you feel you have already answered them in an earlier section just let me know. Of course, the more information you give me the better the material we have for our research. Any concrete examples from your life or the experiences of people you know are extremely valuable.

There will be four topics in the interview. The first one is on your opinions about *Wasta*. The second is on your thoughts and experiences of negotiating with others, the third is about conflicts, and the fourth is about apologies and forgiveness. There are no right or wrong answers to these questions. I am interested in your honest opinions. Please know that your responses are completely anonymous, will not be used for any other purpose, and under no condition will you ever be identified.

Can you tell me a little about yourself [Ask questions about whether or not married, does he/she has any children, other topics you see appropriate to warm up. Then ask demographic questions below]

- Age

العربي، ولا يسعني إلا أن أشكركم مجدداً على دعمكم لهذا المشروع من خلال الموافقة على المشاركة فيه.

المقابلة ستستغرق حوالي ساعة واحدة، وسأقوم خلالها بطرح بعض الأسئلة عليكم، وأمنحك مجالاً للإجابة عن كل سؤال يطرح. بعض الأسئلة قد تبدو متشابهة أو مكررة، وإن شعرت بأنكم قمتم بالإجابة عنها في وقت سابق يرجى إعلامي بذلك. وبالتأكيد، كلما قدمتم معلومات أكثر كلما توفرت لدينا بيانات أكثر يمكننا من إنجاز البحث بشكل أفضل. وجميع الأمثلة التي ستقدمونها حول تجاربكم الخاصة أو تجارب أشخاص آخرين تعرفونهم تعتبر قيمة للغاية.

المقابلة تغطي أربعة مواضيع. الموضوع الأول، يتعلق بأرائكم حول //قدر. الثاني يتعلق بأفكاركم وتجاربكم حول الوجه/ ماء الوجه، والتواضع والاحترام. الموضوع الثالث يتعلق بالقيم. وأخيراً الموضوع الرابع يتعلق بالشرف والعرض. يرجى العلم بأنه لا توجد إجابات صحيحة أو خاطئة على هذه الأسئلة، وأتمنى أن تكون إجاباتكم واضحة وصریحة. كما يرجى التأكد من أن جميع الإجابات ستعامل بسرية تامة، ولن يتم استخدامها لأية أغراض أخرى. ولن يتم كذلك الإفصاح عن هويتكم تحت أي ظرف من الظروف.

هل يمكنك إخباري المزيد عن نفسك (اطرح أسئلة لمعرفة إن كان المتحدث متزوج أم لا، إن كان لديه أطفال، أو أية أسئلة أخرى ترونها مناسبة لجعل الحوار سلس وممتع وجعل المتحدث يشعر براحة أكبر عند الإجابة عن الأسئلة. بعدها، باشر بمعرفة الإجابات عن الأسئلة التالية):

- Gender
- Occupation
- Education
- Where were you born
- Where have you spent the majority of your life?
- Are you married? Children?
- Ethnicity (if it is acceptable to ask)
- Religion (if it is acceptable to ask)
- When you consider the income level of people in your country, which group does your family belong to?
  - Low income group
  - Lower-middle income group
  - Middle income group
  - Upper-middle income group
  - High income group

Do you have any questions? Please don't hesitate to ask questions any time you want.

Show the informed consent form now and gain consent.

Now, I am going to record your responses because I cannot write fast enough and I don't want to miss any part of what you say.

I hope it is okay with you to record the interview.

First, I am going to ask questions about *Wasta*

### Q1. WASTA (CONNECTIONS)

1A. What words come to your mind when we say *Wasta*? [Probe: Word

- العمر
- الجنس
- المهنة
- التحصيل العلمي
- مكان الولادة
- المكان الذي قضيت فيه معظم حياتك؟
- هل أنت متزوج/ متزوجة؟ عدد الأطفال؟
- المذهب (إن كان من المقبول طرح هذا السؤال)

- الديانة (إن كان من المقبول طرح هذا السؤال)

- عندما نتحدث عن مستوى دخل الناس في بلدك، إلى أي فئة تنتمي أسرتك؟
  - فئة الدخل المنخفض
  - فئة الدخل المنخفض-المتوسط
  - فئة الدخل المتوسط
  - فئة الدخل المتوسط-العالي
  - فئة الدخل العالي
- هل لديك أية استفسارات؟ يرجى عدم التردد بطرح الأسئلة في أي وقت تريد.

والآن، ابرز استمارة الموافقة واحصل على موافقة المتحدث.

والآن، سأقوم بتسجيل إجاباتكم لأنني لا أستطيع الكتابة بسرعة كافية، ولا أريد أن يفوتني أي جزء من حديثكم.

أتمنى أن لا يزعجكم تسجيلي للمقابلة؟

أولاً، سأطرح عليك بعض الأسئلة حول الواسطة

associations with Wasta].

In what situations is Wasta needed? In other words, what are the factors that lead people to want to use Wasta?

In your opinion, when is Wasta good versus bad? [Probe: Wasta is good when \_\_\_\_; Wasta is bad or when \_\_\_\_]. [Probe what are the positive aspects of Wasta and the negative aspects of Wasta].

**1B. How is Wasta acquired or developed?** Can you give me some examples of how you or others you know *initiate the development of Wasta* with others? [Probe: Direct and indirect ways of acquiring or developing Wasta \_\_\_\_]

Can you give me examples of how you or others you know *further strengthen Wasta* with others? [Probe: Direct and indirect ways of strengthening Wasta; Wasta is strengthened by \_\_\_\_].

How might the development of Wasta vary depending on whether one is in a position of high or low status? [Probe: *How does Wasta develop depending on one's status*].

What is the result or the benefit of having good Wasta? [Probe: If you have Wasta, then \_\_\_\_;].

What kind of obligations/ responsibilities does having a good Wasta incur? Can you give examples? [Probe obligations that are incurred because of Wasta]

## السؤال الأول الواسطة (العلاقات)

(س1-أ) ما هي العبارات التي تخطر في بالك عندما نقول كلمة "واسطة"؟ [بحث: المعاني المرتبطة بكلمة واسطة].

ما هي المواقف أو الحالات التي تتطلب الواسطة؟ بعبارة أخرى، ما هي الأسباب التي تدفع الناس إلى استخدام الواسطة؟ برأيك، متى تكون الواسطة جيدة ومتى تكون سيئة؟ [بحث: تكون الواسطة جيدة حين \_\_\_\_\_، أو تكون سيئة حين \_\_\_\_\_]. (بحث: المظاهر الايجابية للواسطة والمظاهر السلبية للواسطة).

(س1-ب) كيف تنمو الحاجة للواسطة أو تتطور؟ هل بإمكانك إعطائي بعض الأمثلة عن قيامك أو قيام غيرك بتنمية الحاجة إلى استخدام الواسطة مع الآخرين؟ (بحث دراسة: الطرق المباشرة وغير مباشرة في الحاجة الى الواسطة او تنميتها). هل بإمكانك إعطائي بعض الأمثلة عن قيامك أو قيام أشخاص آخرين تعرفهم بتعزيز الحاجة إلى الواسطة مع الآخرين؟ (بحث: الطرق المباشرة وغير المباشرة لتعزيز الواسطة، تعزز الواسطة من خلال \_\_\_\_\_).

كيف تختلف نمو الحاجة للواسطة بالنسبة للذين يشغلون مكانة وظيفية عالية في المجتمع مقارنة بالذين يشغلون مناصب وظيفية اقل؟ [بحث: كيف تنمو الحاجة للواسطة اعتماداً على مكانة الشخص الوظيفية؟].

ما هي نتيجة أو مزايا الحصول على الواسطة الجيدة؟ (بحث: تمتعك بالواسطة معناه \_\_\_\_\_).

How is Wasta harmed or in other words damaged? [Probe: Wasta is harmed when.\_\_\_\_\_]

If you harm Wasta or is damaged, what might happen as a result? [Probe: If you harm Wasta, \_\_\_\_\_].

**1C.** Is there anyone that you could never imagine having Wasta with (based on age, SES, gender, nationality, religion)? [Probe: I could never have Wasta with \_\_\_\_\_; Probe Why].

We have completed the first part. Now, we're continuing with the questions about negotiation.

## Q2. NEGOTIATION (MUSAWAMA)

**2A.** In everyday life, people negotiate in many different situations. Negotiation can occur in many informal everyday contexts, such as in the market, within the family, at work, and in the community. It can also occur in formal contexts such as political negotiations. [\*\*\*please use both the informal term for negotiation (Musawama) and the formal term (Mufawada) here so that they see the entire range of possibilities. You can make both types of negotiations concrete by giving an example of each, such as: "to give you an idea about what I mean: you can have two people who are sitting around a table negotiating formally for business or politics (yitfawadu) but you can also have two people who work together and one is trying to get the other person to give them something they want like a raise or bigger office space (yitsawamu). Both are types of negotiations"

ما هي الالتزامات/ المسؤوليات الناجمة عن امتلاك واسطة جيدة؟ هل بإمكانك إعطائي بعض الأمثلة؟ (بحث: الالتزامات الناجمة بسبب الواسطة)

كيف تؤثر سلباً على الواسطة، أو بعبارات أخرى كيف تفسد الواسطة؟ (بحث: تفسد الواسطة عندما\_\_\_\_\_).

إن أسأت استخدام الواسطة، أو أفسدتها، ما النتائج التي قد تتجم بسبب ذلك؟ (بحث: إذا أسأت استخدام الواسطة \_\_\_\_\_)

(س1-ج) هل هناك أحداً لا يمكن أن تكون بينك وبينه واسطة أبداً؟ (استناداً على العمر، وضع الشخص في المجتمع، الجنس، الجنسية، الديانة)؟ [بحث: لا يمكن أن تكون بيني وبين \_\_\_\_\_ أية واسطة؛ بحث: السبب].

لقد أكملنا الجزء الأول من البحث. والآن سنتابع بأسئلة حول التفاوض.

## السؤال الثاني التفاوض (المساومة)

(س2-أ) في حياتنا اليومية، يقوم الناس بالتفاوض/ بالمساومة في مواقف مختلفة، ويمكن أن يحصل ذلك في مواقف متعددة، مثلاً: في السوق، أو بين أفراد العائلة، في العمل، في المجتمع... الخ. كما يمكن أن تكون بصورة رسمية مثل المفاوضات السياسية (\*\*\*) يرجى استخدام الصيغة غير الرسمية لعبارة (مساومة) والصيغة الرسمية لعبارة (مفاوضة) هنا للتعرف على أكبر نطاق من الاحتمالات. يمكنك توضيح المعنى من خلال إعطاء أمثلة عن كل حالة، على سبيل المثال: بهدف توضيح الأمر لك: "يمكن أن

What words come to your mind when we say negotiation? (*Probe*: all words that they associate with term negotiation).

People often have metaphors for negotiation that capture how they view the situation. To what other domains or situations would you compare negotiating? In other words, now, we want you to compare negotiation with some other concrete things or activities to understand what negotiation means to you. For example, it's possible to compare a university entrance exam with a marathon race or to compare love with a journey. Similarly, what would you think of for negotiation? (*Probe*: How would you complete the sentence "negotiations are like ----"). Note: Interviewers, please use associations/metaphors that are applicable in your country.

[*Probe*: Negotiation is like \_\_\_\_\_;

In your opinion, is negotiation is good or bad? [*Probe*: Negotiation is good if \_\_\_\_\_; Negotiation is bad if \_\_\_\_]. [if the respondent says 'it depends', in what situations is negotiation good, in what situations is negotiation bad].

Negotiations often occur on a daily basis. Can you tell us about the situations in which you frequently negotiate, and the issues that are typically negotiated [*Probe*: friends, at work, in the community, family; If they *only* discuss family, also ask for more examples).

2B. What does a person have to have or have to do for you to trust them? [*Probe*: If a person \_\_\_\_\_, then I would be more likely to trust them]. If you trusted the other person,

يجتمع شخصين حول طاولة نقاش للتفاوض على تجارة ما أو على قضية سياسية. وفي الوقت ذاته يمكن لشخصين آخرين يعملان في نفس المكان أن يجتمعا (للمساومة) على أمر معين، كان تكون لطلب الحصول على زيادة في الأجر، أو الحصول على غرفة اكبر... الخ. كلا الأمثلة تعتبر "طرق للتفاوض".

ما الكلمات التي تخطر في بالك عندما نقول تفاوض؟  
[بحث: جميع الكلمات التي تتعلق بكلمة تفاوض].

في أغلب الأحيان يستخدم الناس استعارات لكلمة "التفاوض/ المساومة" اعتماداً على رؤيتهم للموقف. ما الأمثلة أو الحالات التي قد تستخدمها للإشارة إلى مفهوم "التفاوض/ المساومة"؟ بعبارة أخرى، نريدك أن تشير إلى أمثلة واقعية لمعرفة مفهومك لمعنى (التفاوض/ المساومة). على سبيل المثال، من الممكن مقارنة امتحان الالتحاق بالجامعة بسباق ماراثون، أو مقارنة الحب برحلة. على النمط نفسه، ماذا يخطر ببالك عندما تسمع كلمة "تفاوض/ مساومة"؟ (بحث: كيف ستكمل الجملة التالية: "التفاوض/ المساومة معناه \_\_\_\_"). ملاحظة: أعزائي الباحثين، يرجى استخدام الاستعارات/ العبارات الدارجة في بلدكم.

[بحث: التفاوض مثل \_\_\_\_\_؛

برأيك، هل المفاوضة/ المساومة أمر جيد أم سيئ؟

[بحث: المفاوضة/ المساومة أمر جيد إذا

\_\_\_\_\_؛ المفاوضة/ المساومة أمر سيئ

إذا \_\_\_\_\_]. إذا أجاب المتحدث بكلمة

"يعتمد"، في أي حالة يعتبر التفاوض أمر جيد، وفي أي حالة يعتبر التفاوض أمر سيئ).

في الغالب تحدث المساومات بشكل يومي. هل بإمكانك أن تحدثنا عن المواقف التي تقوم فيها الناس



how might it affect your behavior when negotiating? [Probe: If I trust the other person, when negotiating I \_\_\_\_\_].

What would others have to have or do that would make you distrust them? [Probe: If the person \_\_\_\_\_, then I would be more likely to distrust them]. If you did not trust the other negotiator, how might it affect your behavior when negotiating [Probe: If I distrusted the other person, when negotiating, I \_\_\_\_\_].

**2C.** Now we'll be talking about what one should or shouldn't do in negotiations.

First of all, what are the kinds of things you think one should say and do in negotiations? [Probe, one should \_\_\_\_\_].

What are some of the things that one should *not* say/do in negotiations? Probe; One shouldn't \_\_\_\_\_ in negotiation].

People might cooperate with others in negotiation or they might compete.

What might a person do or say in negotiations to show that they are *cooperating* with another? [Probe: If a person \_\_\_\_\_, it indicates cooperation].

What might a person do or say in negotiations that shows that they are *competing* with another? [Probe: If a person \_\_\_\_\_, it indicates competitive behavior].

Which emotions would you say are acceptable to express in negotiation? What emotions are unacceptable to express? [Probe: \_\_\_\_\_ is acceptable to express in negotiation; \_\_\_\_\_ is unacceptable to

بالمساومة بصورة متكررة، والأمور التي يساومون عليها [بحث: مع الأصدقاء، في مكان العمل، في المجتمع، بين أفراد العائلة. ملاحظة: إن قاموا بذكر أمثلة عن العائلة فقط، يرجى تحفيزهم على إعطاء المزيد من الأمثلة).

(س2-ب) ما على الشخص التمتع به لينال ثقته؟ [بحث: إذا أمتاز الشخص ب \_\_\_\_\_، فلا بد أن أثق به]. إن وثقت بهذا الشخص، كيف يؤثر ذلك على سلوكك أثناء تفاوضك معه؟ (بحث: إذا كنت أثق بشخص ما، عند التفاوض معه \_\_\_\_\_).

ما الصفات أو السلوكيات التي على الآخرين امتلاكها لجعلكم تفقدون الثقة بهم؟ [بحث: إذا كان الشخص \_\_\_\_\_، فذلك يدفعني إلى عدم الوثوق بهم بشكل أكبر]. في حالة عدم وثوقك بالشخص الذي تساوم معه، كيف سيؤثر هذا على سلوكك تجاهه أثناء المساومة؟ [بحث: أن لم أثق بالشخص الذي أتفاوض معه فسلوكي سيكون \_\_\_\_\_ تجاهه].

(س2-ج) وألان سنتحدث عن الأمور الواجب تجنبها أثناء المفاوضة/ المساومة ؟

أولا، برأيك ما الذي يجب قوله وفعله عند التفاوض/ المساومة؟ (بحث، على الشخص أن \_\_\_\_\_).

برأيك، ما الذي يجب عدم قوله/ فعله أثناء التفاوض؟ [بحث: يجب على الشخص أن يتجنب \_\_\_\_\_ أثناء التفاوض].

قد يتعاون الناس مع بعضهم البعض، أو قد يتنافسون

express in negotiation; *Probe* how acceptable is it to express anger, pride, sympathy, shame, generosity, sadness, and other emotions].

People vary how much they talk or remain silent in negotiations. Is silence good or bad in negotiation?

What does it mean when people are silent in negotiation? [*Probe*: When people are silent, it means \_\_\_\_\_; probe the interpretations of what it means when people are silent]. Is it better to talk a lot (i.e., be verbose) or be silent in negotiations? Why?

What words come to your mind when we say compromise? [*Probe* word associations with compromise: Compromise is \_\_\_\_]. Is compromise good or bad in general?

When is compromise good and when is it bad? [*Probe* their thoughts and feelings about when it is good versus bad to compromise].

**2D.** In order for a negotiation to be successful in your mind, what must occur? [*Probe*: To be successful, \_\_\_\_; What might make a negotiation unsuccessful or a failure? [*Probe*: Negotiations are unsuccessful when \_\_\_\_].

Which is more important, to take your time when you negotiate versus reach an agreement quickly? How might you react to a person who seems impatient in negotiation?

مع بعضهم البعض.  
برأيك ما على الشخص قوله أو فعله ليظهر بأنه متعاون مع الطرف الآخر؟ [بحث: إذا تصرف الشخص \_\_\_\_\_ فإن ذلك يدل على أنه متعاون].

ما الذي على الشخص قوله أو فعله للدلالة على أنه يتنافس مع الطرف الآخر؟ [بحث: إذا قام الشخص بـ \_\_\_\_\_ فإن ذلك يدل على أن سلوكه تنافسي.

برأيك، عموماً هل من المقبول أن يعبر الشخص عن مشاعره أثناء التفاوض أو المساومة، أم أنه من الأفضل أن يخفي مشاعره؟ ما هي المشاعر التي من المقبول التعبير عنها ولماذا؟ ما هي المشاعر التي من غير المقبول التعبير عنها، ولماذا؟ [بحث: \_\_\_\_\_ ممكن إخفائها أثناء المساومة؛ \_\_\_\_\_ غير مقبول التعبير عنها أثناء التفاوض؛ تحرى عما إذا كان من المقبول التعبير عن الغضب، الفخر، التعاطف، الخجل، الكرم، الحزن، وغيرها من المشاعر].

طريقة التفاوض تختلف من شخص إلى آخر، فالبعض يتكلمون كثيراً أثناء التفاوض بينما يصمت البعض الآخر. هل الصمت امر جيد ام سيء أثناء التفاوض؟

ماذا يعني لك صمت الناس أثناء التفاوض؟ (بحث: صمت الطرف الآخر معناه \_\_\_\_\_ ، بحث: معنى صمت الآخرين). هل من الأفضل التحدث كثيراً (مثلاً: الثرثرة) او التزام الصمت أثناء التفاوض؟ لماذا؟

2E. Would you negotiate differently with a total stranger or person who is not a member of your group compared to a family member or friend? If so, how would negotiations with a total stranger be different?

How about the effect of having *wasta* in negotiation? How does having a *wasta* affect negotiations compared to negotiating with someone with whom you don't have a *wasta*?

[Probe: How does *Wasta* facilitate negotiations, and in what specific ways? ]

Sometimes you might be in a higher or lower status compared to the other person you negotiate with. In what ways might your or others behavior change depending on whether you are in a position of high status versus a position of low status?

Is negotiating with a woman different than with a man? If so how?

Do women negotiate differently than men? If so, how?

2F. Under what circumstances would you absolutely refuse to negotiate with someone? Who would you find it difficult to negotiate with?

Are there issues or objects that are sacred and absolutely should not be negotiated? (are *not* negotiable?) What are they and how should conflict over them be resolved?

### Q3. CONFLICT (NIZA)

3A. We all experience conflict (Niza),

ما العبارات التي تخطر في بالك عندما نقول تسوية؟ (بحث الكلمات المتعلقة بالتسوية: التسوية تعني \_\_\_\_\_). عموماً، هل التسوية أمر جيد أم سيء؟

متى تكون التسوية مناسبة ومتى تكون غير مناسبة؟ (بحث الأفكار والمشاعر التي تراودهم حول الوقت المناسب للتسوية مقارنة بالوقت الغير مناسب لها).

(س2-د) برأيك ما الذي يجب أن يحصل لتكون هناك مساومة ناجحة؟ [بحث: حتى يكون التفاوض ناجحاً \_\_\_\_\_؛ تحرى عن الأمور التي تجعل التفاوض ناجحاً في مراحلها المختلفة: في بدايته ومنتصفه ونهايته. ما الذي يجعل المساومة فاشلة أو غير ناجحة؟ [بحث: تفشل المساومات عندما \_\_\_\_\_].

أيهما أكثر أهمية بالنسبة لك، أن تأخذ وقتك أثناء المساومة، أو الوصول إلى اتفاقية بسرعة؟ كيف يمكن أن تتصرف تجاه شخص لا يتحلى بالصبر أثناء المساومة؟

(س2-هـ) هل تختلف طريقة تفاوضك مع شخص لا تعرفه، أو شخص لا ينتمي إلى عائلتك مقارنة بشخص آخر تعرفه؟ ان كان الجواب نعم، كيف تختلف المفاوضات مع شخص آخر غريب عنك/ لا تعرفه؟

ماذا عن تأثير وجود الوساطة أثناء التفاوض؟ كيف تتأثر سير المفاوضات مع شخص لديك واسطة معه، مقارنة بسير المفاوضات مع شخص آخر ليست لديك واسطة معه؟

sometimes on a daily basis. Please think of a time that you or someone you know experienced a conflict with another person, either a person in your community, your school, or your place of work, where the situation started out as a relatively mild or small incident but eventually became much more extreme and only later eventually came to a resolution.

Note to the interviewer: If the person is uncomfortable about talking about their own conflict, please ask them to discuss another's conflict.

Please begin with describing what was the conflict really about? What was at the heart of the conflict [*Probe-a brief description of what the conflict was about*

Who was involved in the conflict? [*Probe: ingroup or outgroup?*].

Now, can you describe, in detail, the sequence of events that occurred between you and the other person, starting from the very beginning of the conflict? First of all, what was the first sign showing that something was going wrong between the two of you? [*Probe: Beginning of conflict, Point A*].

Try to think about the point at which the conflict became the most extreme and tell us what happened [*Probe: the highest point of the conflict, the point at which the parties behaved in the most extremely aggressive way, Point B*].

Now, can you tell us what happened, in detail, between the beginning of the conflict, and this point when it became most extreme? What did each person do, and how did you respond to each other? [*Probe: sequences of events, and specifically how behavior escalated, how the conflict got*

بحث: كيف تساهم الوساطة بتيسير المفاوضات، ما تأثيرها؟

أحيانا قد تكون في موقع أعلى أو أدنى من الشخص الذي تتفاوض معه. كيف يمكن أن يتغير سلوكك أو سلوك الآخرين عند شغل منصب وظيفي عالي، مقارنة بشغل منصب وظيفي أقل؟ هل تختلف المساومة مع امرأة مقارنة بالمساومة مع رجل؟ إذا كان الأمر كذلك فكيف تختلف؟ هل تختلف طريقة تفاوض النساء عن طريقة تفاوض الرجال؟ إن كان الجواب نعم، كيف تختلف؟

2. (ف) ما هي الظروف التي من شأنها أن تجعلك ترفض قطعاً التفاوض مع شخص آخر؟ من برأيك الشخص الذي يصعب عليك التفاوض معه؟ هل هناك مسائل أو أمور لا يمكن أو لا يجب المساومة عليها إطلاقاً؟ (غير قابلة للتفاوض؟) ما هي، وكيف يتم حل النزاع حول هذه المسائل أو الأمور؟

### السؤال الثالث (النزاع)

(س3-أ) جميعنا خاض تجربة النزاع، وأحيانا حصل ذلك بشكل يومي. حاول أن تتذكر موقفاً عانيت فيه أنت، أو شخصاً آخر تعرفه، من نزاع مع طرف ثاني، سواء في منطقة السكن، أو المدرسة، أو في مكان العمل، وتطور هذا النزاع من حادثة بسيطة إلى مشكلة خطيرة قبل أن تحل.

ملاحظة للشخص الذي يجري المقابلة: إن لم يرغب المتحدث بالإشارة إلى نزاع خاص به، يرجى أن تطلب منهم الإشارة إلى نزاع خاص بشخص آخر. يرجى البدء بوصف طبيعة النزاع، ومن ثم تحديد السبب الرئيسي وراءه؟ [بحث: صف بإيجاز سبب

worse].

Now, can you tell us how the conflict began to have a resolution? What did each party do, in sequence, that helped to resolve the conflict and make the situation better? [Probe: sequences of events, how did the conflict specifically de-escalate or get better].

[Note: if it is not obvious in the description of the conflict, ask about the relative status/power of the two parties and whether the conflict involved people from the same ingroup or from different groups].

**3B.** Now I want to ask you a more general question about the types of things that can happen when two people have conflict. Sometimes people try to behave in a conciliatory or cooperative manner in conflicts that can help to better the situation. Sometimes they can behave in ways that are more aggressive which aggravate or worsen the situation.

Can you list *as many actions and words that are possible* that would be conciliatory, from the most mildly conciliatory to extremely conciliatory, that you or others can do in conflict situations? [Probe: Mild, moderate, extreme ways of being conciliatory/cooperative in conflicts; we are trying to come up with a list of as many conciliatory behaviors as possible Please be sure to indicate that the behaviors can be things *they personally did* or that *they have seen or heard that others* do. We are trying to get as large a list as possible].

Can you list as many actions *and words* that are possible that would be aggravating or aggressive, from mildly aggravating/aggressive to more extreme aggravating/aggressive, that you or others can do in conflict situations? [Probe: Mild,

النزاع، من كان المعني بالنزاع؟ (بحث: هل كان من ضمن المجموعة أو من خارج المجموعة؟).

والآن، هل بإمكانك أن تصف بالتفصيل تسلسل الأحداث التي وقعت بينك وبين الطرف الآخر، منذ بدء النزاع؟ بداية، ما هو المؤشر الأول الذي أكد بأن هناك مشكلة بينكما؟ [بحث: بداية النزاع - منذ النقطة "أ"].

حاول أن تبحث عن المرحلة التي بلغ فيها النزاع ذروته، ويرجى إخبارنا عن ما حدث. [بحث: ذروة النزاع؛ النقطة التي تصرف فيها الطرفان بأقصى درجة من العدوانية - النقطة "ب"].

والآن، هل يمكنك إخبارنا ماذا حدث بالتفصيل، منذ بداية النزاع لغاية بلوغه ذروته؟ ماذا فعل كل منكما، وكيف تصرفتما تجاه بعضكما البعض؟ [بحث: تسلسل الأحداث، وبالتحديد كيف تصاعدت وتيرة الأحداث وكيف اشتد النزاع].

والآن، هل يمكنك إخبارنا كيف تم التوصل إلى حل للنزاع؟ ماذا فعل كل طرف معني في النزاع، بصورة متسلسلة، للمساهمة في حل النزاع وتحسين الموقف؟ [بحث: تسلسل الأحداث، وبالتحديد كيف بدأت تخف حدة النزاع وبدء الموقف بالتحسن؟]

[ملاحظة: في حال عدم اتضاح الأمور عند قراءتك للوصف حول النزاع، أسأل عن العلاقة النسبية للمكانة/القوة لطرفي النزاع]. (بحث: إن كان النزاع يخص أشخاص من داخل المجموعة أو أشخاص آخرين من مجاميع أخرى).

(س3-ب) والآن، أود أن أسألك سؤالاً أكثر عمومية حول الأمور التي قد تحدث عندما يكون هناك نزاع بين شخصين. أحياناً يحاول الناس التعامل مع النزاع بطريقة ايجابية أو يتعاونوا بهدف تحسين الموقف وحل النزاع. وأحياناً أخرى قد يتصرفون بطريقة

moderate, extreme ways of being aggressive and aggravating in conflicts; we are trying to come up with a list of as many aggressive and aggravating behaviors as possible]. Please be sure to indicate that the behaviors can be things *they personally did* or that *they have seen or heard others do*. We are trying to get as large a list as possible.

**3C.** Can you think of a time when someone else mediated (helped to resolve) a conflict you were having? What was the nature of the conflict? Why did you ask someone else to help you resolve the conflict? What made you ask that person in particular?

[Probe: Why you chose mediation in this case over direct resolution or other methods? Probe what made the mediator credible or legitimate in your mind].

What was the relationship like with you and the other disputant and with the mediator? What are other aspects of the situation that were important to understand the conflict?

[Probe: The situational context surrounding the dispute; same as above].

Can you tell me what the mediator specifically did to help facilitate the resolution of the conflict. Please tell us as many things as possible that the mediator did to help resolve the conflict. [Probe: Specific strategies that the mediator used with both parties).

Did anything about the mediator's social status or other attributes help to resolve the conflict? [Probe: What makes for an 'effective' mediator]. What was the ultimate outcome of the conflict? Did you feel like you had to accept the mediator's suggestions, and if so, why?

أكثر عدوانية مما يؤدي بالتالي إلى تفاقم الموقف. هل بإمكانك أن تعدد، على قدر استطاعتك، بعض السلوكيات والعبارات التي يمكن اعتبارها تصالحية، من أبسطها إلى أقصاها، والتي يمكن لك أو لغيرك اعتمادها في مواقف يكون فيها نزاع؟ [بحث: طرق التصالح/التعاون البسيطة، المعتدلة أو القسوى، في التعامل مع النزاع؛ نحن بصدد تحديد قائمة تضم أكبر قدر ممكن من السلوكيات التصالحية. يجب التأكيد على أن التصرفات يمكنها أن تكون أفعال قاموا بها أو أمور شاهدوها أو سمعوها عن تصرفات الآخرين. نسعى للحصول على أكبر قدر ممكن من المعلومات.]

هل بإمكانك ذكر أكبر قدر ممكن من العبارات والسلوكيات العدوانية أو التصرفات التي من شأنها أن تصعد الموقف أثناء النزاع (بدءاً بالأقل ضرر إلى الأكثر ضرر). [بحث: طرق عدوانية أو مؤججة للنزاع، من خفيفة إلى متقدمة؛ إننا بصدد تكوين قائمة تضم أكبر قدر ممكن من السلوكيات العدوانية، أو المؤججة للنزاع.] يجب التأكيد على إن التصرفات يمكنها أن تكون أفعال قاموا بها أو أمور شاهدوها أو سمعوها عن تصرفات الآخرين. نسعى للحصول على أكبر قدر من المعلومات.

3 ج. هل تذكر موقف تدخل فيه شخص آخر لحل نزاع خاص بك؟ كيف كانت طبيعة النزاع؟ لماذا طلبت من شخص آخر التدخل لمساعدتك في حل النزاع؟ ما الذي جعلك تسأل هذا الشخص بالتحديد؟

(بحث: لماذا اخترت أن يكون هناك وسيط لحل هذه القضية بدلا من حل النزاع مباشرة أو استخدام طرق أخرى؟). (بحث: ما الذي جعلك تثق بالوسيط؟). كيف كانت طبيعة العلاقة بينك وبين خصمك من

#### Q4. APOLOGIES/FORGIVENESS

4A. What words come to your mind when we say forgiveness?

4B. Can you describe an instance where you were harmed by someone but later forgave them? Why did you forgive them? Can you describe an instance where you or another person was harmed by another but were unable to forgive them? Why were you or the other unable to forgive?

In general, what do you think motivates people to forgive others? In other words, why do people sometimes forgive an offense, and sometimes not?

Are there situations that make it easy versus difficult to forgive another? Are there certain types of people that make it easy versus difficult to forgive?

4C. What words come to your mind when we say apology?

Are apologies good or bad? [Probe: word associations of apology and how they evaluate it as good or bad].

What is the purpose of an apology? [Probe: admission of guilt, repentance, humiliation]

Think about times when you or someone you know apologized and you thought it was a good apology. What made it a good apology? [Probe: A good apology \_\_\_\_]. Think about a time when you or someone you know apologized and you thought it was a bad apology. What made it a bad apology? [Probe: A bad apology \_\_\_\_].

جهة، وبينك وبين الوسيط من جهة أخرى؟ ما هي الجوانب الأخرى المهمة لفهم طبيعة النزاع؟ (بحث: الظروف المحيطة بالنزاع، كما في أعلاه).

هل بإمكانك إخباري ماذا فعل الوسيط بالضبط لتسهيل عملية حل النزاع؟ يرجى إعطاء أكبر عدد من الأمثلة عن ما قام به الوسيط لحل النزاع. (بحث: الاستراتيجيات الخاصة التي استخدمها الوسيط مع كلا الطرفين).

هل لعبت مكانة الوسيط الاجتماعية أي دور في حل النزاع؟ (بحث: ما الذي يجعل الوسيط فعال وشخص "قادر" على حل النزاع؟). ما النتيجة النهائية للنزاع؟ هل شعرت بأنه تحتم عليك الموافقة على الاقتراحات المقدمة من قبل الوسيط؟ إن كان الجواب نعم، لماذا؟

#### السؤال الرابع الاعتذارات/المسامحة

(4-أ) ما هي العبارات التي تخطر في بالك عندما نقول "التسامح أو المسامحة"؟

(4-ب) هل بإمكانك أن تصف موقفاً تأذيت به بسبب شخص آخر، إلا أنك سامحته/ سامحتهم فيما بعد؟ لماذا سامحتهم؟ هل بإمكانك أن تصف موقفاً آخر تأذيت به أنت، أو أحد من معارفك، ولم تستطع مسامحة الفاعل؟ لماذا لم تتمكن أنت، أو غيرك من مسامحة المتعدي؟

على العموم: برأيك ما الذي يحفز الناس على مسامحة الآخرين؟ بعبارات أخرى، لماذا يقوم بعض الناس بمسامحة الآخرين، وفي أحيان أخرى لا يستطيعون ذلك؟

هل هناك مواقف تجعل المسامحة أسهل، وأخرى قد تجعلها أصعب؟ هل هناك أشخاص يجعلون المسامحة أصعب أو أسهل من غيرهم؟

(4-ج) ما هي العبارات التي تخطر في بالك عندما

<p>Are there certain situations in which one should always apologize? Never apologize? [Probe: One should apologize when _____; One should never apologize when _____]</p> <p>When one apologizes, what typically occurs as a result? [Probe: When I apologize _____; Probe positive and negative consequences]</p> <p>To what extent do apologies involve others who are not the immediate perpetrator or victim [Probe: When do others get involved with apologies, such as the immediate family, clan, etc.]. Is it common that apologies are sought and given in public?</p> <p>In general, what do you think motivates people to apologize to others? In other words, why do people sometimes apologize for an offense and sometimes not?</p> <p><b>4D. Revenge:</b></p> <p>What words come to mind when we say "Revenge"?</p> <p>What are the conditions in which people might seek revenge [Probe: When _____, people seek revenge]. When is seeking revenge acceptable or even expected?</p> <p>When seeking revenge, what do you think people's goals are, in other words, what are they trying to accomplish?</p> <p>What are the types of ways that one might seek revenge? [Probe: direct and indirect ways of seeking revenge].</p> <p>To what extent is it appropriate to involve</p>	<p>نقول إعتذار؟ هل الاعتذار أمر جيد أم سيئ؟ [ بحث: الكلمات التي تتعلق بالاعتذار ، وكيف يتم تقييم ما إذا كانت سيئة أو جيدة؟ ]</p> <p>ما الهدف من الاعتذار (بحث: الاعتراف بالخطأ، الندم، الإدلال)</p> <p>أذكر أوقاتاً قمت فيها أنت أو شخص تعرفه بالاعتذار، واعتبرت هذا الاعتذار أمراً جيداً. ما الذي جعل الاعتذار أمراً جيداً؟ [ بحث: يعتبر الاعتذار جيداً حين _____]. أذكر أوقاتاً قمت فيها أنت أو شخص تعرفه بالاعتذار، واعتبرت فيها أن الاعتذار كان أمراً سيئاً. ما الذي جعل الاعتذار أمراً سيئاً؟ [ بحث: يعتبر الاعتذار سيئاً حين _____]</p> <p>هل هناك مواقف معينة تحتم على الشخص الاعتذار دوماً؟ أو تحتم عليه عدم الاعتذار مطلقاً؟ [بحث: يجب على الشخص الاعتذار حين _____، يجب على الشخص عدم الاعتذار حين _____]</p> <p>عندما يعتذر الشخص، ماذا ينجم عن الاعتذار؟ [بحث: عندما أعتذر _____، أبحث عن العواقب الايجابية والسلبية، أبحث عن علاقة الاعتذار بالشرف والكرامة وحفظ ماء الوجه، هل يخسر من يعتذر هذه الصفات، أو يكسبها؟]</p> <p>ما علاقة الاعتذار بأشخاص آخرين لا علاقة مباشرة لهم بالجاني أو المجني عليه. (بحث: ما علاقة الآخرين بالاعتذارات، مثلاً أفراد العائلة، العشيرة...الخ). هل من الطبيعي طلب وتقديم الاعتذار في عامة المجتمع؟ بصورة عامة، برأيك ما الذي يحفز الناس على الاعتذار للآخرين؟ بعبارة أخرى، لماذا يعتذر بعض الأشخاص عما يقترفونه من إساءات، ولا يعتذرون</p>
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others when seeking revenge (Probe: When do members of one's own group also seek revenge on one's behalf? When is it appropriate to seek revenge on others who are not the direct perpetrator but are associated with the perpetrator)?

What are the consequences of seeking revenge [Probe: When one seeks revenge, \_\_\_\_\_; probe tangible and intangible (feelings) consequences of revenge].

أحياناً أخرى؟

#### 4.د الانتقام

ما العبارات التي تخطر في بالك عندما نقول "انتقام"؟  
ما هي الحالات التي تدفع الناس إلى الانتقام (بحث):  
\_\_\_\_\_ يدفع الناس على الانتقام. متى  
يكون من المقبول على الآخرين تقبل الانتقام أو حتى  
توقعه؟

برأيك ماذا يسعى الناس من تحقيقه عند الانتقام؟  
بعبارة أخرى، ما الذي يحاولون تحقيقه؟

ما هي الأساليب أو الطرق التي يتبعها الناس  
للانتقام؟ (بحث: الطرق المباشرة وغير المباشرة  
للانتقام.)

إلى أي مدى يكون من المناسب إشراك الآخرين في  
الانتقام؟ (بحث: متى يقوم أفراد نفس المجموعة  
بالانتقام لشخص آخر في المجموعة؟ متى يكون من  
المناسب الانتقام من شخص آخر ليس بالمعتدي  
المباشر لكن تربطهم صلة بالمعتدي؟  
ما هي عواقب السعي وراء الانتقام. بحث: عندما  
ينتقم الشخص، \_\_\_\_\_، بحث: (المشاعر)  
الملموسة وغير الملموسة والعواقب الناجمة بسبب  
الانتقام.

## Protocol II

### MIDDLE EAST INTERVIEW PROTOCOL 2: CORE FOCAL CONCERNS (Fate, Face, Modesty, Dignity, Values)

#### Introduction

“Hello, thank you so much for coming here today to talk with me. I really appreciate your kindness and your generosity in meeting with me today. Before we begin the actual interview, I’d like to tell you more about myself and about this research project. I am [name] and I work at as a [researcher/teacher/other role] at [institution] doing [research on/teaching classes on/etc.].

I also want to tell you a little bit about this research project. This research project is part of a large global social psychology study which looks at communication in different parts of the world. As you know, people from different cultures have different values and attitudes. They place different levels of important on relationships and family. And they vary in the ways they communicate with others. A lot of research has focused on how people in the US and Europe communicate and feel. Some research has looked at these issues in Asia (like Japan and China). But very little is known about these issues in the Arab world, so we are conducting this study with other researchers in other Arab countries to see how people in our part of the world fare when it comes to social psychological concepts such as communication, attitudes, and values.

It is the first time that a regional research project of this scope is carried out in different countries in the Arab world and it is a really important contribution to our research area. I can’t tell how appreciative we are that you are supporting this research initiative by taking part in it.

### نظام مقابلة الشرق الأوسط 2 الاهتمامات الرئيسية (القدر والسيطرة/ التحكم، الوجه/ ماء الوجه، التواضع، عزة النفس/ الكرامة، القيم)

مقدمة:

مرحباً بك، وشكراً جزيلاً على حضورك للتحدث معي اليوم، أنا ممتن جداً على تعاونك هذا. قبل أن نبدأ المقابلة الفعلية، أود إخبارك المزيد عن نفسي وعن مشروع البحث هذا. اسمي (الاسم) وأعمل بصفة (باحثة/ معلمة/ دور آخر) في (أذكر مكان العمل) وأقوم بـ(بحث/ تدريس موضوع...الخ).

مشروع البحث هذا هو جزء من دراسة لعلم النفس تطبق على مستوى عالمي في أنحاء مختلفة من العالم لدراسة العلاقات بين الناس وطرق تواصلهم مع بعضهم البعض والعوامل التي تؤثر على هذه العلاقات. وكما تعلمون، قيم وسلوكيات الناس تختلف باختلاف ثقافتهم، فهم يقيمون العلاقات العامة والأسرية بطرق مختلفة ويصنفونها بمستويات مختلفة، كما تختلف طرق تخاطبهم مع الآخرين. ولقد أجريت في السابق العديد من البحوث التي ركزت على الطريقة التي يتخاطب ويشعر فيها الناس في الولايات المتحدة الأمريكية وأوروبا، وأجريت بعض البحوث المماثلة في آسيا (مثل اليابان والصين)، لكن لا يعرف إلا القليل عن العالم العربي. بناء عليه، نحن نطبق هذه الدراسة بالتعاون مع باحثين آخرين في العالم العربي للتعرف على الطريقة التي يشعر فيها الناس في العالم العربي تجاه مفاهيم اجتماعية معينة مثل العلاقات والتواصل والسلوكيات والقيم.

هذه المرة الأولى التي يطبق فيها مشروع بحث إقليمي على هذا النطاق في بلدان مختلفة من العالم العربي، ولا يسعني إلا أن أشكركم مجدداً على دعمكم لهذا المشروع من خلال الموافقة على المشاركة فيه.

The interview will take about one to two hours approximately. I will ask you some questions and give you time to answer each of them. Some questions might sound a bit similar or repetitive. If you feel you have already answered them in an earlier section just let me know. Of course, the more information you give me the better the material we have for our research. Any concrete examples from your life or the experiences of people you know are extremely valuable.

There will be a number of topics in the interview. The first one is on your opinions about *Fate a*. The second is on your thoughts about face, modesty, and respect. The next one is about values, and the final one is about honor. There are no right or wrong answers to these questions. I am interested in your honest and opinions. Please know that your responses are completely anonymous, will not be used for any other purpose, and under no condition will you ever be identified.

Can you tell me a little about yourself [Ask questions about whether or not married, does he/she has any children, other topics you see appropriate to warm up. Then ask demographic questions below]

- Age
- Gender
- Occupation
- Education
- Where were you born
- Where have you spent the majority of your life?
- Are you married? Children?
- Ethnicity (if it is acceptable to ask)
- Religion (if it is acceptable to ask)
- When you consider the income level of people in your country, which group does your family belong to?
  - Low income group
  - Lower-middle income group
  - Middle income group

المقابلة ستستغرق حوالي ساعة واحدة، وسأقوم خلالها بطرح بعض الأسئلة عليكم، وأمنحكم مجال للإجابة عن كل سؤال يطرح. بعض الأسئلة قد تبدو متشابهة أو مكررة، وان شعرت بأنك قمت بالإجابة عنها في وقت سابق يرجى إعلامي بذلك. وبالتأكيد، كلما قدمتم معلومات أكثر كلما توفرت لدينا بيانات أكثر تمكننا من انجاز البحث بشكل أفضل. وجميع الأمثلة التي ستقدمونها حول تجاربكم الخاصة أو تجارب أشخاص آخرين تعرفونهم تعتبر قيمة للغاية.

المقابلة تغطي أربعة مواضيع. الموضوع الأول يتعلق بآرائكم حول //قدر. والثاني يتعلق بأفكاركم وتجاربكم حول الوجه/ ماء الوجه والتواضع والاحترام. الموضوع الثالث يتعلق بالقيم. وأخيرا الموضوع الرابع يتعلق بالشرف والعرض. يرجى العلم بأنه لا توجد إجابات صحيحة أو خاطئة على هذه الأسئلة، وأتمنى أن تكون إجاباتكم واضحة وصريحة. كما يرجى التأكد من أن جميع الإجابات ستعامل بسرية تامة، ولن يتم استخدامها لأية أغراض أخرى. ولن يتم كذلك الإفصاح عن هويتكم تحت أي ظرف من الظروف.

هل يمكنك إخباري المزيد عن نفسك (اطرح أسئلة لمعرفة إن كان المتحدث متزوج أم لا، إن كان لديه أطفال، أو أية أسئلة أخرى ترونها مناسبة لجعل الحوار سلس وممتع وجعل المتحدث يشعر براحة أكبر عند الإجابة عن الأسئلة. بعدها، باشر بمعرفة الإجابات عن الأسئلة التالية):

- العمر
- الجنس
- المهنة
- التحصيل العلمي
- مكان الولادة
- المكان الذي قضيت فيه معظم حياتك؟
- هل أنت متزوج/ متزوجة؟ عدد الأطفال؟
- المذهب (إن كان من المقبول طرح هذا السؤال)
- الديانة (إن كان من المقبول طرح هذا

<p>○ Upper-middle income group ○ High income group</p> <p>Do you have any questions? Please don't hesitate to ask questions any time you want.</p> <p>Show the informed consent form now and gain consent.</p> <p>Now, I am going to record your responses because I cannot write fast enough and I don't want to miss any part of what you say.</p> <p>I hope it is okay with you to record the interview.</p> <p>First, I am going to ask questions about Fate</p> <p><b>Q1. FATE/CONTROL</b></p> <p><b>1A.</b> What words come to mind when we say fate?</p> <p>How much do you believe that important things that happen in your life are in your control?</p> <p>Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].</p> <p>Who or what do you think controls the events in your life?</p> <p>Do you feel that you are able to influence important decisions in your own life? (<i>Probe personal, interpersonal, and socio-political domains of life, for example, education and work, relationships, and larger issues affecting your life such as how the economy is run or other regional and country wide decisions</i>).</p> <p>Do you think people in your country feel that</p>	<p>(السؤال)</p> <p>● عندما نتحدث عن مستوى دخل الناس في بلدك، إلى أي فئة تنتمي أسرتك؟</p> <p>○ فئة الدخل المنخفض ○ فئة الدخل المنخفض-المتوسط ○ فئة الدخل المتوسط ○ فئة الدخل المتوسط-العالي ○ فئة الدخل العالي</p> <p>هل لديك أية استفسارات؟ يرجى عدم التردد بطرح الأسئلة في أي وقت تريد.</p> <p>والآن، ابرز استمارة الموافقة واحصل على موافقة المتحدث.</p> <p>والآن، سأقوم بتسجيل إجاباتكم لأنني لا أستطيع الكتابة بسرعة كافية، ولا أريد أن يفوتني أي جزء من حديثكم.</p> <p>أتمنى أن لا يزعجكم تسجيلي للمقابلة؟</p> <p>أولاً، سأطرح عليك بعض الأسئلة حول <b>القدر/ السيطرة</b></p> <p><b>السؤال الأول القدر/ السيطرة</b></p> <p>1أ. ما العبارات التي تخطر في بالك عندما نقول قدر؟</p> <p>ما مدى قناعتك بأنك تستطيع التحكم بسير الأحداث المهمة في حياتك؟</p> <p>الرجاء الإجابة باستخدام مقياس من 1 - 5، حيث 1 معناه: "ليس مهم أبداً"، و 3 معناه "مهم نوعاً ما"، و 5 معناه "مهم للغاية"</p> <p>ومن أو ماذا تعتقد يسيطر على سير هذه الأحداث؟</p> <p>هل تشعر أنه بإمكانك التحكم بالقرارات المهمة في حياتك؟ (بحث: العلاقات الشخصية، العلاقات مع الآخرين، العوامل الاجتماعية والسياسية التي تؤثر على حياتك مثل التعليم والعمل، بالإضافة إلى المسائل الكبيرة الأخرى مثل الطريقة التي يدار فيها الاقتصاد، أو قرارات محلية أو دولية</p>
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they are able to influence important decisions in their own life? How important is that for them?

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

**1B.** Can you tell me about the situations that occur because of fate (qadar) and why?

[Probe: \_\_\_\_\_ situations are subject to fate.]

Which situations are not as attributable to fate?

[Probe: \_\_\_\_\_ situations are not subject to fate].

Do you think that a person can change his/her fate? Why or why not?

**1C.** Would you say that you focus more on the past, the present, or the future?  
How important is it to plan for the future? Why or why not?

**1D.** Do you believe in fate? Do people in your country believe in fate? [Probe: meaning and importance of fate]

## Q2: PUBLIC IMAGE AND FACE

**2A.** What does *Wajh* mean to you?

What words come to mind when we say "Wajh"?

How important is it to you to protect your Wajh so you do not lose Wajh?

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

(معينة.)

هل يعتقد الناس في بلدك أنه باستطاعتهم التأثير والتحكم بالقرارات المهمة في حياتهم؟ ما مدى قناعتهم بأنهم يستطيعون التحكم بسير الأحداث المهمة في حياتهم؟

الرجاء الإجابة باستخدام مقياس من 1 - 5، حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

**1 ب)** هل بإمكانك إخباري عن حالات معينة خضعت للقدر، لماذا خضعت للقدر؟

(بحث: الحالات التالية: \_\_\_\_\_ تخضع للقدر.)

ما هي الحالات التي لا تخضع للقدر؟

(بحث: الحالات التي لا تخضع للقدر \_\_\_\_\_.)

هل تعتقد بأن الشخص قادر على تغيير قدره؟ لماذا؟

**1 ج)** هل تركز أكثر على الماضي أم الحاضر أم بالمستقبل؟

ما أهمية التخطيط للمستقبل؟ لماذا؟

**1 د)** هل تؤمن بالقدر؟ هل يؤمن سكان بلدك بالقدر؟ (بحث: كل ما يتعلق بالقدر وأهميته.)

السؤال الثاني: المكانة الاجتماعية والوجه/ ماء الوجه

أ) ماذا يعني لك الوجه/ ماء الوجه؟

ما العبارات التي تخطر في بالك عندما نقول "وجه أو ماء الوجه"؟

ما أهمية المحافظة على ماء الوجه؟

How important is it to people in your country to not lose face [*Probe: associations and importance of Wajh to self and in the country*]

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

**2B.** Wajh can be lost. Can you give me some examples of ways in which Wajh can be lost, from relatively mild examples, to more moderate, and more extreme ways in which Wajh can be lost? You can use personal examples or those that you have heard of, in work and non-work contexts.

[*Probe: antecedents of loss of Wajh; Wajh would be lost if \_\_\_\_\_; Keep mild, moderate, and extreme examples classified*].

What happens when face is lost? What kind of feelings do you or others experience in these situations? [*Probe: the emotions that are felt; When my wajh is lost, I or others feel \_\_\_\_\_*].

What do you or others do in response to the loss of Wajh?

[*Probe: the behavioral reactions of loss of Wajh: When my wajh is lost, I or others \_\_\_\_\_*]

**2D.** Does it make a difference if the person who causes your Wajh to be lost is someone you know well or is someone you do not know well? [*Probe: ingroup-outgroup effects; how is the loss of face experienced if it occurs within one's family or group versus someone you do not know well?*].

Does your wajh loss affect others? If yes, whom? [*Probe: how contagious is face loss, how interrelated is face*].

Does others' wajh loss affect you? If so, whose

الرجاء الإجابة باستخدام مقياس من 1 – 5؛ حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

ما أهمية المحافظة على الوجه/ ماء الوجه بالنسبة للناس في بلدك؟ (بحث: كل ما يتعلق بحفظ ماء الوجه وأهميته بالنسبة للشخص وباقي أفراد المجتمع).

الرجاء الإجابة باستخدام مقياس من 1 – 5؛ حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

2ب) أحيانا يمكن للشخص ان يفقد ماء وجهه. هل بإمكانك إعطائي بعض الأمثلة عن الطرق التي يفقد فيها الشخص ماء وجهه؟ يرجى التدرج بالأمثلة من البسيطة إلى المتوسطة ثم الشديدة؟ بإمكانك الإشارة إلى تجاربك الشخصية أو تجارب أشخاص آخرين سمعت عنها في العمل أو خارج نطاق العمل. (بحث: العواقب الناجمة بسبب فقدان ماء وجه الشخص: الشخص يفقد ماء وجهه إذا \_\_\_\_\_، صنف إجابتك حسب شدتها (بسيطة/ متوسطة/ شديدة).

ماذا يحصل عندما يفقد الشخص ماء وجهه؟ ما هي الأحاسيس التي تراودك أو تراود الآخرين في حالات مثل هذه؟ (بحث: الأحاسيس التي يشعر بها الشخص عندما يفقد ماء وجهه، عندما افقد ماء وجهي اشعر أو يشعر الآخرون بـ \_\_\_\_\_).

(بحث: ردود الأفعال أو التصرفات الناجمة بسبب فقدان ماء الوجه: عندما افقد ماء وجهي أو يفقد الآخرون ماء وجههم، ردت فعلي (أو ردت فعلهم) تكون \_\_\_\_\_).

2 د) هل هناك فرق ان كان الذي تسبب في فقدانك لماء وجهك شخص تعرفه مقارنة

wajh is most important to you? In what ways does their wajh affect you personally if it is lost? [Probe: how contagious is face loss, how interrelated is face].

### Q3. MODESTY

3A. What does *Modesty* mean to you?

What words come to mind when we say 'Modesty'

[Probe: associations with Modesty].

How important is being modest to you?

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

How important is being modest to people in your country? [Probe: Importance of modesty for oneself and in the country at large].

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

How does one demonstrate one is modest in everyday contexts, in work and non work contexts? How might this vary depending if you are of high status or of low status?

[Probe: Behaviors that are modest; Probe differences depending on status]

3B. Sometimes we expect people to act in a modest way, but they do not. Can you give me an example of situations when a person was not modest even though you were expecting them to be?

[Probe: antecedents of modesty violations; A person acts immodestly when they \_\_\_\_\_].

بشخص آخر لا تعرفه جيداً؟ (بحث: عواقب فقدان ماء الوجه بسبب شخص تعرفه مقابل شخص آخر لا تعرفه جيداً. ما هي المشاعر التي تراود الشخص عندما يفقد ماء وجهه داخل استره أو بين أشخاص يعرفهم، مقابل فقدانه لماء وجهه بسبب شخص لا يعرفه جيداً؟).

هل يؤثر فقدان الآخرين لماء وجههم عليك شخصياً؟ ان كان الجواب نعم، ماء وجهه من الأهم بالنسبة لك؟ كيف يؤثر فقدانهم لماء وجههم عليك شخصياً؟ (بحث: اثر فقدان ماء الوجه عليك شخصياً، ما علاقته عليك شخصياً).

السؤال الثالث: التواضع

3أ) ماذا يعني لك التواضع؟

ما العبارات التي تخطر في بالك عندما نقول "تواضع"؟

(بحث: كل ما يتعلق بالتواضع).

ما أهمية التواضع بالنسبة لك؟

الرجاء الإجابة باستخدام مقياس من 1 - 5، حيث 1 معناه: "ليس مهم أبداً"، و 3 معناه "مهم نوعاً ما"، و 5 معناه "مهم للغاية"

ما أهمية التواضع بالنسبة للناس في بلدك؟ (بحث: أهمية التواضع بالنسبة للفرد بشكل خاص وباقي أفراد المجتمع بشكل عام).

الرجاء الإجابة باستخدام مقياس من 1 - 5، حيث 1 معناه: "ليس مهم أبداً"، و 3 معناه "مهم نوعاً ما"، و 5 معناه "مهم للغاية"

كيف يظهر الشخص تواضعه في الحياة اليومية

What happens when a person is immodest in a situation when they should be modest? What kind of feelings do you or others experience in these situations?

[Probe: emotional consequences of modesty violations: When a person is immodest, I or others feel \_\_\_\_\_].

What do you or others do in response to a person being immodest?

[Probe: the behavioral reactions of modesty violations; When a person is immodest, I or others \_\_\_\_\_].

3C. Does it make a difference if the person who acts immodestly is a family member/close friend or is someone you do not know well?

[Probe: ingroup-outgroup effects; how are modesty violations experienced if it occurs within ones group versus someone you do not know well].

3D. When you act modestly or immodestly, does that behavior reflect on other people in your life? Who? Does their ability to act modestly in the appropriate situation reflect on you? Can you give examples? [Probe: how contagious is modesty; how interrelated is modesty and among whom].

#### Q4: RESPECT/DIGNITY

4A. What does dignity mean to you?

What words come to mind when we say "Dignity"

[Probe associations with dignity].

How important is maintaining your dignity to you?

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

أثناء العمل أو خارج نطاق العمل؟ كيف يختلف هذا الأمر استنادا على مكانة الشخص الوظيفية (ان كان يشغل منصب وظيفي عالي أو منصب وظيفي اقل)؟ (بحث: التصرفات المتواضعة، بحث: الاختلافات اعتمادا على مكانة الشخص الوظيفية).

3ب) أحيانا نتوقع من الناس ان يتصرفوا بطريقة متواضعة لكنهم لا يفعلون ذلك. هل بإمكانك ان تخبرني عن بعض المواقف التي توقعت فيها ان يتصرف الشخص بتواضع لكنه لم يفعل ذلك؟ (بحث: أسباب التصرف بعدم تواضع: الشخص لا يتواضع عندما \_\_\_\_\_).

ماذا يحدث عندما لا يتصرف الشخص بتواضع في موقف كان يتوجب عليه التواضع؟ كيف تشعر أو يشعر الآخرون تجاه موقف مثل هذا؟ (بحث: الأحاسيس الناجمة عن عدم تصرف الآخرين بتواضع. عندما لا يتواضع الآخرون، اشعر أو يشعر الآخرون بـ \_\_\_\_\_).

كيف تتصرف أو يتصرف الآخرون مع شخص غير متواضع؟ (بحث: ردود الأفعال تجاه شخص أو أشخاص لا يتصرفون بتواضع، عندما لا يتواضع شخص آخر اشعر أو يشعر الآخرون بـ \_\_\_\_\_).

3ج) هل يختلف الحال ان كان الشخص الغير متواضع من باقي أفراد عائلتك أو شخص تعرفه جيدا مقارنة بشخص لا تعرفه جيدا؟ (بحث: ردود الأفعال تجاه شخص تعرفه يتصرف بعدم تواضع مقارنة بشخص آخر غير متواضع لكن لا تعرفه جيدا).

3د) عندما تتصرف بتواضع او بغير تواضع، هل ينعكس تصرفك هذا على أشخاص آخرون في حياتك؟ على من؟ هل لقابليتهم على التصرف بتواضع في المواقف الصحيحة أي تأثير عليك؟ (بحث: عواقب التصرف بتواضع: علاقته بالآخرين ومع من؟).



How important is maintaining your dignity to people in your country? [*Probe: importance of dignity to oneself and to others in the country*]

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

Some people believe that all human beings have a certain worth, no matter what their circumstances and no matter what other people think of them. Do you agree? If so, what is the basis for this worth? [*Probe: What makes a person have worth?*].

Do you think that others in your country would agree? What would they think is the basis of this worth?

Can this worth be taken away by other people? Can you give an example? Can a person give up this worth themselves so that they no longer have it? Can you give an example? [*probe: associations with dignity loss ADD: Ask for as many examples as possible*]

Do people in your country think worth can be taken away?

What happens if someone's worth is taken away? [*Probe consequences of worth being taken away*].

If worth is taken away, does it affect others? [*Probe the extent to which dignity loss is contagious and affects others; who does it affect*].

Can dignity be regained? How might it be regained?

4b: Sometimes we expect people to act in a respectful manner, but they do not. Can you give me some examples of ways in which people can behave in a disrespectful manner

السؤال الرابع: الاحترام/ عزة النفس/ الكرامة:  
ماذا تعني لك عزة النفس/ الكرامة؟

ما العبارات التي تخطر في بالك عندما نقول "كرامة"؟

(بحث: كل ما يتعلق بعزة النفس/ الكرامة).  
كم من المهم بالنسبة لك أن تكون كرامتك مصونة؟

الرجاء الإجابة باستخدام مقياس من 1 - 5،  
حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

كم من المهم ان تكون كرامتك مصونة بالنسبة للناس في بلدك؟ (بحث: أهمية الكرامة بالنسبة للشخص وباقي الناس في بلدك).

الرجاء الإجابة باستخدام مقياس من 1 - 5،  
حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

بعض الناس يؤمنون بان جميع الأشخاص لهم كرامة، مهما كانت ظروفهم وبعض النظر كيفما نظر لهم باقي الناس. هل توافق الرأي؟ إذا كنت توافق الرأي، على ماذا استندت إجابتك؟ (بحث: ما الذي يجعل للشخص قيمة في المجتمع؟)

هل تعتقد بان الناس في بلدك سيوافقونك الرأي؟  
مسألة تقديرهم للإنسان على ماذا تعتمد؟

هل يمكن لأشخاص ان ينتزعوا كرامة الأشخاص الآخرين؟ هل بإمكانك ان تعطيني مثال على ذلك؟ هل بإمكان الناس التخلي عن كرامتهم بأنفسهم، بحيث لا تكون لهم كرامة؟ هل يمكن إعطائي مثال على ذلك؟ (بحث: كل ما يتعلق بفقدان الشخص لكرامته في المجتمع).  
اسأل اكبر عدد من الأسئلة الممكنة.

هل يعتقد الناس في بلدك بأنه من الممكن انتزاع كرامة الشخص بحيث لا تكون له كرامة؟

You can use personal examples or those that you have heard of, in work and non-work contexts.

[Probe: antecedents of respect violations; A person acts disrespectfully when they\_\_\_\_\_].

What happens when a person is disrespectful in a situation when they should be respectful? What kind of feelings do you or others experience in these situations or what do you or others do in these situations?

[Probe: consequences of respect violations: When a person is disrespectful, I or others feel\_\_\_\_\_]

4C:. Does it make a difference if the person who does not show respect is a family member/close friend or is someone you do not know well] [Probe: ingroup-outgroup effects; how is being disrespectful experienced if it occurs within ones group versus someone you do not know well].

4D. Is there a difference between showing disrespect to a woman compared to showing disrespect to a man?

4E. We are interested to know whether you work largely by yourself in your job or if you work with others [Probe the nature of their work; is it done alone or in groups; Why do they work with others if they work in groups].

Can you tell us about some times when you or someone you know has worked well with others on a project? Why did you work together on the project? [Probe: Why do you think it went well – what did the other people bring to the situation in terms of personality, values, skills, or other things that made it go well?

Can you tell us about some times when you or

ماذا يحصل عندما لا تكون للشخص كرامة؟ (بحث: عواقب انتزاع كرامة الشخص في المجتمع بحيث لا تكون له كرامة أو اعتبار في المجتمع)

إن انتزعت كرامة الشخص، هل يؤثر ذلك على الآخرين؟ (بحث: درجة تأثير انتزاع كرامة الشخص على الآخرين، وعلى من تؤثر تحديداً؟)

هل يمكن للشخص استعادة كرامته؟ كيف يمكن استعادتها؟

4ب) أحيانا نتوقع من الناس أن يتصرفوا بطريقة محترمة، لكنهم لا يفعلون ذلك. هل بإمكانك إعطائي بعض الأمثلة عن حالات تصرف فيها الأشخاص بقلّة احترام؟ بطريقة غير محترمة؟

يمكنك الإشارة إلى تجاربك الشخصية، أو تجارب أشخاص آخرين سمعت عنها في العمل أو خارج نطاق العمل.

(بحث: أسباب التصرف بقلّة أو عدم احترام: الشخص لا يتصرف باحترام عندما \_\_\_\_\_).

ماذا يحدث عندما يتصرف الشخص بقلّة احترام في موقف كان يتحتم عليه التصرف باحترام؟ ما هي المشاعر التي تراودك أو تراود الآخرين في مثل هذه المواقف؟

(بحث: المشاعر الناجمة بسبب تصرف الآخرين بعدم احترام، عندما يقلل الشخص احترامه، اشعر أو يشعر الآخرون بـ \_\_\_\_\_).

3 ج) هل هناك فرق إن كان الشخص الذي قلل احترامه من باقي أفراد عائلتك، أو صديق عزيز عليك مقارنة بشخص آخر لا تعرفه

someone you know has worked with others on a project that did not go well? Why did you work together? Why do you think it did not go well – what did the other people bring to the situation in terms of personality, values, skills, etc. or other things that made it not go well?

When working with others on a project at your job:

- Do you need to trust the people you work with? Why?
- Does there need to be one leader? Why?
- Does everyone need to contribute equally? Why?
- Do all group members support one another? Why? How? What kinds of support do members provide each other?

Given everything we have just talked about, what do you think of when you hear the word “collaboration”?

#### Q5. General Basic Values

**5A.** What are some core values and personal virtues or characteristics that you think are important to have as guiding principles in your life?

What are some core values and personal virtues or characteristics that people in your country think are important to have as guiding principles in life?

**5B.** What values and virtues would you recommend that children be raised to have? (Probe: Children should be raised to \_\_\_\_\_). What would you recommend that one raise one’s children to avoid? (Probe: Children should not \_\_\_\_\_).

**5C.** Are there any values that need to be

جيداً؟ (بحث المشاعر الناجمة عندما يتصرف شخص تعرفه بقلة احترام مقابل شخص آخر لا تعرفه جيداً).

4d) هل هناك اختلاف بين إظهار قلة احترام للمرأة مقارنة بإظهار قلة احترام للرجل؟

4.ي) نهتم بالتعرف على الطريقة التي تعمل بها، هل تقوم بانجاز الأعمال الوظيفية بمفردك في اغلب الأحيان، أو هناك تعاون بينك وبين الآخرين؟ (بحث: طبيعة العمل، هل يعمل الشخص بمفرده أو مع مجموعة من الأشخاص. ما الذي يجعلهم يتعاونون مع الآخرين إن كانوا يعملون في مجاميع).

هل بإمكانك إخبارنا عن حالات قمت فيها أو قام فيها شخص تعرفه بالتعامل مع الآخرين بصورة جيدة لانجاز مشروع جماعي؟ ما هو هدف المشروع وكيف تعاونتم على انجازه؟ (بحث: برأيك لماذا نجح المشروع – ما الذي أضفاه الآخرون على المشروع بحيث نجح، تحدث عن شخصياتهم، قيمهم، مهاراتهم، أو أمور أخرى لعبت دور ايجابي في إنجاح المشروع؟)

هل بإمكانك إخبارنا عن حالات قمت فيها أو قام فيها أشخاص آخرون تعرفهم بالعمل على مشروع جماعي لكنه فشل في النهاية؟ ما هو هدف المشروع؟ برأيك لماذا فشل المشروع – ما الذي فعله الآخرون بحيث فشل المشروع، تحدث عن شخصياتهم، قيمهم، مهاراتهم... الخ؟

عندما تتعاون مع الآخرين على إنجاز مشروع ما في عملك:

- هل عليك الوثوق بالأشخاص الذي تتعاون معهم؟ لماذا؟
- هل على الجميع المساهمة بصورة متساوية؟ لماذا؟
- هل يدعم كل شخص في الجموع بعضه البعض؟ لماذا؟ كيف؟ ما هي أنواع/طبيعة الدعم الذي يقدمه أعضاء الفريق الواحد لبعضهم البعض؟

taught to girls and boys differently?

Do you think that, in general, men and women should have different roles in society?

Do people in your country believe that men and women should have different roles in society? (*Probe: different roles at work, politics, the home, in leadership positions?*).

### Q6: SHARAF AND IRD

6A. What does *Sharaf* mean to you?

What words come to mind when we say “Sharaf”

[*Probe: associations with Sharaf*].

How important is protecting your Sharaf to you?

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

How important is protecting Sharaf to people in your country? [*Probe: importance of this to self and others in one’s country*].

Please answer on a scale from 1 to 5, where 1 is not at all, 3 is somewhat, and 5 is very much].

6B. How does one demonstrate or prove one’s Sharaf or in everyday contexts, both in work and non-work settings? How might this vary depending if you are of high status or of low status? [*Probe: Behaviors that are honorable; Probe differences depending on status*]

6C. Sharaf can be insulted or threatened. Can

في نطاق ما تحدثنا عنه أعلاه، ماذا يخطر في بالك عندما تسمع كلمة "تعاون"؟

### السؤال الخامس: القيم الأساسية العامة

(أ) اذكر بعض القيم أو الصفات التي تعتقد انه من المهم أن يتحلى بها الشخص ليتمكن من توجيه حياته بالصورة الصحيحة؟

ما هي بعض القيم الأساسية أو الصفات الشخصية التي يراها الناس في بلدك ضرورية ومهمة لأنها تعتبر مبادئ توجيهية في الحياة؟

(ب) ما هي القيم التي توصي ان يتربى عليها الأطفال؟ (بحث: على الأطفال ان يتربوا على القيم التالية: \_\_\_\_\_ بماذا توصي تجنبه عند تربية الأطفال؟ (بحث: الأطفال يحب ان لا يتربوا على القيم التالية: \_\_\_\_\_).

(ت) هل هناك قيم معينة يجب تعليمها للبنات والذكور بصورة مختلفة؟

هل يعتقد الناس في بلدك بان هناك قيم معينة يجب تعليمها للبنات والذكور بصورة مختلفة؟

هل تعتقد عموماً بان الرجال والنساء يجب أن يكون لهم ادوار مختلفة في المجتمع؟ هل يعتقد الناس في بلدك بان الرجال والنساء يجب أن تكون لهم ادوار مختلفة في المجتمع؟ (بحث: الأدوار المختلفة في العمل، في مجال السياسة، في البيت، في المراكز القيادية؟).

### السؤال السادس: الشرف والعرض

(أ) ماذا يعني لك الشرف؟

ما العبارات التي تخطر في بالك عندما نقول

you give me some examples of ways in which Sharaf can be insulted or threatened, from relatively mild examples, to more moderate, and more extreme ways in which Sharaf can be insulted or threatened? You can use personal examples or those that you have heard of, in work and non-work contexts.

[Probe: antecedents of Sharaf violations; Sharaf would be threatened/insulted if \_\_\_\_; keep mild, moderate, and more extreme examples classified].

What happens when Sharaf is insulted or threatened? What kind of feelings do you or others experience in these situations?

[Probe: emotional consequences of Sharaf violations: When Sharaf is threatened/insulted, I or others feel \_\_\_\_].

What do you or others do in response to insults or threats to Sharaf?

[Probe: the behavioral reactions of Sharaf violations; When Sharaf is threatened/insulted, I or others \_\_\_\_].

**6D.** Does it make a difference if the person who threatens your Sharaf is someone you know well such as a family member or is a someone you do not know very well?

[Probe: ingroup-outgroup effects; how are Sharaf violations experienced if it occurs within the family versus with someone you do not know very well?].

Is your sharaf related to the sharaf of other people, and whom? [Probe: Family, others]. How does something affecting your sharaf affect the sharaf of others. Can you give an example?

(Probe: how contagious is Sharaf; how interrelated is Sharaf and among whom?).

"شرف"؟

(بحث كل ما يتعلق بالشرف).

ما مدى أهمية المحافظة على الشرف بالنسبة لك؟

الرجاء الإجابة باستخدام مقياس من 1 - 5، حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

ما أهمية حماية أو المحافظة على الشرف بالنسبة للناس في بلدك؟ (بحث: أهمية هذا الأمر بالنسبة لك وللآخرين في بلدك).

الرجاء الإجابة باستخدام مقياس من 1 - 5، حيث 1 معناه: "ليس مهم أبدا"، و 3 معناه "مهم نوعا ما"، و 5 معناه "مهم للغاية"

(ب) كيف يحافظ الشخص على شرفه أثناء حياته اليومية في العمل وخارج نطاق العمل؟ كيف يمكن أن يختلف هذا الأمر استنادا على مكانة الشخص الوظيفية (إن كان الشخص يشغل منصب وظيفي عالي أو منصب وظيفي اقل؟). (بحث: التصرفات المحترمة. بحث: الاختلافات اعتمادا على مكانة الشخص الوظيفية).

(ت) الشرف يمكن أن يهان أو يهدد. هل بإمكانك أن تعطيني بعض الأمثلة التي يمكن أن يهان فيها الشرف أو يهدد؟ يرجى البدء بالأمثلة البسيطة ومن ثم المتوسطة ثم الشديدة. وبإمكانك الإشارة إلى التجارب الشخصية أو تجارب الآخرين التي سمعت عنها في مكان العمل أو خارجه. (بحث: أسباب انتهاك الشرف، يهدد الشرف عندما \_\_\_\_\_، يرجى تصنيف الأمثلة على أنها بسطية/متوسطة/قوية).

ماذا يحدث عندما يهان أو يهدد الشرف؟ ما هي المشاعر التي تراودك أو تراود الآخرين في حالات مثل هذه؟ (بحث: المشاعر الناجمة بسبب انتهاك الشرف، عندما يهدد/

Likewise does the loss of the sharaf of others affect your sharaf? Whose Sharaf is most important to you? How does it affect you? Can you give an example?

**6E.** How is *ird* different than sharaf, if at all? What are the ways in which Ird is threatened or insulted that haven't been captured in the previous questions? What happens when Ird is threatened or insulted? (*Probe examples of antecedents and consequences as with above questions*).

يهان الشرف اشعر أو يشعر الآخرون بـ  
(\_\_\_\_\_).

كيف تتصرف تجاه إهانة أو تهديد الشرف؟  
(التصرفات الناجمة بسبب انتهاك الشرف، عندما  
يهان أو يهدد الشرف، اشعر أو يشعر الآخرون بـ  
(\_\_\_\_\_).

د) هل تختلف الحالة إن كان الشخص الذي  
هدد شرفك من باقي أفراد عائلتك أو شخص  
تعرفه جيداً، مقارنةً بشخص لا تعرفه جيداً؟  
(بحث: رد الفعل تجاه شخص تعرفه هان  
شرفك، مقارنةً بشخص آخر لا تعرفه جيداً.  
كيف تتعامل مع انتهاكات الشرف إن حصلت  
داخل عائلتك أو مع شخص تعرفه جيداً،  
مقارنةً بشخص لا تعرفه جيداً؟)

هل شرفك مرتبط بشرف أشخاص آخرين؟ من هم؟  
(بحث: العائلة، الأشخاص الآخرين). كيف يؤثر  
شيء يمس شرفك على شرف الآخرين؟ هل بإمكانك  
أن تعطيني مثال على ذلك؟ (بحث: أهمية الشرف:  
تأثير الشرف على الناس، وعلى من؟)

بالمثل، هل يؤثر فقدان الآخرين لشرفهم على شرفك  
أنت شخصياً؟ شرف من الأهم بالنسبة لك؟ كيف  
يؤثر عليك أنت شخصياً؟ هل بإمكانك إعطائي مثال  
على ذلك؟

ث) كيف يختلف العرض عن الشرف أن كان هناك  
اختلاف اصلاً؟ كيف يهدد أو يهان عرض  
الشخص؟ هل بإمكانك الإشارة إلى أمور أخرى  
لم نتطرق لها أعلاه؟ ماذا يحدث عندما يهان أو  
يهدد العرض؟ (بحث: عواقب انتهاك العرض).

**APPENDIX C. Development and Validation of the Honor Dictionary**

Appendix C1. Honor Dictionary Categories

<b>Honor Loss</b>	<b>Honor Gain</b>	<b>Virtuous Behavior</b>	<b>Protection</b>	<b>Context</b>	<b>Other</b>
Wrongdoing	Achievement	Morals, Manners	Sex, Body	Social Relations	General Honor
Harm	Status	Faith	Public Image	Gender	
Aggression			Strength/ Bravery	Family	
			Prevention	Gov/ Nationalism	
				Self	
				Military	
				Business	
				Ethnic	

Appendix C.2

*Average Use of Honor Language in the United States North vs. United States South During the Civil War (percent of total words)*

Category	South	North	Difference
Honor Dictionary	23.60	19.40	P < .001**

Percent difference was calculated using (South – North)/((South + North)/2)  
 \*\*p ≤ .001

*Differences in Honor Language Use between Modern North and South Newspapers*

City Name	Small City		Large City	
	Jackson, MS	Worcester, MA	Dallas, TX	Philadelphia, PA
Newspaper	Clarion-Ledger	Telegram & Gazette	Morning News	Inquirer
% of Honor Language	15.003	13.666	14.77	13.95
Difference		9.33%		5.72%
p-value		0.01**		0.002**

*Differences in Honor Language Use between North and South Oral Histories*

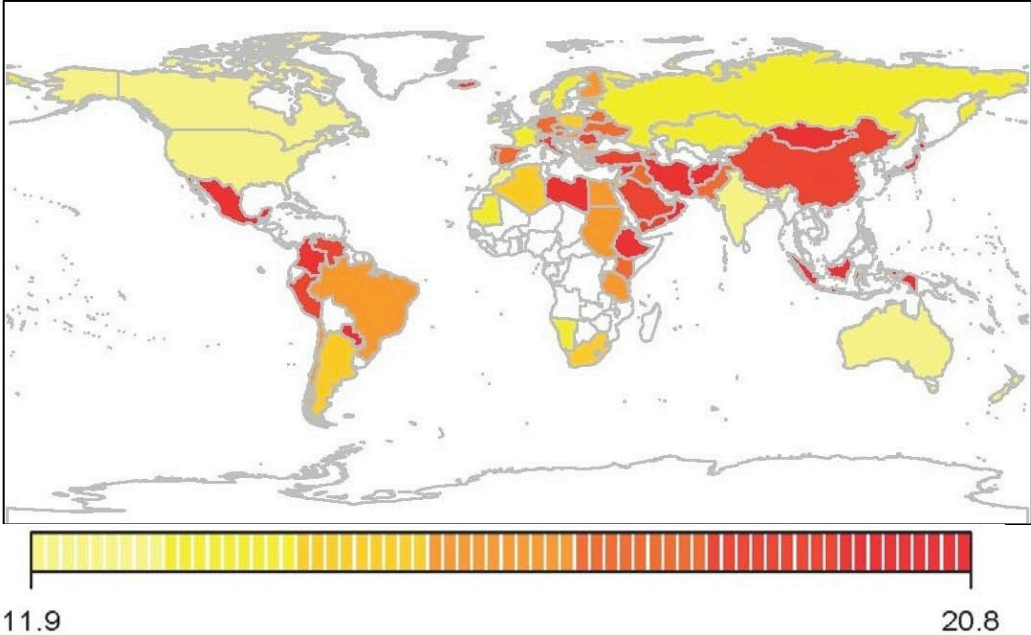
Region	South	North
% of Honor Language	10.117	7.78**
p-value		.001**

*Constitutions by Honor Language Regionally*

Region	Honor
Middle East	17.10
Latin America	16.42
Southern Europe	16.44
Northern Europe	15.17
Non-Euro English	13.88
Eastern Europe	16.72
Sub-Saharan Africa	16.97
East Asia	18.56



A Map of Honor Language in Constitutions Globally



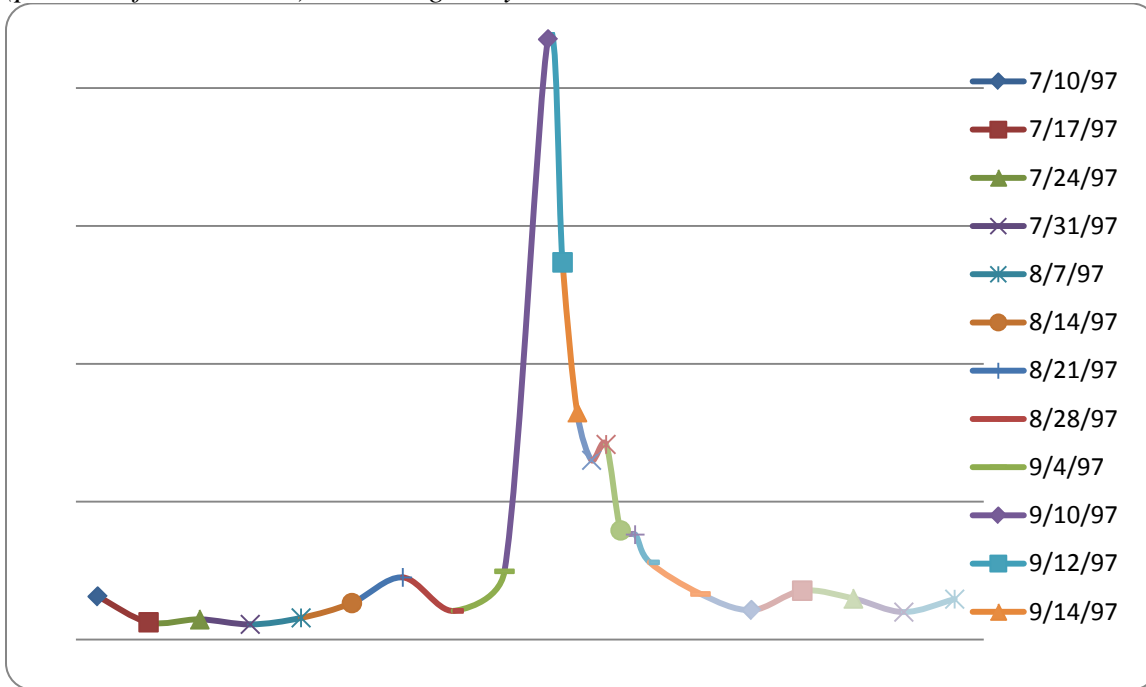
\*Note: Red and orange reflect highest levels of honor talk

Honor talk among Israelis and Palestinians on the Bitter Lemons Website

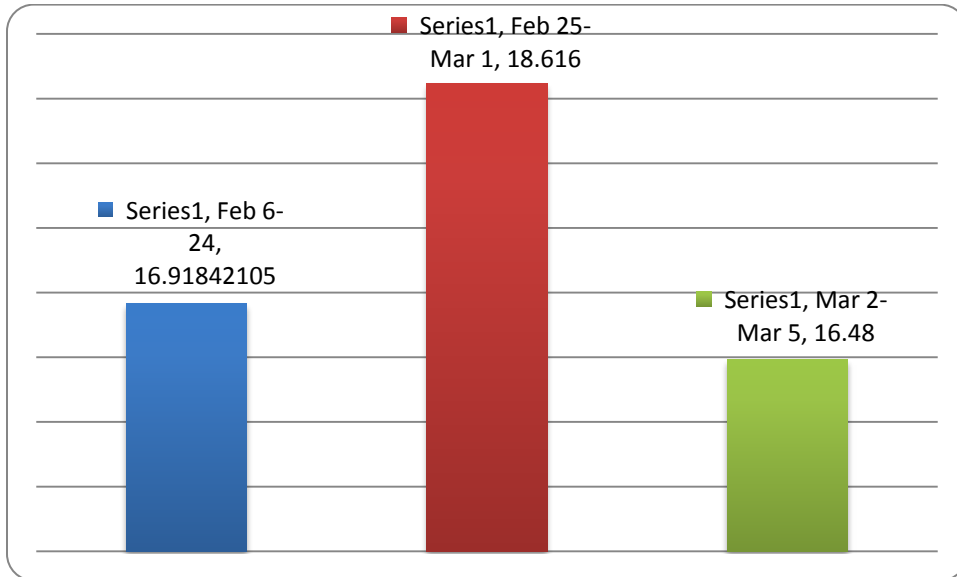
	Palestine	Israel
% of Honor	13.99	13.23**
p-value		0.001

### September 11<sup>th</sup> Data

Average Use of Honor Language in the United States before and after September 11<sup>th</sup> 2001  
(percent of total words) in US blogs July-November 2001



*Percentage of Honor Language in Afghani newspapers around the February 25<sup>th</sup> Quran burning incident.*



\*The difference between Feb 6 – Feb 24 and Feb 25 – Mar 1 is significant,  $p < 0.01$ .

## Appendix D: Concept Maps of Honor

### Appendix D.1. Glossary of Concept Categories

Concept Categories	Definition	Words/Phrases
Achievement	Concerns of personal achievement or indicators of accomplishments. It includes lack of achievements due to the small sample of words.	education achievement not satisfy life accomplishment work on accomplishment
Avoidance	Avoidance of behaving negatively or being careful	avoid illegal behavior don't wrong others don't treat others bad doesn't do injustice don't take others things don't make bad choice don't laugh at others don't follow dishonorable path don't behave laughable actions doesn't steal others rights not covet other property not grow beard not look weird conservative no false accusation avoid staring not trespass not ashamed not covet other ird less radical mindful avoid wrongdoing no vice don't associated with dishonorable person
Behavior (Good behavior)	General reference to behavior or positive behavior	behavior good behavior speech conduct good manner(s) appearance life style habits how one obtains

Concept Categories	Definition	Words/Phrases
		character proper person be human personality ( <i>Pakistan: reading in context, personality reflects general behavioral tendency</i> )
Bravery and Strength	Bravery, strength and resoluteness	bravery not run away vigor strength not coward stand up for beliefs stubbornness resoluteness courage strong personality fight for country internal fortitude no compromise don't have to agree irreversibility die for country
Body	Words that use body part as metaphors in describing the meaning of honor or events related to honor	body skin heart disease eye virus
Change	Comments about honor as something changing or evolving over time	change by age social change changeable overtimes
Country/Society	References of a group of individuals with shared identity and beliefs or values.	own country society land not own country other country government affect country don't treat country bad Arabs
Dignity	The word dignity	dignity
Duties and obligations (societal)	References of societal duties and one's obligation to the societal expectations	societal limits societal rules law don't punish

<b>Concept Categories</b>	<b>Definition</b>	<b>Words/Phrases</b>
		tribe control societal role/script
Duties and obligations (personal)	References of personal duties, obligations and responsibilities	obey live up duties pay payments appointments obeying parents other expectations take care of responsibilities correct performance for duties
Encompassing	Adjectives or descriptions that suggests the broad and great impact of honor on one's life	everything broad concept life something big everyone everywhere have life have world affect daily life world more than life basis of life reason for life autobiography
Family/family honor	Family members, kinship, and family honor	family children sister home mother parents brother wife daughter husband paternal aunts son cousin maternal aunts father family structure spouse remain home

Concept Categories	Definition	Words/Phrases
		residence family honor affect spouse affect children mother upset harm family honor talk in family court not protect family family socialization
General positive	General positive words or phrases	good better situations decency glory beautiful admiration special satisfaction meaningful have fun tend to good things good person
Honor Loss	Lack of honor, losing honor, having no honor or general action that leads to honor loss	no honor no dignity disgrace lose respect no respect follow a dishonorable path not feel honor for self worse no honor attack honor don't care honor insult verbal harm human trafficking victims harm honor unfair advantage
Honoring	Honor in the verb form (e.g., honoring parents)	honoring honoring parents
Important	Importance of honor	important valuable sacred
Integrity (negative)	Behavior that suggests lack of integrity	betrayal dishonest lie

Concept Categories	Definition	Words/Phrases
		immorality false witness
Integrity (positive)	Honesty, sincerity, trustworthiness, virtues	honest trustworthiness commitment sincerity integrity don't lie credibility keep promise virtues virtuous life objectiveness no treason
Loss	References of losses or having the sense of loss	not living have nothing death lose don't have life ending cannot recover doesn't deserve a spit (from honor loss)
Male female relation	Male and female relation and sexual relation between men and women	sexuality sexual honor no sexual relations legitimate relationships gender relations gender with good men ( <i>referred to women who should be in company of good men who would not cause them honor loss</i> )
Marriage	Marriage related matters	marriage until marriage divorced marriage stability marriage engagement widow
Men/men honor	Discussion of the role of men and men honor	men masculinity
Military	Concepts or roles relate to the military context	military war hero people in service soldiers
Modesty	Modesty (lack of arrogance)	modesty



<b>Concept Categories</b>	<b>Definition</b>	<b>Words/Phrases</b>
		humbling
Morality/Values	Concepts relate to being or having morals and values	morality values traditions principles customs norms ethics being right conscience faith in conscience uprightness have great values believe in values
Non-family relationship	Non-family relationships such as friends, neighbors, social circle	socialize association with others friends relations social daughters having friends interpersonal closeness relationship social circle affect others neighborhood women neighborhood children
Norms violation	Acting in an socially inappropriate or uncooperative manner	self-interested drinking smoking cigarette says inappropriate thing misbehave entering house without permission trespass limits improper behavior bad behavior
Over-valued	Description that suggest the emphasis on honor is exaggerated	exaggerated should not be given much credit
People person	Unspecified group of people or a specific person	Sheikh Mohammad Ibn Rashid humanity young people
Physical aggression	Concepts of physical aggression	physical aggressed blood murder

<b>Concept Categories</b>	<b>Definition</b>	<b>Words/Phrases</b>
		killing sister even mere doubt
Public image	General concerns of public image without valence	public image others opinion in public seek acknowledgement public life society give honor display claim reflect
Public image (Negative)	Concepts suggest having a negative public image or not well regarded by	negative public image defamatory being despised not respectable nothing in society shame target of talk
Public image (positive)	Concepts suggest having a negative public image	positive public image not targets of talks recognition respected being honored being listened
Religion	Religion references	religion faith fear god prophet saying jihad religious taboos commandment consider god religiously appropriate relationships blessed by god religiously improper relationship Muslims
Respect	Respect, act of respecting	respect courtesy parent's respect esteem honor to meet you
Self	References to the self, attention to oneself	self/I be true to self self expectation take care of self

<b>Concept Categories</b>	<b>Definition</b>	<b>Words/Phrases</b>
		responsible for self person title having personality self respect person sovereignty
Self-esteem	The sense of self-worth or pride, positive regard for the self	Self-esteem a raised head high forehead self worth
Shared knowledge	Referring to honor or ideas that are widely shared and agreed on	widely known concept unifying concept agree on general understanding dividing people
Social status	Concepts relate to social status and standing and they could be high, low or general reference	Social status economic position financial prestige social standing lowering director place in society elevation of place teacher elderly honorable teacher privilege social significance distinction
Treatment to others	How a person behave toward or treat others	good intentions kindness care love accept treat others treat wife treat children treat wife honorably make others happy not worshipping but treat specially
Women/women honor	References to women and women honor	women women in family femininity
Women honor loss	Concepts specifically relate to	can be raped

<b>Concept Categories</b>	<b>Definition</b>	<b>Words/Phrases</b>
	women honor loss (e.g., rape, assaults on women)	rape assaulting women hold no blame women honor loss unwanted sexual assault
Work	Concepts relate to work, occupations, and the business domain	work professional honor performance work ethics hard work affect work affect company work dedication do job properly affect boss professionalism production selling and buying respect job white collar
Wrongdoing	Illegal actions or wrongdoing	break law thief greed crime prisoners wrongdoing forbidden things infringement others rights bad person tamper profession honor crimes

## Appendix D.2

### Concept category networks across countries

#### Egypt

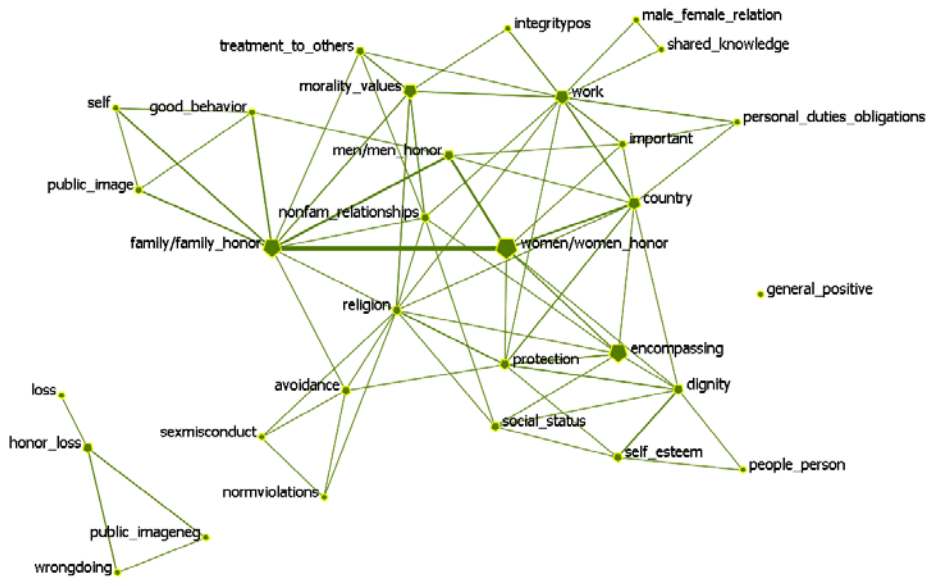
EgyptWAall\_merged



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#### Iraq

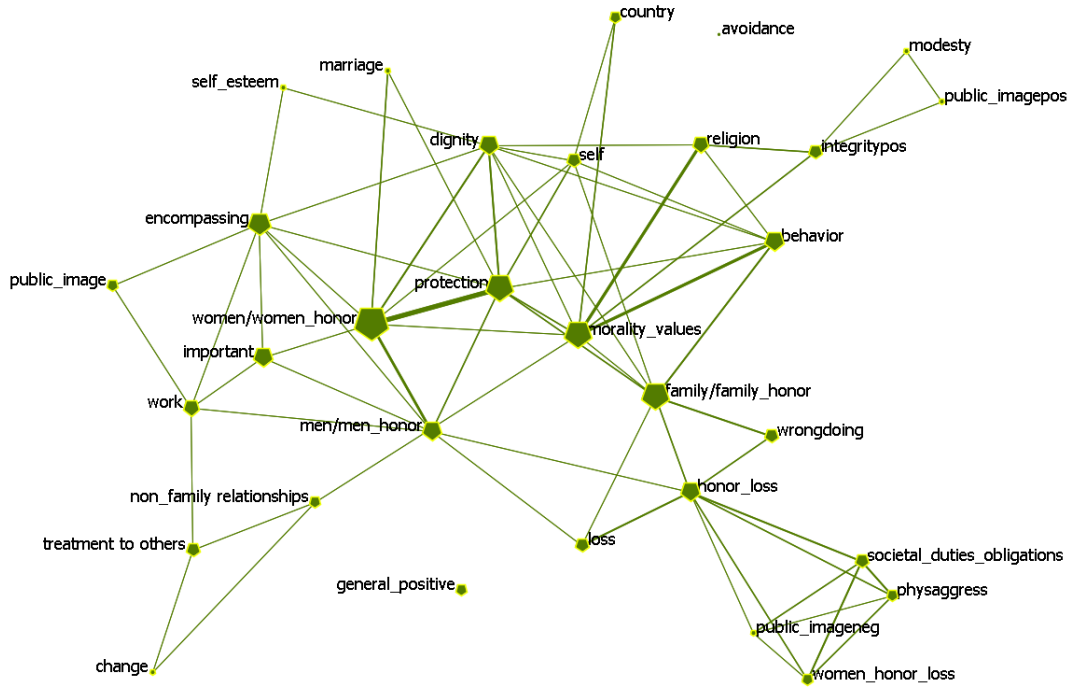
Iraqall



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# Jordan

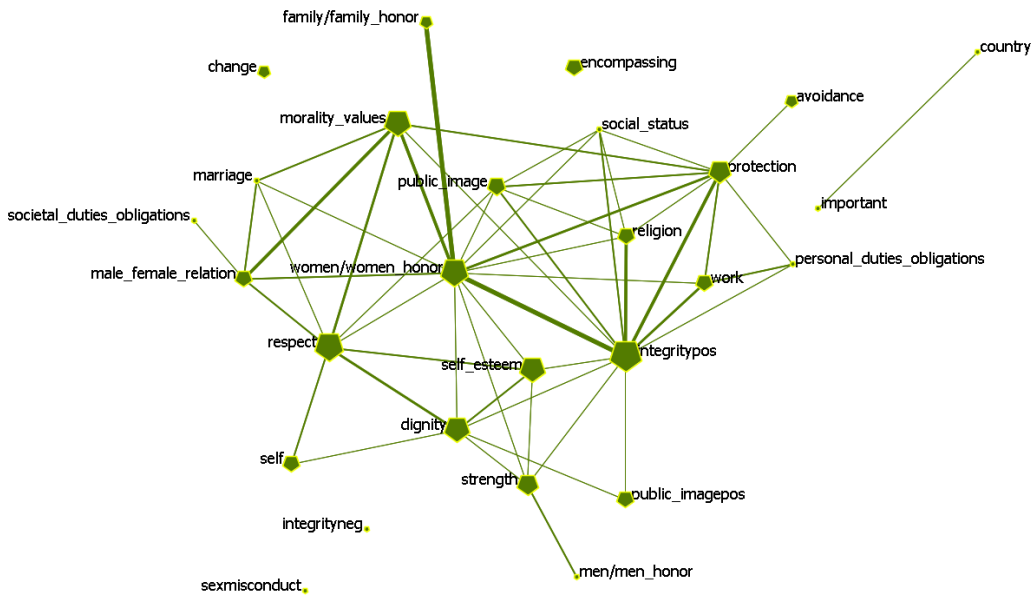
Jordanall\_merged



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# Lebanon

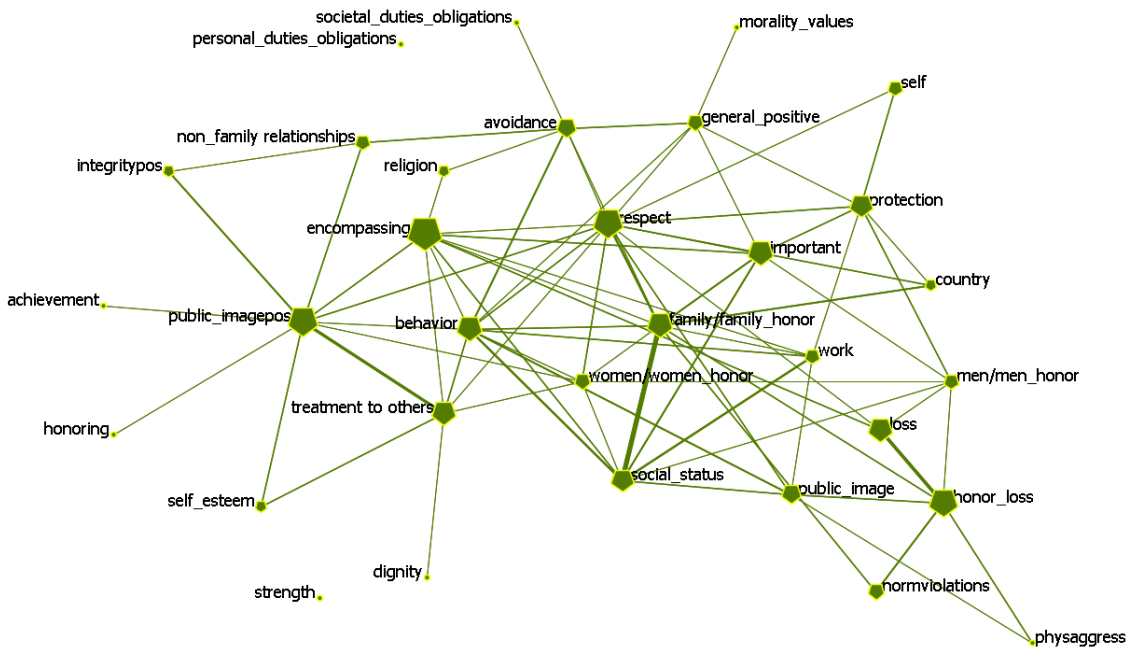
LebanonWAall\_merged



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# Pakistan

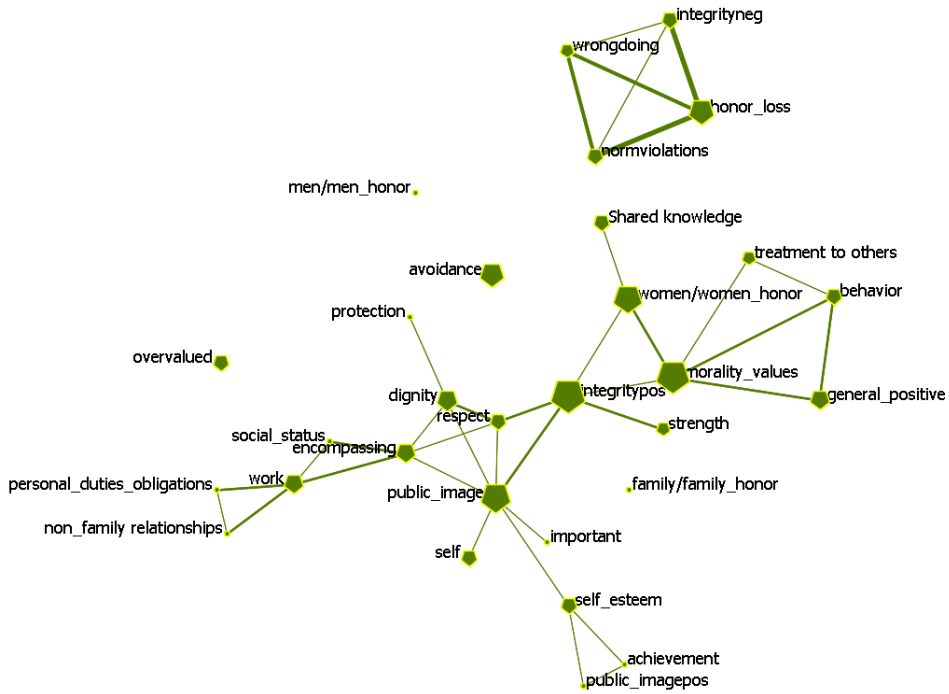
Pakistanall\_merged



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# Turkey

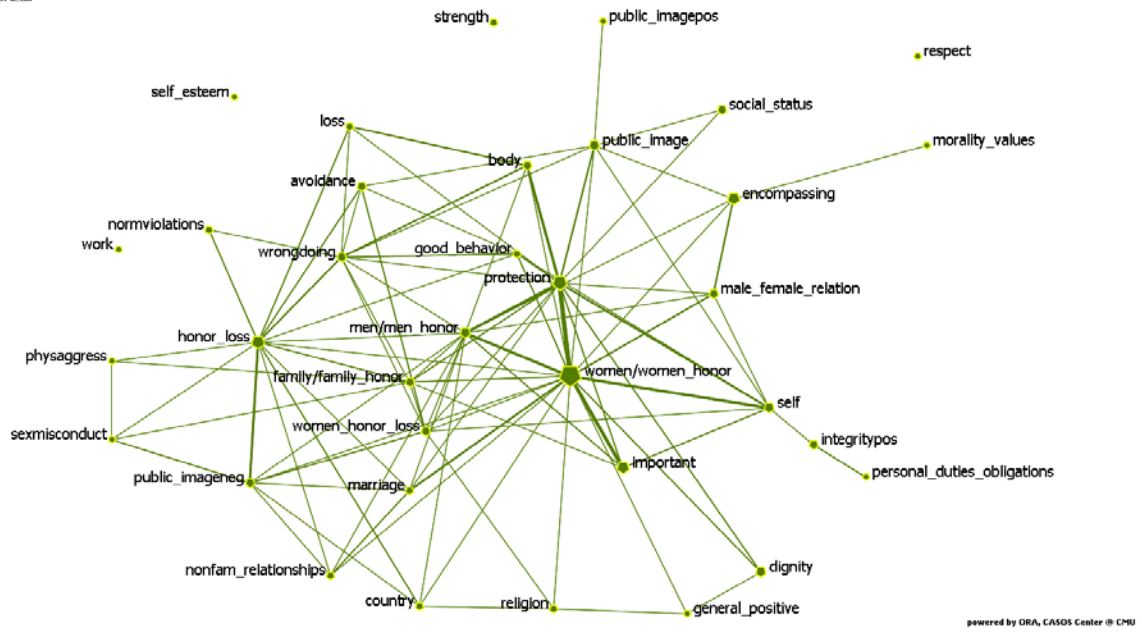
Turkeyall



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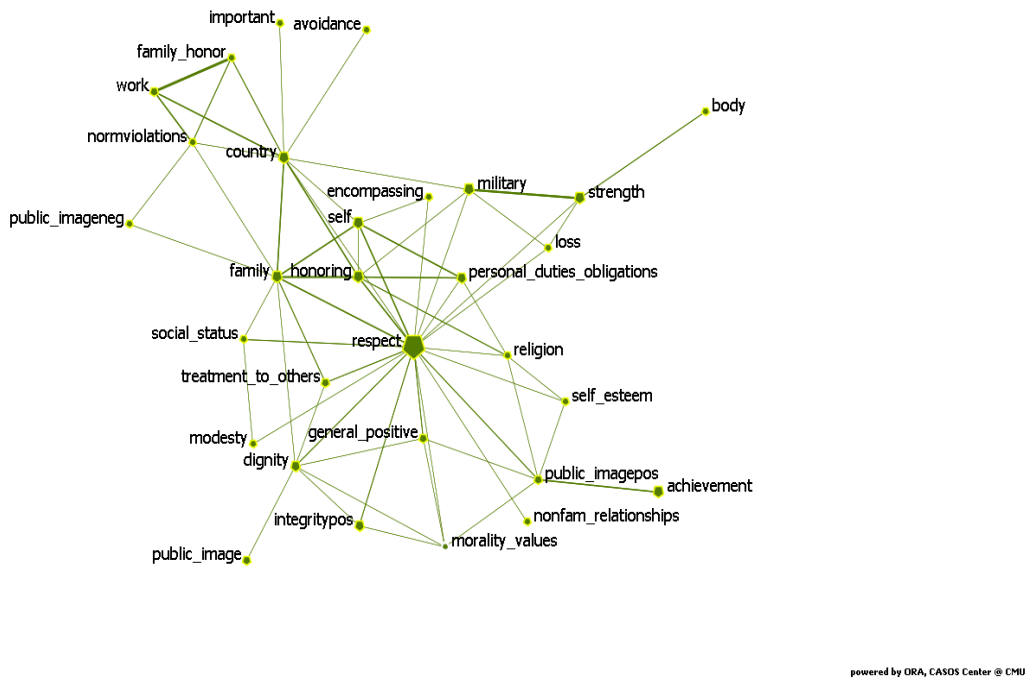
# UAE

UAE:all



# US

US:all





### Appendix D.3. Glossary of Concept Categories of Honor

#### Wasta Words Association Categories

Label	Category	Category Definition/notes/examples
ASSISTANCE_FAVOR	Assistance	Help, assistance, favor
BADWASTA	Bad_wasta	using wasta with bad intention or unethically
BUSINESS	Business	Business transaction, sales
COMMON	Common practice	Including concepts that suggest wasta as a common practice
CORRUPTION	Corruption	
COUNTRY	Country/Society	
DAILYROUTINE	Daily_needs -- Routine maintenance	getting food, transportation, etc.
DIFFICULTGOAL	Indications of lacking self-efficacy or resource	including references of difficult task or complicated problems
EDUACCESS	education	Access to education, education attainment (graduation)
FAILEDGOAL	Failure to obtain goals (Opposite of 34)	needs were not met, job not done
FAMILY	Family	
FASTER_EASIER	Results of intercession	facilitate the process, outcomes are facilitated, make it quicker, easier, faster, etc.
FRIENDS	Friends	
GENERALNETWORK	General_social_network	references to one's social network or relationships as a whole, or general references of people who one meet or come across
GOALATTAINMENT	Goal attainment or fulfilling of needs/wants, completion of task	getting things completed, obtain desire/ access to something unspecific
GOOD WASTA	good_wasta	Using wasta with good intention
GOODCHARACTER	person of good character (e.g., good manner, proper behavior, trustworthy)	*in Turkey include descriptions of people of good nature like educated, intellectuals, etc.
GOODCONNECTION	Good_connections	Including Turkey concepts of educated/cultivated people, good environment/friendly environment
GOVERNMENT	Access to government services	Including politics
INFLUENCE	Use of one's power/influence	
INJUSTICE	Unjustified privilege/violation of individuals rights	
INTERCESSION	Intercession	someone intercedes, or doing something on behalf of others, the go between

JOB	Job acquisition and advancement	Related to getting a job/position, promotion and work evaluation, job opportunities
LEGITIMACY	Having the needed qualifications or deserving of the wants	being qualified or having the merit, deserving of certain position, who spent the efforts
MEDICAL	Daily needs -- medical assistance	
MONEY	Money	references to money or financial transaction
NEGATIVE	Negative feelings generated by wasta	Negative evaluation of wasta, or negative feelings generated by wasta
NEGATIVECONSEQ	Negative consequences for society / larger group	including potential negative consequence of using wasta irresponsibly
NETWORKEXPANSION	socializing/network expansion	networking with people, including those who clearly intend to develop wasta relationship/ actively seeking or strategy to develop wasta/connections, concerns about building one's connections
NOINTEGRITY	lack honor or integrity	
NOJOB	no_job	lack of jobs, being fired
NORELATIONSHIP	relationship maintenance (negative)	Fail to maintain relationships
NORULES	rules/orders/not following rules	Indication that one doesn't have to follow rules
NOTUSEWASTA	Avoidance of wasta, or wasta no needed	avoiding the use of wasta, actively avoid using wasta, or not need
NOWASTA	No wasta	Describe a person have no wasta/no connections
OPPORESSION	Oppression	Including abuse that leads to unfair/unjust outcome
POSITIVE	positive_evaluation	
PPL_HAS_WASTA	People who are in a position to have a lot of wasta/influence, people who have lot of wasta	successful people, high status individuals, educated people, professionals; having contact with these individuals
PROBLEMSOLV	problem solving	
REGULARCONTACT	Interpersonal or direct contact/communciations	references to people who one has direct contact or interaction with, immediate community like neighbors

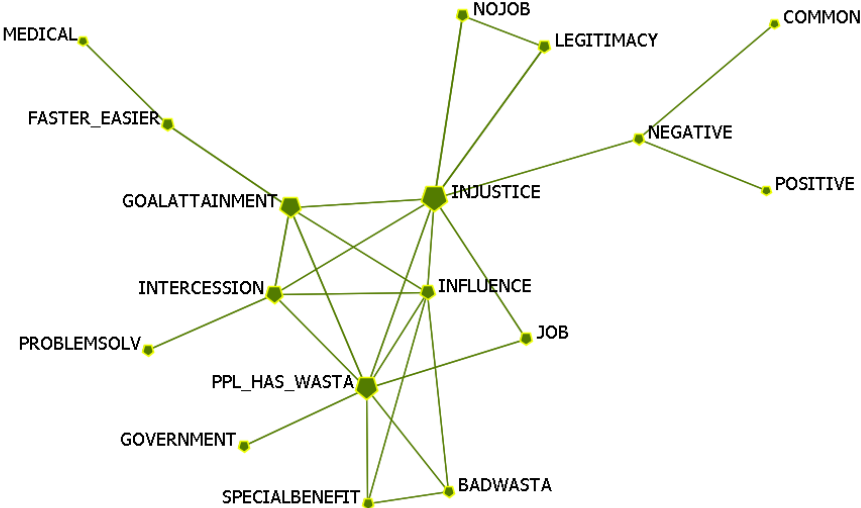
RELATIONSHIPQUALITY	relationship development and maintenance with affections	With a focus on relational quality or affectionate relationships
SELF	self-identity/self concepts	references to one self
SPECIALBENEFIT	Getting benefits beyond typical standards or needs	becoming more successful, getting a special job
SUBNETWORK	sub-network	indication of some part of a social network (e.g., those who are close, personal network vs. work network)
TECHNOLOGY	social media/technology	references to social media/internet/technology as means of social connections
WORKRELATIONSHIP	work_relationship	

Appendix D.4.

Concept networks of Wasta as intercession across countries

Jordan

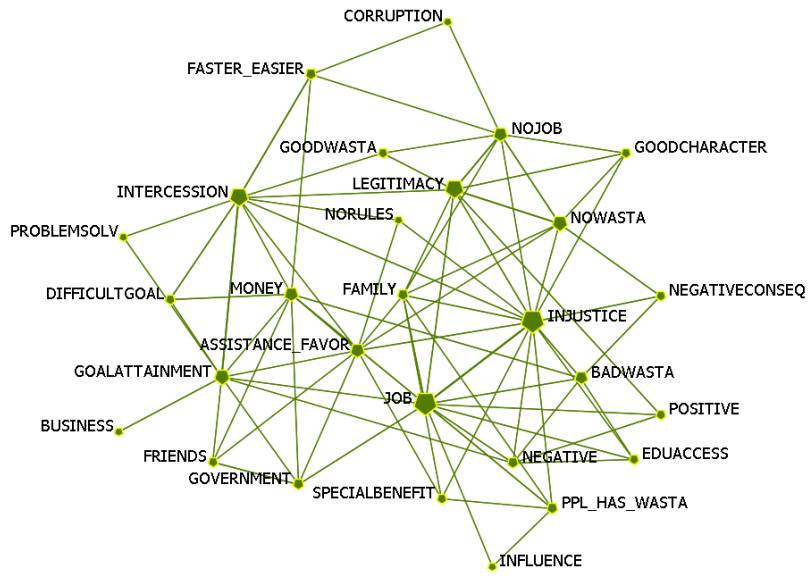
Meta Network



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# Iraq

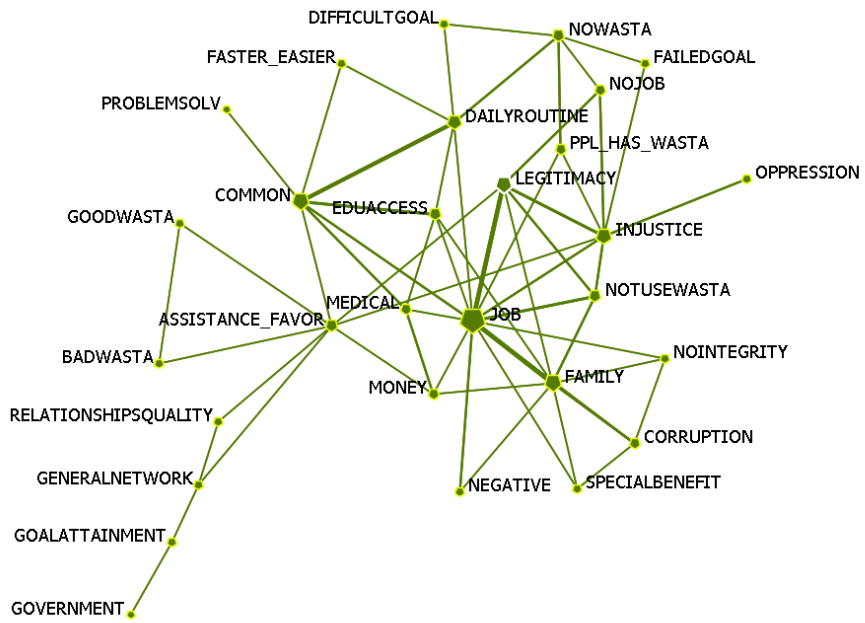
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# Egypt

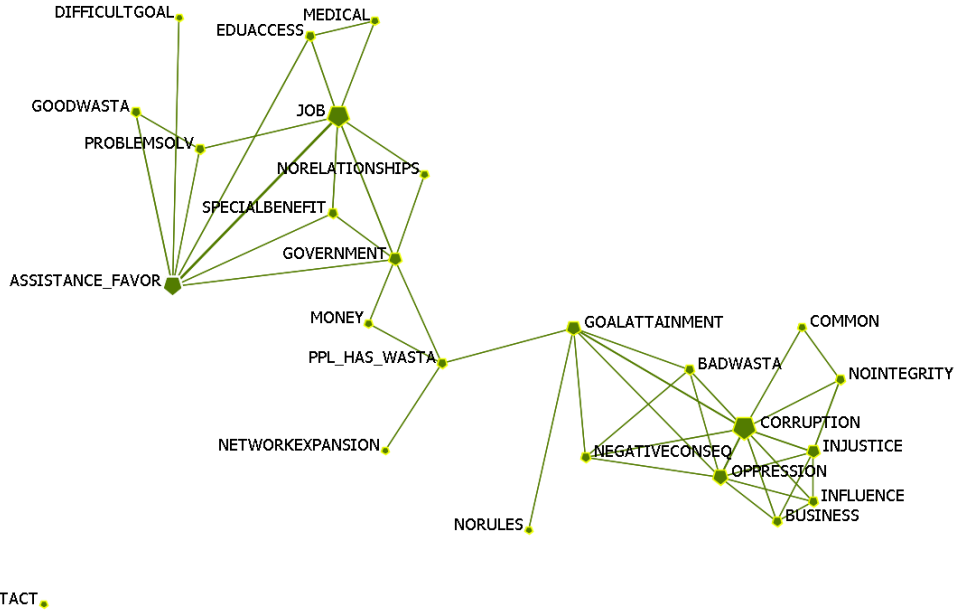
Meta Network



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# Lebanon

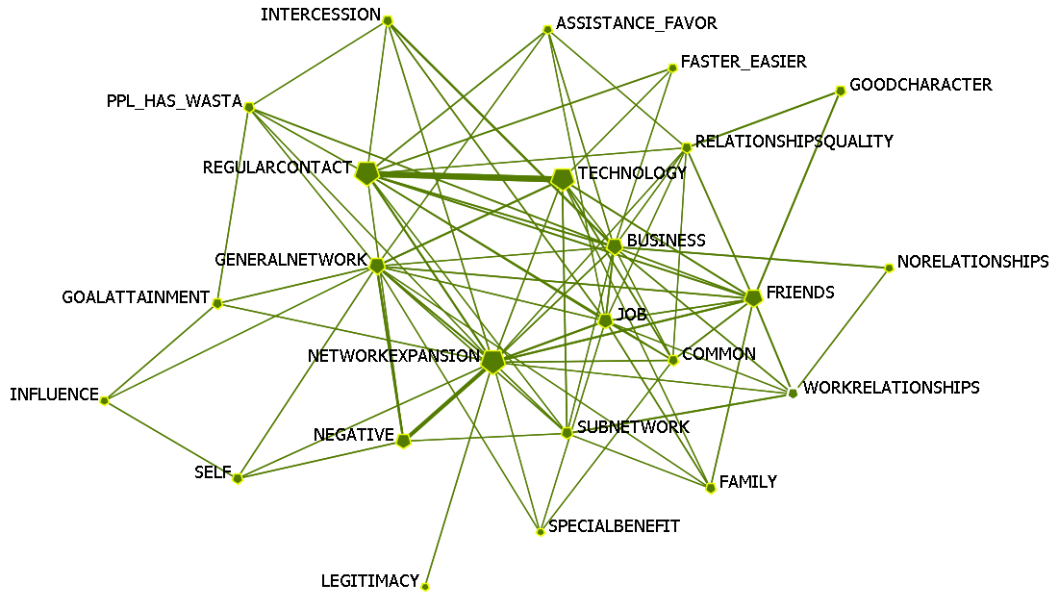
Meta Network



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# US

Meta Network

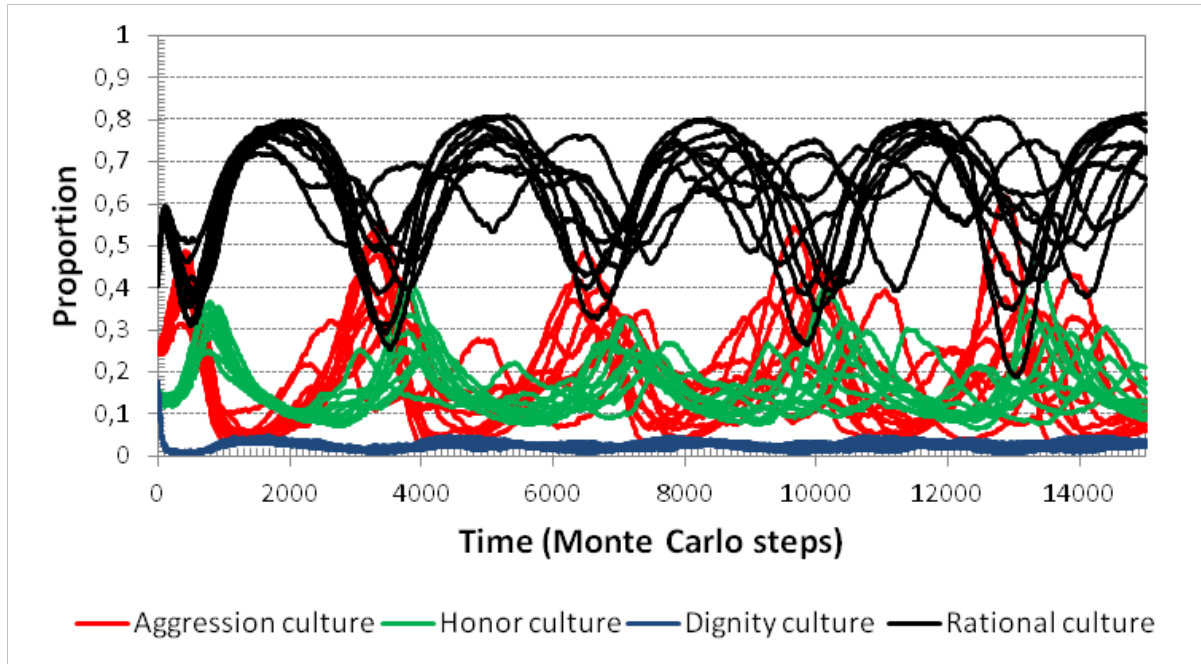


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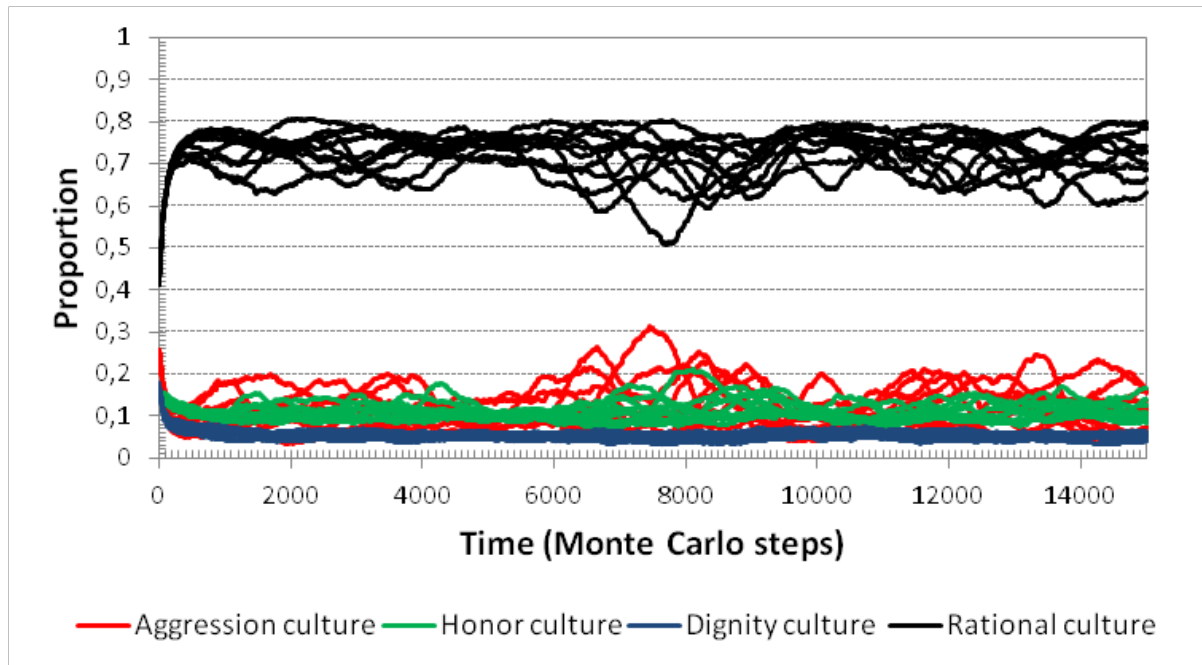


Appendix E: Honor Computational Model Results

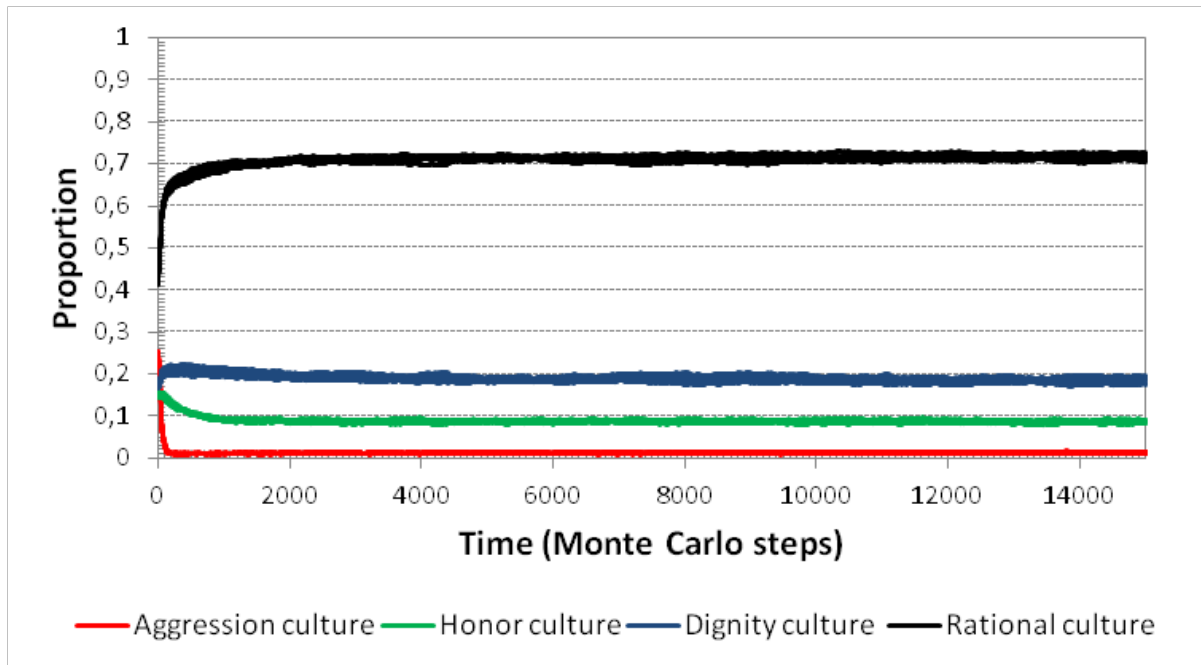
**Fig 1. Police efficiency 0. Time-series from 10 repetitions. Initial proportions: aggressive culture: 0.25, honor cult: 0.16, dignity cult: 0.17. Selection/Toughness 0.05**



**Fig. 2: Police efficiency 0.33. Time series from 10 repetitions. Initial proportions: aggressive culture: 0.25, honor cult: 0.16, dignity cult: 0.17. Selection/Toughness 0.05**



**Fig. 3: Police efficiency 0.66. Time series from 10 repetitions. Initial proportions: aggressive culture: 0.25, honor cult: 0.16, dignity cult: 0.17. Selection/Toughness 0.05**

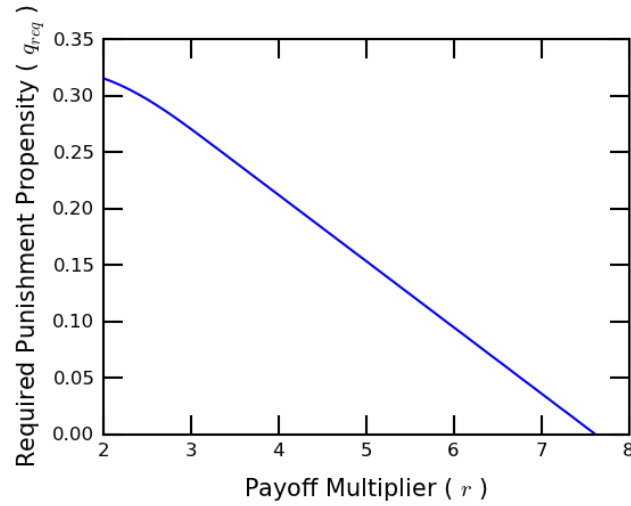


### Appendix F: Honor, Dignity, Face (HDF) Scale

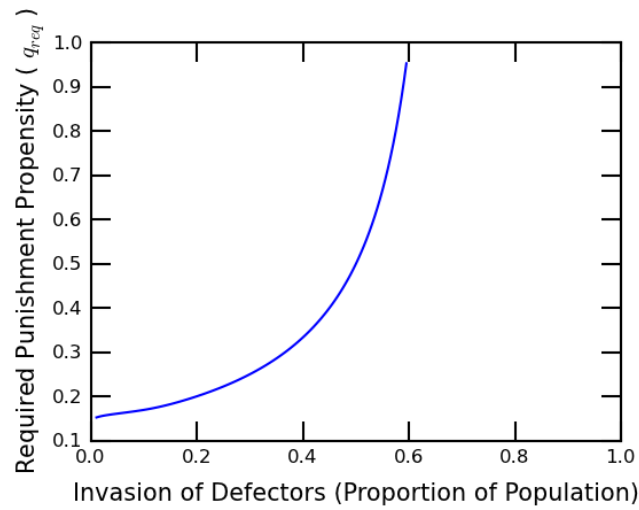
Code	Item	Dimension	Sub-Dimension
D1	People should make decisions based on their own opinions and not based on what others think	Dignity	Resisting social influence
D2	People should NOT care what others around them think	Dignity	Resisting social influence
D3	How much a person respects himself is far more important than how much others respect him	Dignity	Internal worth
D4	People should stand up for what they believe in even when others disagree	Dignity	Resisting social influence
D5	People should be true to themselves regardless of what others think	Dignity	Resisting social influence
D6	People should speak their mind	Dignity	Resisting social influence
F1	It is important to maintain harmony within one's group	Face	Humility/ Harmony
F2	People should be very humble to maintain good relationships	Face	Humility/ Harmony
F3	People should minimize conflict in social relationships at all costs	Face	Humility/ Harmony
F4	People should be extremely careful not to embarrass other people	Face	Humility/ Harmony
F5	People should never criticize others in public	Face	Public Image
F6	People should control their behavior in front of others	Face	Embarrassment
H1	Men need to protect their women's reputation at all costs	Honor	Promotion/ prevention of honorable/ dishonorable behavior
H2	People must always be ready to defend their honor	Honor	Response to honor violations
H3	If a person gets insulted and they don't respond, he or she will look weak	Honor	Response to honor violations
H4	You must punish people who insult you	Honor	Response to honor violations
H5	It is important to promote oneself to others	Honor	Public Image/worth
H6	People always need to show off their power in front of their competitors	Honor	Public Image/worth

## Appendix G: Tightness-Looseness Computational Model Results

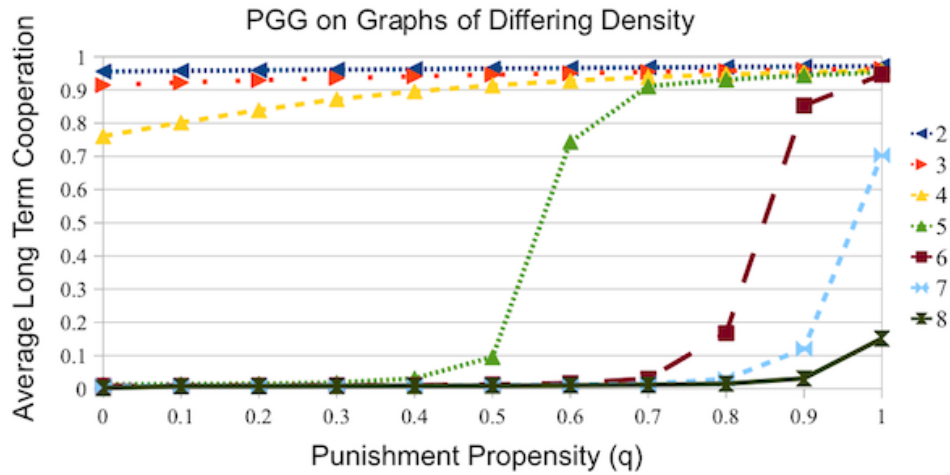
Appendix G.1 Minimum punishment propensity required ( $q_{req}$ ) to resist Defector take-over as a function of the proportion of defectors invading the population. Computed by solving the system of ODEs given by the replicator dynamics of our PGG model (with  $r = 3$ ,  $c = 1$ ,  $\lambda = 0.3$ ,  $\rho = 0.7$ ,  $N = 5$ ) for the minimum  $q$  needed to extinguish Defectors within  $t = 100$ .



Appendix G.2. Minimum punishment propensity required ( $q_{req}$ ) to resist Defector take-over as a function of the game parameter  $r$ , correlating with the total payoff created by the population. Computed by solving the system of ODEs given by the replicator dynamics of our PGG model (with  $c = 1$ ,  $\lambda = 0.3$ ,  $\rho = 0.7$ ,  $N = 5$ ) for the minimum  $q$  needed to extinguish Defectors within  $t = 100$ . A higher external threat that reduces overall payoff means a lower  $r$  value.



Appendix G.3 Average % of Cooperators in the population in the long run (average over 10000 generations) vs. punishment propensity  $q$  for a range of different population densities. Each line shows results for a population on a graph with node degrees listed in the legend. Results are for populations of 400 individuals, with spatial game parameters  $b = 5$ ,  $c = 1$ ,  $\lambda = 0.7$ ,  $\rho = 1$ ,  $\mu = 0.01$ . Populations were initialized with all Cooperators and graphs are random regular. Each point is an average over 50 created graphs and simulations.



Appendix G.4. Overall group payoff  $\theta$  vs. the punishment propensity  $q$  for a population of 500 individuals (with  $r = 3, c = 1, l = 0.7, \rho = 0.7, N = 10, \mu = 0.01, \alpha = 0.05$ ). The punishment propensity  $q_{req}$  to withstand Defector takeover is  $q_{req} \approx 0.4$ . Note the decrease in group payoff as the punishment propensity  $q$  sufficiently exceeds  $q_{req}$ . For values of  $q$  in sufficient excess of 0.4, the overall population payoff decreases. Hence, a group that can maintain a punishment propensity closer to  $q_{req}$  is advantageous under group selection over other groups that maintain a punishment propensity in excess.

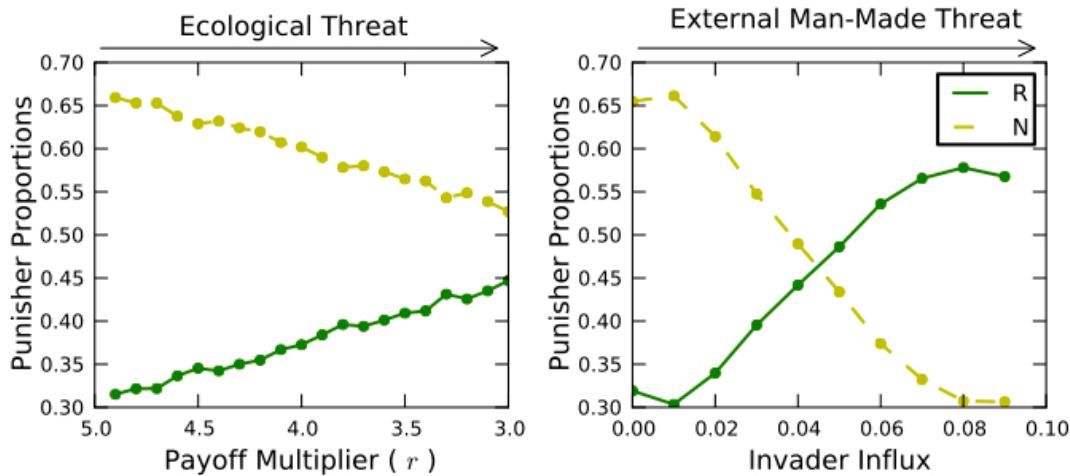
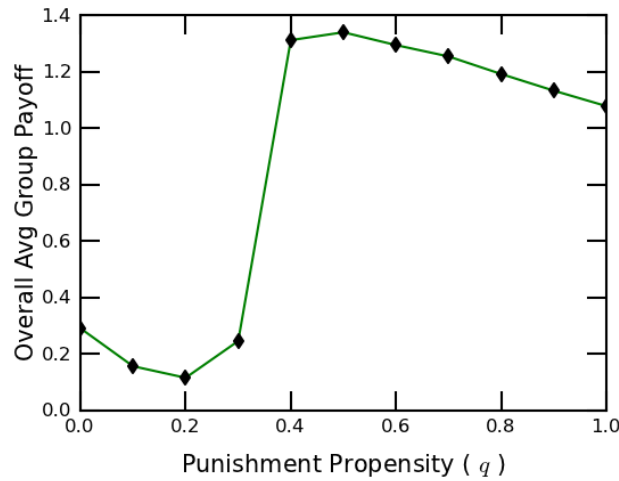


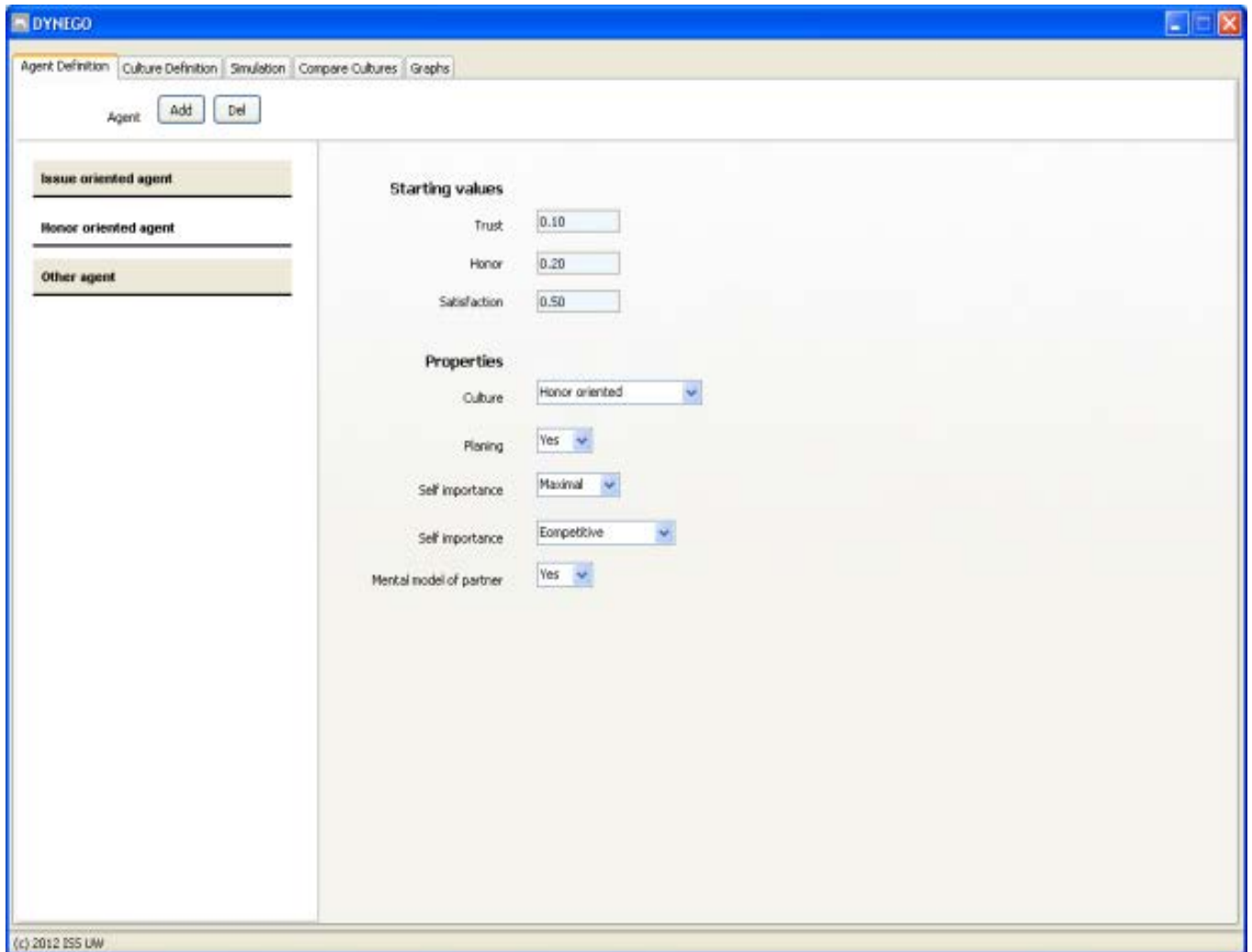
Figure G5. *Left*: Stable proportion of punishing types as a function of  $r$ . Lower  $r$  (higher threat) leads to more Punishers. *Right*: Stable proportion of punishing types as a function of the proportion of Defectors invading. Higher influx (higher threat) leads to more Punishers. Each point is the stable distribution (long-run average) determined by simulation. Game and environment parameters used:  $r = 4.9, c = 1, \lambda = 1/2, \rho = 3/2, i = 0.7, \mu = e = s = 0.5, N = 5$ .



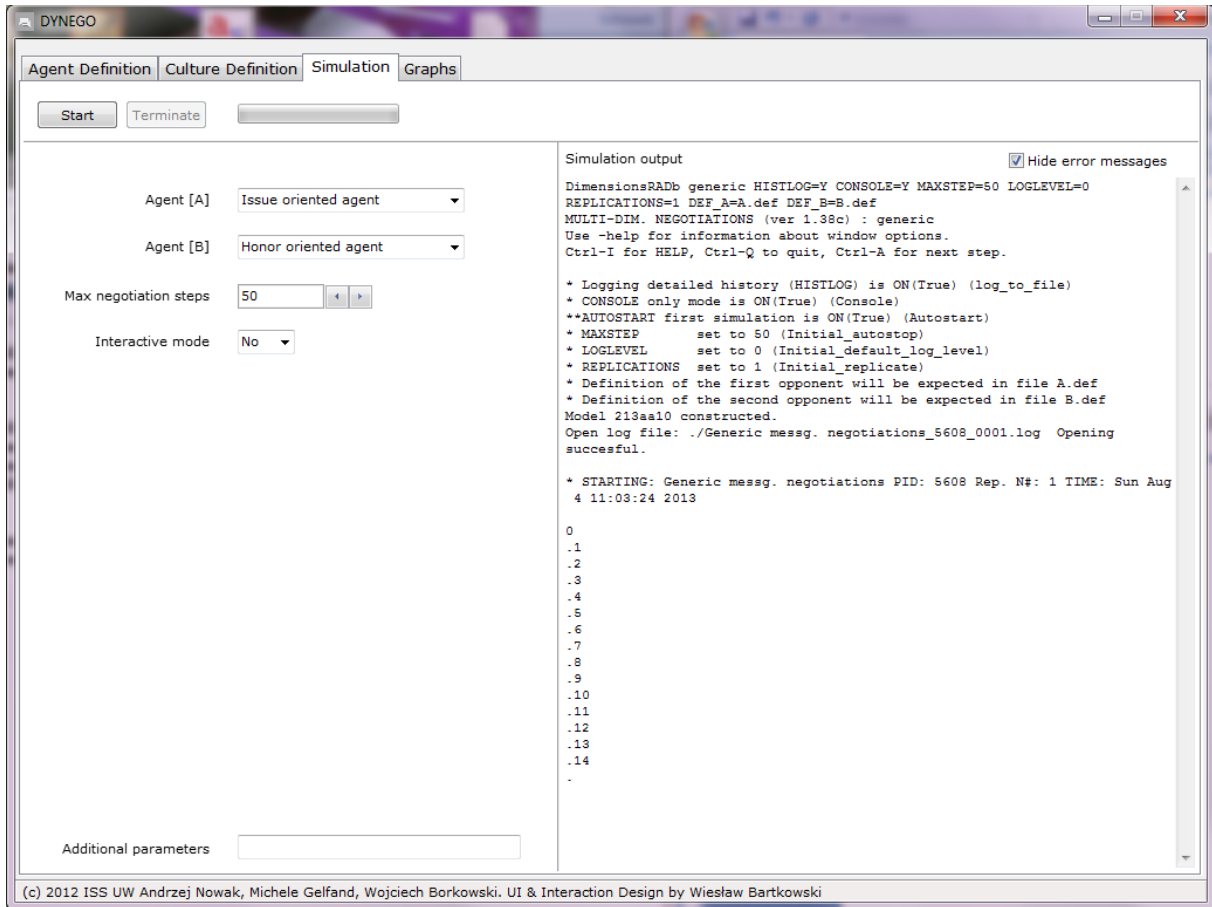
## Appendix H: New Interface for DYNEGO+

The screenshot displays the DYNEGO user interface for defining a culture. The window title is 'DYNEGO'. At the top, there are tabs for 'Agent Definition', 'Culture Definition', and 'Simulation'. Below the tabs are buttons for 'Culture' (Add, Del) and 'Behavior' (Add, Mov, Del). The main area is titled 'Other Expresses desire for expected future interaction in the future'. It is divided into two main sections: 'Behaviour to construct' and 'Construct to behaviour'. Each section has sliders for Trust, Honor, and Satisfaction, with a scale from -3 to 3. The 'Construct to behaviour' section also includes 'Threshold' values for each construct. A vertical sidebar on the left indicates 'Honor oriented' and 'Issue oriented'. The bottom left corner shows '(c) 2012 ISS UW'.

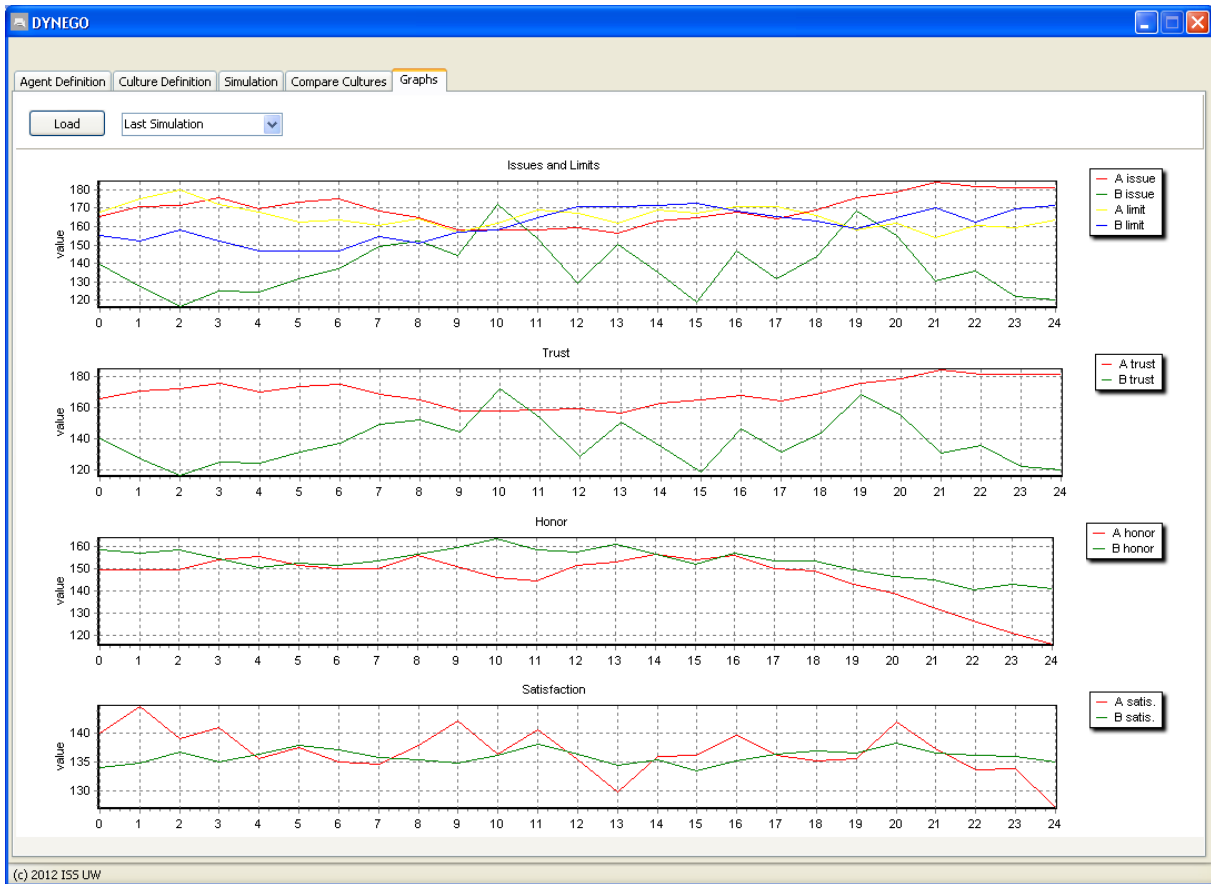
DYNEGO user interface – Culture definition screen. Users can: add new cultures, add new behaviors, specify how behaviors affect constructs, and specify how constructs affect behaviors



DYNEGO user interface – Agents settings screen. User can specify the initial values of variables for both agents



DYNEGO user interface – Simulation screen with text output of core application running in background (right panel)



DYNEGO user interface – Graphs of negotiation history