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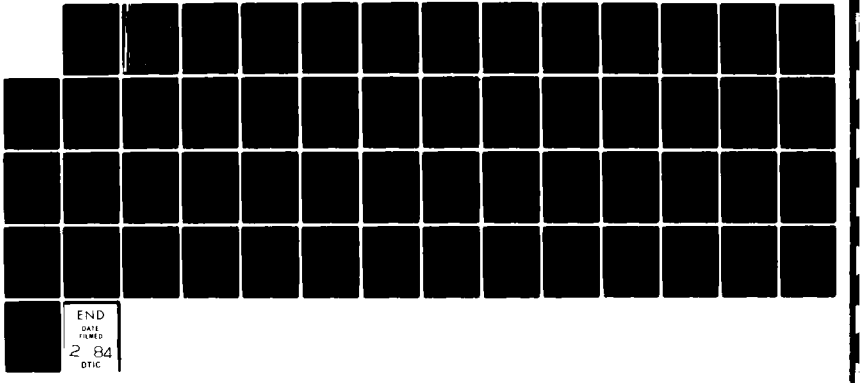

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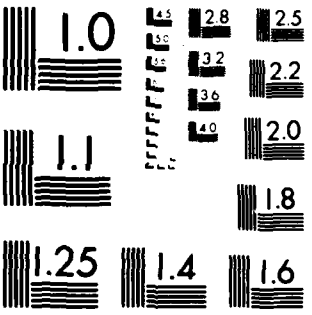
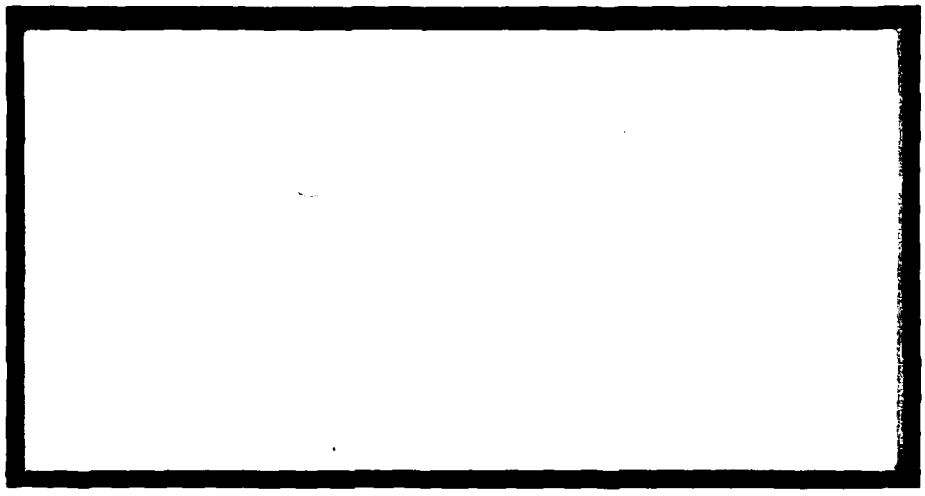


PERSONNEL TECHNOLOGY

AN EXAMINATION OF HISPANIC AND GENERAL POPULATION PERCEPTIONS OF ORGANIZATIONAL ENVIRONMENTS

(Harry C. Triandis, Principal Investigator)



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ACCULTURATION INDICES AS A MEANS OF
CONFIRMING CULTURAL DIFFERENCES

H. C. Triandis, Y. Kashima, E. Shimada & M. Villareal

Technical Report ONR-27

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NAVY RECRUIT'S EXPECTATIONS OF PRODUCTIVITY, LIKING,
AND INTENTIONS TO QUIT UNDER DIFFERENT SUPERVISORS

H. C. Triandis & M. Villareal

Technical Report ONR-28

November, 1983

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Abstract

When subjects from culture A are becoming acculturated to culture B they may move toward culture B (accommodation), not only move toward B but even go beyond B's position (overshooting), or might move away from the position commonly found in culture B (ethnic affirmation). Three kinds of data were examined to determine which of these patterns of adjustment to another culture take place. For role perceptions and behavioral intentions accommodation and overshooting were by far the most common; for stereotypes there were numerous cases of ethnic affirmation. When ethnic affirmation is the exception rather than the rule, we can use acculturation indices as means of confirming cultural differences. The more acculturated the culture A subject, the less is the difference between that subject's position and the mean of culture B.

Data from Hispanics (culture A) and Mainstream (culture B) Navy recruits from three studies show that for role perceptions and behavioral intentions acculturation brings the position of Hispanic subjects close to the position of the Mainstream subjects, and thus allows us to confirm that the simpatía script, reported by Triandis, Marín and Lisansky (in press), is a true cultural difference between Hispanics and Mainstream.

A

Acculturation Indices as a Means of Confirming Cultural Differences

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Emiko Shimada and Marcelo Villareal

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A major problem in cross-cultural studies is that when a cultural difference between two or more groups has been established, it is still not certain that the difference is due to the contrast between the two groups on cultural variables, rather than on other variables that are confounded with culture. In other words, we start with the situation that we have measured some psychological attribute and found that members of Culture A are sufficiently similar to each other and sufficiently different from members of Culture B for us to state that they differ on this variable.

If language, time and place are the criteria for distinguishing cultures, when we find a cultural difference we can not be sure that it is "cultural" because innumerable attributes are likely to be confounded with culture. For example, attributes such as social class, age, race, religion, and so on may also distinguish the two cultural groups. One of the ways we can check that these other variables are not responsible for the obtained difference is to partial them out or control them in some way. However, even if we control most of the obvious confounded variables we can still not be sure that we have controlled all the variables that are confounded, because we may not know some of the variables that are confounded or may not have measures for them. Furthermore, in introducing such controls we risk "throwing out the baby with the bathwater." For example, if one culture is predominantly Protestant and the other predominantly Roman Catholic, but in both cultures there are individuals of both religious affiliations a statistical control is equivalent to comparing Culture A/Protestants with Culture B/Protestants, and Culture A/Catholics with

Culture B/Catholics. Furthermore, the "really" interesting contrast between Cultures A and B may actually be based on religious affiliation, and to wash it out by statistical control may result in losing it.

Thus, rather than use the statistical control strategy, it is worth considering another strategy. Namely, one could identify individuals who are at different levels of acculturation in relation to one of the cultures. Granted, this procedure is of limited applicability, because if one were comparing, say, Ugandans and Japanese, one would have a very hard time finding Japanese at different levels of acculturation in relation to Uganda, or Ugandans at different levels of acculturation in Japan. But, there are many situations where significant numbers of individuals from one culture can be found in another. In such situations the procedures we outline here may prove useful.

In this paper we will show how indexes of acculturation may be used to confirm cultural differences. The general strategy is as follows:

1. One does a crude comparison between two cultural groups. In the examples we will discuss below the cultures consist of Hispanics and Mainstream U.S. residents. One identifies those items, variables, or attributes, that distinguish the two cultures.

2. One develops acculturation indices, that allow the classification of individuals from one cultural group. In this example, unacculturated Hispanics had (a) lived in the U.S. for a short time only, and had few relatives who were U.S. citizens, (b) indicated preference for Spanish rather than English TV, radio, and movies, (c) preferred having Spanish-speaking co-workers, and (d) reported to have mostly Spanish-speaking friends and romantic partners. By contrast, acculturated Hispanics had lived in the U.S. a long time, and enjoyed the English media more than the Spanish media, and had mostly Anglo co-workers and friends. The specific indexes developed, after a review of the items used by others for the measurement of acculturation, and several factor analyses, may be seen in Triandis, Kashima, Hui, Lisansky, and Marín (in press).

3. If the observed difference mentioned in 1 above is due to cultural factors it should be possible to "eliminate" it, or at least reduce it, if one has sufficiently acculturated subjects. Thus, the hypothesis is that the greater the level of acculturation of the subjects the less the observed cultural difference.

Such a hypothesis can be checked in several ways. The studies that are presented below illustrate some of the available methods. They do not exhaust all available ways, but they do illustrate the general approach.

Two complications need to be noted:

1. As subjects become acculturated they may overshoot the norm of the culture they are acculturating to. The basic perceptual situation is that they see that they are at one point (say, mean of Culture B in Figure 1), on some dimension, and the Mainstream of the culture they are acculturating to is at another point, say, between points X and Y. In their eagerness to "join" the other culture they may go beyond the mean of the Mainstream and get to point X.

2. On some items one might observe ethnic affirmation, that is the acculturating group may over-emphasize its own original cultural position (average of Culture B moves into the Z region of Figure 1). This phenomenon was described by Yang and Bond (1980) in a study of the responses of Chinese bilinguals responding to Chinese and English versions of the same questionnaire. The Chinese answering in English answered in a more Chinese direction on some items than they did when answering the same items in Chinese. But Bond and Yang (1982) also found cross-cultural accommodation, i.e., on some items the response was in the Y-region. Figure 1 can be used to classify all responses by Culture B relating to Culture A.

Responses in the Z-region are indicative of ethnic affirmation, in the Y-region they imply ethnic accommodation, and in the X-region overshooting. Of course, the opposite pattern will occur when Culture A is acculturating to Culture B, in which case, for instance responses in the Z-region, by members of Culture A, will be indicative of overshooting.

Figure 1: Mean Responses of Two Cultural Groups on a Response Continuum

Bond and Yang (1982) suggested that ethnic affirmation occurs on items that are of great importance for the culture of the subjects, while accommodation occurs on items of little importance. One might guess that overshooting will occur in the case of items that are both unimportant and transparent (Mainstream can "see" the position of acculturating group). For example, dress is often not a very important cultural trait and is highly visible, and a group that is trying to assimilate may dress according to the standards of the culture it is acculturating to and even overshoot the standard. In the examples we will present below we will find some cases of overshooting.

The acculturation pattern over time to another culture is of interest. Virtually nothing is known about this topic. The possibilities include overshooting, then accommodation; gradual accommodation; ethnic affirmation and then accommodation, and so on. In all probability, for some aspects of acculturation one of these patterns is most common and for other aspects other patterns are most common. Since almost nothing is known about this topic, we will take advantage of the present study to explore it, so that future studies might systematically test hypotheses concerning acculturation.

There are additional complications which we will not considere here, in order to simplify the presentation. For instance, one can conceive of acculturation as suggested by Padilla (1980) and Szapocznik and Kurtines (1980) as involving both culture specific (emic) and culture general (etic) elements. Then at least a three-dimensional process is required, one dimension being emic to culture A, one emic to culture B, and the third dimension etic. In Figure 1 we represent only the etic dimension. Presumably during acculturation there is both movement along the etic dimension and also adoption of some of the emic elements of the other culture.

Adoption of the other culture's elements is particularly likely when the person is not a colonizer, and has little power. By contrast, the more power the person has the more ethnic affirmation we might expect to see. Among immigrants one should see more adoption of cultural elements of the other culture that are work-related, and behaviors that occur in public, than elements that are domestic-related, or occur in private. Behaviors, and behavioral intentions as well as role perceptions, should show more accommodation, while attitudes, values, stereotypes and other non-tangible cultural elements should show less accommodation or even ethnic affirmation.

To return to our main concern, the verification of an obtained cultural difference by using indexes of acculturation, it should be stated that if the acculturating group accommodates or overshoots we can confirm the cultural difference by showing that those who are highly acculturated show less of the difference or not at all, while those who are unacculturated show the difference. On the other hand, if ethnic affirmation occurs this is an undesirable complication which will make such verifications of cultural differences impossible. Thus, in order to explore the feasibility of using indexes of acculturation to confirm cultural differences we have to know whether accommodation and overshooting are the rule and affirmation the exception. If that is the state of nature, our method can be used. Thus this paper has two major objectives: (a) to show that acculturation indexes can be used to confirm cultural differences, and (b) to explore the process of acculturation. For this purpose, it is necessary to make sure that most acculturation results in either accommodation or overshooting.

To anticipate the findings, we will show that for role perceptions and

behavioral intentions our procedure of using acculturation indexes is feasible. In those cases acculturation occurs in the form of accommodating and overshooting. However, in the case of the perception of stereotypes our procedure is inappropriate. In that case there are numerous examples of ethnic affirmation. This paper is based on data obtained from Hispanics at different levels of acculturation to the U.S. mainstream culture. Their responses to three kinds of subjective culture instruments (Triandis, 1972), relative to the responses of Mainstream subjects, provided the data.

Overall Method

Subjects

The data were collected in eight batches of questionnaires, administered to eight different samples of Hispanic and Mainstream Navy recruits in 1981-82. Each batch consisted of approximately 50 Hispanics whose name was Spanish and who had also identified themselves as Hispanic in a form regularly used by the Navy. Thus, we used two criteria for the identification of the Hispanics, while they were being classified. Specifically, in each of three Navy recruit stations (Florida, California and Illinois), when a Spanish surnamed recruit was to be classified, the classification officer checked the recruit's self-identification on an application form on which "Hispanic" was one of the ways in which the applicant could describe himself. If the Spanish surnamed recruit had selected this label, he was asked to complete the questionnaire. At the same time another recruit was randomly chosen and given the questionnaire. These other recruits are referred to here as "Mainstream." This sample can include Blacks as well as Hispanics who did not identify themselves as Hispanic.

This procedure was chosen in order to assure that whatever cultural differences are identified as associated with the Hispanic sample are clear and substantial, since they have to overcome the large variance in the "Mainstream" sample. Previous work on similar subjective culture variables (Triandis, 1976) has shown that there is a great deal of similarity in the perception of the social environment by Blacks and Whites, and it is most likely that highly acculturated Hispanics, who no longer identify themselves as "Hispanics" are also similar to the Mainstream. The strategy of using a relatively heterogeneous Mainstream sample ensures that whatever items discriminate the Hispanics from the Mainstream represent a truly strong difference, that is unlikely to be an artifact of subject sampling. The present paper is based on data obtained from two of the eight batches of subjects.

STUDY 1: THE SIMPATIA SCRIPT

Simpatía was identified by Triandis, Marín and Lisansky (in press) as a Hispanic cultural script; a cultural script was defined as a pattern of social interaction which is characteristic of a particular cultural group. These authors described simpático as a personal quality where an individual is perceived as likeable, attractive, fun-to-be-with, and easy-going. An individual who is simpático shows certain levels of conformity and an ability to share another's feelings, behaves with dignity and respect toward others and seems to strive for harmony in interpersonal relations. Further, these authors operationalized simpatía as the Hispanics' emphasis of positive behavior and de-emphasis of negative behavior; relative emphasis was measured in comparison to the mean of Mainstream Americans. The conjunction of emphasis on positive behavior and de-emphasis on

negative behavior is called the simpatía script.

However, there is a strong rival hypothesis: that the observation that the Hispanic means, when compared to the Mainstream means, on various items, are higher for positive and lower for negative behaviors is merely due to a difference in the way the scales are used by the Hispanic and Mainstream samples. In other words, the "simpatía" pattern may be a mere response set. In this section, we will report a competitive test of the two hypotheses (simpatía vs. response set). If simpatía wins over response set, then, a second hypothesis will be tested: among Hispanics the more acculturated the subjects are to the Mainstream American culture, the less strongly they will exhibit the simpatía script. A shift away from this script may even result in overshooting (i.e., either more emphasis on negative behavior or more de-emphasis on positive behavior). Thus, we expect that the Hispanics who are low in acculturation will show the simpatía pattern very clearly, whereas the Hispanics who are high in acculturation will not show it or may overshoot the Mainstream norms.

Method

Subjects

One hundred and twenty-two male Navy recruits (62 Mainstream and 60 Hispanic) responded to a questionnaire.

Instrument

The questionnaire consisted of 30 roles (e.g., Mother-Son) and 20 behaviors (e.g., admire). The subjects were asked to indicate on a 10-point scale (1=Never; to 10=Always) whether the first member of the role is likely to engage in the particular behavior with the second member of the role. Details of the way the roles and scales were selected can be found in Triandis, Marín and Lisansky (in press).

Analysis 1

Simpatía is measured by comparing the mean ratings of the two cultural samples on positive and negative behavior items. Twenty-eight positive and 27 negative behavior items were selected from a pool of 600 behavior items (30 role pairs times 20 behavior items per role pair) (see Triandis et al., 1982, for details of the study of Hispanic and Mainstream responses to role differentials) when the following four criteria were satisfied: (1) the behavior items had relatively high factor loadings, in the Triandis et al. (1982) study, (2) four judges all agreed that the behavior in question has a positive or negative meaning, (3) the behavior in the particular role discriminated significantly between Hispanics and Mainstream subjects in the Triandis et al. 1982 study, and (4) no more than three positive and three negative behaviors were selected from the 20 behaviors used in any one role pair.

If the simpatía script is due to a response set that reflects the way the scale is used by the two cultural groups, transforming the responses of the Hispanic and Mainstream subjects to two separate equal interval scales, following the Thurstone successive interval procedure (see Edwards, 1957), and then computing the simpatía script should eliminate the response set and should also eliminate the simpatía script. That is so because a successive interval scale can be generated from the data of the subjects themselves, and can eliminate peculiarities such as the subjects of one culture making finer or coarser discriminations in some part of the scale. If one culture makes fine discriminations and the other culture does not, the successive interval scale of the former will be longer than the scale of the latter. But, by dividing each culture's scale values by the sum of the scale values of that culture one can ensure that the end points of the two cultural scales have the same meaning.

The ratings on the 55 behavior items (23 positive and 27 negative, see above for selection procedure) were subjected to successive interval scaling (Edwards,

1957), for each cultural group separately. The particular procedure adopted here is similar to the successive interval scaling technique in that both methods provide interval estimates of scale points. It is slightly different because the successive interval scaling deals with attitude scales whereas the present procedure was applied to subjective probability scales. As Fishbein and Ajzen (1975) have pointed out, attitude scales are bipolar and therefore can theoretically vary from negative infinity to positive infinity. By contrast, subjective probability scales have definite anchors; that is, the lowest end corresponds to a zero probability, and the highest to a probability of one. Hence, a slight difference in the procedure of estimating the intervals was necessary. Two assumptions were made: (1) ratings by subjects on each scale were normally distributed and (2) the subjects use the end points of the scale as zero and one of the subjective probability continuum. The first assumption was made following Edwards (1957). The assumption is required, because scaling depends on the presumed correspondence between observed frequencies and normal deviates. The second assumption was made because there is no evidence that Hispanic and Mainstream subjects understand the terms, Never and Always in significantly different ways. The reasons why these assumptions are necessary will be pointed out in the following step-by-step description of the procedure.

The successive interval scaling procedure, in effect, translates cumulative frequencies of ratings of scales into normal deviates. Cumulative frequencies, given in percentages, were computed for each individual item (e.g., if 5% of the subjects responded to the scale point of one, 15% to point two, and 10% to point three, the cumulative frequencies are 5%, 20%,and 30% respectively). Next, the normal deviates that correspond to these probabilities were entered. This is permissible because of the first assumption about the normal distribution of the ratings. (In the above example, 5% corresponds to -1.645, 20% to -.842, and 30%

to -.524). However, note that this procedure allows us to find normal deviates of all scale points except for the highest. Finally, a normal deviate is subtracted from its adjacent normal deviate of the higher side. The difference score gives an interval estimate between the two adjacent scale points. In the present example, [-.842-(-1.645)]=.803 is the interval estimated between the scale points one and two. By the same token, [-.524-(-.842)]=.318 is the interval estimated between two and three. Following this procedure, one calculates all intervals except for the one between the highest and the second highest scale points. The highest scale point always has the 100% cumulative frequency, so it is impossible to find a finite normal deviate for this point.

The steps described above are exactly the same as those suggested by Edwards (1957) for the successive interval scaling technique. However, for the present purpose, it is necessary to estimate the last interval because the entire scale from the lowest end (probability of zero) to the highest end (probability of one) must be described by normal deviates. It is here that the present procedure departs from the successive interval scaling. The last interval was estimated by extrapolation. The cumulative frequency up to the midpoint of the last interval was computed first. For example, supposing that the cumulative frequency up to the second highest scale point was 76%, the midpoint between the second highest and the highest scale points has its corresponding cumulative frequency of 88%=76+(100-76)/2. The normal deviates that correspond to 76% and 88% are .706 and 1.175. Therefore, the interval between them is 1.175-.706=.469. This value designates the difference between the second highest value and the midpoint of the last interval. By extrapolation, multiplying this value by two, an estimate of the last interval can be obtained. A similar procedure was used by Edwards (1957, pp. 133-135) in order to estimate the scale value of special cases. In the present example, an estimate of the last interval is .469x2=.938. The steps so far result in the computation of intervals of each item. The successive intervals were

estimated by taking the arithmetic means of the corresponding intervals of individual items. Supposing that there are ten items that provide interval estimates between any two adjacent scale points. Then, there are ten values that could be averaged. Again, following Edwards, the arithmetic mean of these values is taken as an estimate of the interval between the two points. The sum of these estimates covers the entire range between the subjective probabilities of zero and one. The sum of the interval estimates that fall between the lowest scale point and any particular scale point gave the interval estimate between the two points. This is so, because the estimated intervals are described in terms of the same unit. The interval between the lowest and the highest scale points is given by the sum of all interval estimates. Then, the proportion of the sum of interval estimates between the lowest and the particular scale point to the interval between the lowest and the highest scale points, when multiplied by one (that is the range between probabilities of zero and one) gives an estimate of the scale point on the psychological continuum of subjective probability. For example, if the sum of the intervals is 5.00, and the first interval is .70, while the second is .80, then the value of point two is (.7+.8)/5.00=.30 on the zero to one scale.

These estimated scale points have <u>theoretically</u> two properties: they constitute a ratio scale (because there is a zero point and we have an equal interval scale) and scale points have cross-culturally equivalent meanings. The latter property derives from the assumption that subjects, in every culture, use the lowest and the highest scale points as corresponding to zero and one respectively. This procedure presumably decreases the discrepancy between the two groups' idiosyncratic use of the scales, and thus increases the interpretability of the mean differences between them. Hispanic and Mainstream means of the 55 behavior item ratings thus rescaled were calculated and compared. <u>Simpatía</u> is, then, interpreted to exist when the rescaled Hispanic mean ratings compared to those of the Mainstream

are higher for the positive items and at the same time lower for the negative items.

Results of Analysis 1

The first hypothesis required examining the simpatía script versus the possibility that a response set in the use of the scale was operating. The results clearly shows the simpatía script despite the rescaling, when the Hispanic sample is, as a whole, compared to the Mainstream sample. Twenty of the 28 positive behavior items and at the same time 25 of the 27 negative behavior items fell into the simpatía pattern. Since the first hypothesis is supported, a second hypothesis was that simpatía would be less clear in the case of the acculturated than in the case of the unacculturated Hispanics. In order to test the second hypothesis, the Hispanic sample was divided into high, medium and low acculturated subgroups by trichotomizing the sum of the four acculturation indices. Table 1 indicates the number of items that show the specified patterns of mean differences between the cultural groups.

The simpatía pattern is very strong in the case of the low acculturation subjects. The sign test shows that both the positive ($p<.008$) and the negative ($p<.000$) behaviors show the simpatía pattern. For the medium acculturation subjects the positive behaviors do not reach significance, but the negative do show the expected difference. For the high acculturation subjects the positive behaviors do not show the pattern, but the negative still show it. Furthermore, the size of the z-values for the negative behaviors drops in a very regular way, as a function of acculturation. Thus, these data give very strong support to the hypothesis that the greater the level of acculturation the less the simpatía pattern. Or, to put it differently, the more acculturated the Hispanics the more they are like the Mainstream in the way they judge positive and negative behaviors.

The data presented in Table 1 tend to overstate the significance of the results because there is a tendency for positive behaviors to be intercorrelated and for negative behaviors to be intercorrelated. A different analysis was undertaken

which tends to understate the significance of the results. In this analysis composite scores were created for positive and negative behaviors by summing the 28 positive and 27 negative corresponding scores. These composite scores tend to lose information, since scores that are correlated only around .3 are simply summed. By appropriate statistical adjustments we represent in Table 2 the mean subjective probabilities (on a 0 to 1 scale) obtained from the Mainstream and Hispanic samples.

These data show that the Hispanic understatement of the probabilities of negative behaviors is highly significantly different ($p<.0004$), by the Neuman-Keuls test, from the Mainstream probabilities. For the positive behaviors, however, there is no difference between the Hispanics and the Mainstream. Nevertheless, the data are extraordinarily regular, showing convergence toward the Mainstream means as the Hispanics are more acculturated. It must be noted, however, that in Table 2 acculturation does not have a statistically significant effect, since the three Hispanic groups are giving responses that are not statistically significantly different.

Comparison of the results of Tables 1 and 2 suggests that they are rather consistent, and compatible with the argument that Table 1 overestimates their significance and Table 2 underestimates it. If reality is somewhere in-between, it suggests that simpatía is clearly identifiable in all the unacculturated samples and moderately identifiable in the acculturated, but the simpatía pattern depends much more on the negative than on the positive behaviors.

Discussion of Analysis 1

The data submitted to the rescaling procedure clearly indicated the presence of the simpatía pattern. More detailed analyses (not shown here) which separated the samples by the four acculturation indices, showed that the Hispanics who lived in the U.S. for a long time did overshoot the Mainstream norm for positive behaviors, but not for negative behaviors. However, the Hispanics who had Mainstream romantic partners were not very different from the Hispanics whose

acculturation was indexed by preference for English TV and movies, or who wanted English speaking co-workers. We conclude that simpatía is a strong Hispanic response pattern, which is modified only slightly when Hispanics become acculturate

Analysis 2

The previous analysis was based on an index of acculturation that was the sum of the four indices. We did, however, analyze the results also separately by each index. This analysis, not shown here, indicated that the simpatía script is reliable for the unacculturated subjects, as indexed by indexes (a) length of residence in the U.S., (c) few English speaking co-workers, and (d) few English speaking friends. However, it does not reach significance for the positive behaviors for the acculturated subjects, as measured by indexes (a) and (d). On the other hand, for negative behaviors, all four indexes, for both acculturated and non-acculturated subjects, show the expected aspect of simpatía.

In other words, there are some differences among the results obtained with the four indexes of acculturation, and while one aspect of simpatía (Hispanic means lower than Mainstream means for negative behaviors) is always present, no matter what the level of acculturation and how that level is being measured, the other aspect (Hispanic means higher than Mainstream means for positive behaviors) is not reliable when acculturation is measured by some of the indexes.

To explore in what way the four indexes are actually behaving, we selected twenty-seven situations, non-overlapping with those reported in Study 1, which were combinations of nine roles and three behaviors. The items were those on which cultural differences had been obtained in the Triandis et al. (1982) study. The three behaviors, i.e., "obey," "give moral/emotional support," and "fight/argue with" were selected because they were judged to be especially relevant to harmonious social behaviors, such as those included in the simpatía construct. The means of the Mainstream and Hispanic samples were compared on each of the 27

situations. The situations were selected taking into account the fact that in the previous study Triandis, et al., (1982) most of the means for "obey" and "give moral/emotional support" were higher for the Hispanics whereas most of the means for "fight/argue with" were higher for the Mainstream sample. Sign tests confirmed this general tendency ($p<.01$ for "obey"; $p<.05$ for "give moral/emotional support" and for "fight/argue with"). The nine roles consisted of two family roles (e.g., Father-Son), two work roles (e.g., Worker-Foreman), four Navy related roles (e.g., Seaman-Naval Officer), and we also used Friend-Friend. Each individual's level of acculturation was measured by four orthogonal indices of acculturation developed by Triandis, Kashima, Hui, Lisansky and Marín (in press).

Results of Analysis 2

The four acculturation indexes were correlated with the probability ratings for each of the role-behavior judgments. Three of the four acculturation indexes showed the significant correlations, presented in Table 3. The correlations presented in Table 3 indicate that for the first acculturation index (reflecting length of residence in the U.S.) four of the five significant correlations indicate changes in the perception of the behavior of low status persons: the more acculturated the subject the less subordination does he see in low status persons and the more fighting and arguing is perceived for low status persons interacting with high status persons. This is consistent with Hofstede's (1980) finding that Latin Americans are high in Power Distance--they see a large distance between those with power and those without power. As Hispanics become acculturated they see less power distance--i.e., less obeying and more arguing with.

The second acculturation index does not correlate with the judgments in harmony. The third acculturation index correlations suggest a reduction in simpatía in equal status, and in high to low status roles, as a Hispanic becomes acculturated.

Those high on that index are subjects who indicate willingness to have Anglo co-workers. Such subjects seem to perceive less power distance in high-low status

roles, or equal status roles, than do subjects low in willingness to have Anglo co-workers. It may well be the case that those subjects who are especially attracted to the low power distance in boss-subordinate relations seen among the Mainstream, are the ones who have acquired Anglo co-workers.

Finally, those high on the fourth index, who have had Anglo friends and romantic partners, also see high status persons as less likely to obey and as more likely to fight and argue with in almost all role relationships.

Discussion of Analysis 2

The two cultural scripts characterizing U.S. Hispanics, identified by Triandis, Marín and Lisansky (in press) are weakened as a result of acculturation. The two scripts were (a) simpatía and (b) power distance. The greater willingness, with acculturation, "to fight" and "argue with" weakens the simpatía script; the greater willingness to both "obey" less and "argue with" more reduces the power distance script. It should be noted that the means of some of the ratings, especially on "fight/argue with," were lower than 5 (i.e., the perceived probability of its occurrence is less than "probably not"). Despite this, it is still reasonabl to interpret the results in terms of a decrease in harmony-seeking behaviors.

The four acculturation indices operationalized in the study did not provide identical results. Specifically, Hispanics who had many Mainstream friends and romantic partners showed the clearest change in harmony-seeking behaviors. The more of such friends they had, the less they used the simpatía script. Those who lived in the U.S. for some time and had many relatives who are U.S. citizens, and those who desire to have Mainstream co-workers also showed that pattern, but not as clearly. Finally, those who are exposed to the English mass media do not show the pattern.

In fact another analysis showed that those exposed to the English mass media perceive somewhat increased probabilities of aggressive behavior (e.g., hit, ignore)

than the unacculturated. For the 20 roles studied, this index attained significant correlations (the more acculturated the higher the probability judgments) 11 times for "hit," and 10 times for "ignore." Such findings are consistent with the hypothesis that aggressive TV increases the perceived probability of aggression. "Fight/argue with" indicated shifts in the probability judgments in relation to the acculturation indices. This result supports the hypothesis that acculturation reduces the simpatía script, because de-emphasis on negative behaviors is an aspect of the simpatía script. The present set of data is limited in that it does not permit us to examine whether the acculturation linked change in response is due to a change in the respondents' subjective norms and/or beliefs about cultural values or is due to a change in the perceived probabilities that certain behaviors will occur. The fact that the fourth acculturation index, which reflects actual experiences of interaction with the Mainstream, shows the largest effects would support the latter viewpoint. In any case the present results imply that the perceived probability of harmony-seeking behaviors among Hispanic respondents changes as the respondents become more acculturated to the Mainstream culture.

Analysis 3

This analysis examined 47 behaviors occurring in 23 roles. They were selected from the pool of 600 because they were judged by a Latin American judge to be the most relevant for the description of the culture of U.S. Hispanics. For example, MOTHER helps her SON was expected to show higher probability judgments for Hispanics than for Mainstream subjects. The argument we presented earlier was that as Hispanics become more acculturated they should approach the Mainstream mean. Thus, our expectation is that if we trichotomize the Hispanic sample, we will find the largest difference between Hispanics and Mainstream in the case of the low acculturation and the smallest differences in the case of the high acculturation Hispanics. In addition, we wanted to examine whether there was any tendency for ethnic affirmation or accommodation, as discussed in the introduction.

Results of Analysis 3

If it is true that the largest differences between Hispanic and Mainstream subjects will be found for the low acculturation subjects and the smallest for the high acculturation subjects, it follows that when we correlate the role differential judgments of the Hispanics with their acculturation score we will obtain a negative correlation in those instances when the mean of the low acculturation Hispanic sample is higher than the mean of the Mainstream sample, and a positive correlation in those instances when the mean of the low acculturation Hispanic sample is lower than the mean of the Mainstream sample. There were 47 instances when we computed correlations between behavior differential judgments and acculturation scores; nine of these reached significance. These nine instances are presented in Table 4. For seven of these nine the low acculturation Hispanics had means that were higher than the Mainstream means and in those cases the correlations were negative, as expected. In two cases the reverse pattern was expected and observed. Thus in nine out of nine cases our expectations are supported. A binomial test gives a $p<.002$ for this outcome.

Discussion of Analysis 3

This analysis also, done on another set of role differential data, supports the notion that as Hispanics become more acculturated they approach the Mainstream mean. Thus, in three analyses with role differential data, there is evidence of convergence between Hispanics and Mainstream, as the Hispanics become acculturated. Such evidence supports the hypothesis that the simpatía script is a true cultural pattern. We now turn to data obtained from other instruments, to see if we obtain the same kind of convergence between Hispanics and Mainstream, as Hispanic acculturation increases.

STUDY 2: BEHAVIORAL DIFFERENTIAL DATA

Method

Subjects

One hundred and nine Navy recruits, 53 of which were identified as Hispanics, by the criteria mentioned in the previous section, constituted the sample for this analysis.

Instrument

A 20-scale behavioral differential (Triandis, 1964) questionnaire was used in this study. The behaviors were selected so as to represent all the factors extracted in previous factor analyses. The questionnaire presented 20 stimulus persons who varied in ethnic background (Mexican, Puerto Rican, Cuban, Colombian, English, Black and Hispanic), social class (unskilled laborer, restaurant owner, and millionaire), and who were described as being either a "permanent resident" or a "transient visitor" of the United States. Since the subjects could not be asked to make the 840 judgments required by all possible combinations of these attributes, a subset of stimuli (see Table 5) was used in the study. The participants responded, on a 10-point scale. They indicated whether they would (1=Never to 10=Always) engage in each of twenty behaviors when interacting with each stimulus person.

For each stimulus person, principal axes factor analyses with normalized varimax rotations were done. Four factors were extracted in most of the 40 factor analyses: Association (be a buddy with, have lunch with, respect, and gossip with), Dissociation (hit, ignore, and avoid), Superordination (criticize the work of and give orders to), and Subordination (obey, admire the character of, and laugh at jokes of). Pearson correlation coefficients between each subject's general level of acculturation (sum of four indices, see above) and his behavioral intentions were computed for each stimulus person, as well as for each category of stimulus persons (i.e., ethnic background, social class, and residence status). In

computing the correlation coefficients for each category, only those cells with less than 10 missing cases were included. Overall, the number of Navy recruits per analysis varied between 46 and 49 across correlations, due to missing values. We also performed 32 (20 stimuli and 12 categories of stimuli) one-way analyses of variance, one for each correlation computed, by dividing the Hispanic sample into three groups by level of acculturation (approximately: lower, middle, and upper third of the distribution, respectively) and by comparing them with the results of the Mainstream sample.

Results

None of the 128 correlations were significant beyond the 0.01 level, although 26 of them (40% for Dissociation, 25% for Association, and 15% for Subordination) were significant beyond the 0.05 level (up to $r = 0.32$ or -0.32). A close look at the analyses of variance, summarized in Table 5, reveals that these low correlation coefficients between acculturation and behavioral intentions may be accounted for by the fact that the relationship between these variables seems to follow an inverted U function. This effect is especially clear for Dissociation and Superordination.

Our results for the analyses of variance revealed that for Association the usual patterns are accommodation (e.g., Puerto Rican unskilled laborers transiently visiting the U.S.), and initial accommodation followed by overshooting (e.g., for unskilled Cubans permanently residing in the U.S.). That is, the highly acculturated Hispanics indicated that they would associate less with other persons of Hispanic background. It was not important, however, whether the target was Mexican, Cuban, or Puerto Rican.

On Dissociation, consistent and reliable patterns were observed, which were supported by overall 0.001 significance levels and Scheffé comparisons at the 0.05 level. They showed that as Hispanics became acculturated they first accommodated

or overshot the Mainstream mean behavioral intention for Dissociation and they then moderated their positions and settled at levels intermediate between the Mainstream and the unacculturated-Hispanic means. (See results for Mexican, Puerto Rican, and Cuban target persons.) This pattern may be called the "ping-pong" effect. As Hispanics become acculturated they move toward the Mainstream, but eventually fall back into a position intermediate between the position they started from and the Mainstream mean. This pattern was also observed for Superordination, but less reliably.

In addition, for Superordination, a second pattern was noted: Hispanics would initially accommodate to Mainstream standards and then move to a cultural affirmation position by showing less Superordination intentions towards both unskilled laborers (overall $p=<.0006$) and restaurant owners ($p=<.0001$) with Mexican background and residing in the U.S. In both cases, many of the Scheffé comparisons revealed that both unacculturated and highly acculturated Hispanics differed from moderately acculturated Hispanics and from the Mainstream sample. The samples involved did not differ significantly from one another in their Subordination intentions towards any stimulus person or category. Furthermore, the Hispanic and Mainstream samples did not differ from one another, as per Scheffé comparisons, in any of their behavioral intentions, towards English, Black or millionaire targets, the exception being for Dissociation from Black and wealthy Hispanic restaurant owners.

The 64 observed patterns of means, of the least acculturated (1), moderately acculturated (2), and most acculturated (3) Hispanic samples and the Mainstream sample (4) can be classified in one of the $4!=24$ possible permutations of four means taken four at a time. If six or more of these 64 observed patterns fall into a single pattern, this frequency deviates from chance at $p<.01$. We found that 22 of these observed patterns fell into the 1324 pattern. That is extremely significant. Thus, a third of the patterns show accommodation, but then moderation

(the ping-pong effect). An additional 10 observed patterns fall into a 1234 sequence, i.e., show simple accommodation. Finally, 13 patterns show some overshooting, 7 of them are 1243 and 6 are 1342 patterns. The last one, of course, is also a ping-pong pattern. Thus, more than 70% of the observed patterns show either accommodation or overshooting. Only 2 show ethnic affirmation, and that would be expected by chance.

Discussion

The use of an acculturation index in analyzing the data of this study, has allowed us to identify some possible effects that acculturation might have on various kinds of behavioral intentions. Of particular interest is the fact that our results are consistent with the loss of the Simpatía and Power Distance scripts, although in a complex way.

More specifically, although the acculturated Hispanics showed in general higher Dissociation and lower Superordination intentions than unacculturated Hispanics, these intentions do not seem to vary monotonically with acculturation. Association intentions, on the other hand, usually varied unidirectionally with acculturation. In general, as we have noticed, the principal differences between Hispanics at various levels of acculturation and Mainstream recruits concerned Dissociation and Superordination intentions towards non-millionaire targets of Hispanic background. It would thus not be inaccurate to interpret them as an expression of an initial rejection of the Hispanic culture by Hispanics, in their attempts to become assimilated to the American mainstream, and avoid being discriminated by it. However, with high acculturation this goal has been reached or replaced, and then the attempts at being accepted by the Mainstream culture are not needed any more. Thus, the acculturated Hispanics may re-evaluate their own culture and modify their behavioral standards (cf. Jackson & Saltzstein, 1958). Specifically, acculturated Hispanics might be less willing to associate with other Hispanics, yet their Dissociation and Superordination intentions towards

other Hispanics are also lower than those held by moderately-acculturated Hispanics. The ping-pong effects, described above suggest an enthusiastic movement toward the Mainstream followed by moderation. The theoretical significance of the ping-pong effect is as yet unclear. It could be that as the Hispanics become acculturated they move toward the Mainstream mean, but discover that they are not totally accepted, so they go back toward their original positions. However, it could also mean that as they join the Mainstream and become accepted they realize that some of their own cultural heritage is valuable and that increases the forces of ethnic affirmation. The present data do not allow us to sort out these possibilities, but they do sensitize us to important research questions.

STUDY 3: STEREOTYPES

Method

Subjects

Two hundred and twenty-six Navy recruits, 97 of which were identified as Hispanic according to previously mentioned criteria, constituted the sample of this study.

Instrument

In the questionnaire used for this analysis, the subjects were asked to judge how often each of ten attributes or descriptions applied to each of 15 stimulus persons. The stimulus persons in this questionnaire were: I (myself), my mother, my father, my friends, Latino, Black and White seamen, Naval officers and professional men, and Latino and White job foremen. The attributes that could apply to each of these stimulus persons were: intelligent, lazy, important, brave, aggressive, active, helpful, tough, hardworking, and trustworthy. Subjects used a 10-point scale, anchored on whether the attribute was Never True=1 for this particular person and Always True=10 for this particular person. Numbers 2 to 9 represented intermediate ratings. One hundred and fifty Pearson correlation coefficients involving each of the items of the questionnaire and the general

acculturation index, obtained by adding the four specific indexes previously described, were computed. The results of 150 one-way ANOVAs were also obtained across acculturation levels: unacculturated (N=30), moderately acculturated (N=33), and highly acculturated Hispanics (N=34), were compared against the Mainstream sample (N=116).

Results

Our results showed that 12 out of the 150 correlations (i.e., 8%) reached at least a 0.01 significance level, and that they were distributed among eight stimulus persons: I (myself), Black seamen, White seamen, Black Naval officers, Latino Naval officers, my father, Latino and White job foremen. A frequency count revealed that "Aggressive" and "Tough" were positively correlated with acculturation on five occasions, each; and "Brave" and "Lazy" were positively correlated with acculturation once.

More specifically, Black (r=.24, p=<.009) and White seamen (r=.28, p<.003), Latino (r=.25, p=<.006) and White job foremen (r=.24, p=<.009), as well as the respondent's own father (r=.35, p=<.001) were perceived as more "aggressive" with increased acculturation. Similarly, the respondents saw themselves (r=.29, p=<.002), White seamen (r=.25, p=<.006), Latino Naval officers (r=.26, p=<.005), White job foremen (r=.26, p<.005), and their own fathers (r=.25, p=<.007) as "tougher," with increased acculturation. Finally, White job foremen were also perceived, with increasing acculturation, as more likely to be "brave" (r=.24, p=<.009), and Black Naval officers were perceived as more likely to be "lazy" (r=.24, p=<.009). The results of the analysis of variance were particularly informative. Twenty-two out of a total of 27 significant results at the 0.05 level corresponded to Latino stimulus persons, and two more to equally self-relevant stimuli, namely, "my father" and "my friends." The remaining three significant results corresponded to the stimulus "White professional men." Using a stringent criterion (α=.01), the null hypothesis can be rejected on 10 occasions, all of them corresponding to Latino stimulus persons.

A posteriori comparisons using Scheffé's procedure at the 0.05 level of significance revealed that the most frequent difference is between the Mainstream sample and the group of highly acculturated Hispanics as follows: For Latino seamen and for four traits (brave, aggressive, active, and hardworking), for Latino Naval officers and for two traits (tough and hardworking), for "brave" in the case of Latino job foremen, for Latino professional men on five occasions (brave, aggressive, helpful, tough, and hardworking), and for White professional men on one (tough). In all cases, the Mainstream sample had the lowest mean score for stereotyping (i.e., judged the trait frequency in the case of a stimulus person to be low), and the highly acculturated Hispanics had the highest score.

The meaningful results for the analyses of variance are summarized in Table 6. Again the ping-pong effect is observed, with the highly acculturated Hispanics sometimes ending in a position of accommodation and sometimes in a position of ethnic affirmation. Two patterns were significantly ($p<.01$) different from chance: The "4213" pattern of accommodation and then ethnic affirmation occurred 48% of the time; the 4123 pattern of ethnic affirmation occurred 18% of the time. Thus in this domain ethnic affirmation is most common. An important exception was that highly-acculturated Hispanics judged their own fathers to be significantly more aggressive than unacculturated Hispanics, even overshooting the corresponding mean score of Mainstream subjects.

Discussion

Our results for this study showed the need to consider several levels of acculturation in relation to the Mainstream data, in interpreting the effects of acculturation on stereotyping. Had we not done so, our interpretation of the correlation coefficients we observed, would have erroneously led us to conclude that Hispanics assimilate to Mainstream standards as they become acculturated. Similarly, our results seem to indicate that for stereotypes acculturation leads to ethnic affirmation. The fact that in most cases, the highly acculturated Hispanics regarded Latinos in general as more likely to have positive traits

than their less acculturated counterparts and the Mainstream sample, offers some support to the notion that acculturation may result in a re-evaluation of one's native culture.

GENERAL DISCUSSION

The data support our expectation that one can use indexes of acculturation to establish the existence of cultural differences. In general, the more acculturated Hispanics were closer to the Mainstream on most items.

This general expectation is compatible with two of the three patterns of change, as a result of acculturation, discussed in the introduction. Both accommodation and overshooting permit us to use acculturation indexes to establish cultural differences. The case of ethnic affirmation, on the other hand, makes this approach impossible.

Fortunately, most of the data indicate accommodation or overshooting. There are few cases of ethnic affirmation. However, we also found a "ping-pong effect," which is a complicating factor. To the extent that the "ping-pong effect" is widespread, it makes the use of acculturation indexes to validate cultural differences problematic.

The data of Study 1 suggested that accommodation was the most common pattern associated with acculturation. The more acculturated Hispanics approached the Mainstream mean responses. Study 2 showed accommodation also, but there were also some significant examples of overshooting.

Study 3 showed accommodation, but also some cases of ethnic affirmation. In short, while all the data do show accommodation, there is also evidence that different aspects of subjective culture may be characterized by additional patterns.

The differences between Study 1 and Studies 2 and 3, however, may be due to the method of analysis rather than to the particular attributes being measured. To eliminate that possibility we subjected the sample of role judgments of Study 1, Analysis 2, to the same analysis that we had done for Studies 2 and 3. The only

significantly frequent pattern for the role data showed accommodation (37% of the time) and accommodation with overshooting (26% of the time). So, almost two-thirds of the role judgments show accommodation, a conclusion consistent with the analyses presented in Study 1. Thus, it is not the method of analysis but the type of data that differ. For roles, accommodation is the only pattern associated with acculturation. For behavioral intentions accommodation is the most common pattern, but overshooting is also relatively common. On the other hand, for stereotyping ethnic affirmation is the most common pattern, but accommodation is also found in that data.

The ping-pong effect characteristic of patterns "1324" or "1342" is very prominent in the behavioral intention data, and is found, mixed with affirmation, as the "4213" pattern, in the stereotype data. The exact meaning of the pattern is not clear. However, one possibility is that as Hispanics have more contact with the Mainstream they become more positive about their self-image, a phenomenon also observed on other occasions (Triandis & Vassiliou, 1967).

The differences among the three studies appear to reflect the type of data: The data conform with the expectation that behaviors, behavioral intentions, and role perceptions will show accommodation, while stereotypes will show ethnic affirmation (p. 5). Role perceptions apparently have more "inertia," so they do not change rapidly with acculturation, as do behavioral intentions or stereotypes; stereotypes are apparently more susceptible to ethnic affirmation than roles. For stereotypes, in the course of acculturation subjects often accommodate and then regress toward their original position.

The differences among the three domains may reflect the transparency of the judgments: when Hispanics judge roles or behavioral intentions they do not know very much about how the Mainstream will judge the same items. However, when they judge stereotypes they can probably predict how the Mainstream will rate those stimuli, so they may take the Mainstream stereotype into account. So,

for instance, when judging Latino Professional Men (LPM) on hardworking, the unacculturated may start by thinking that LPMs are quite hardworking, but in contact with a Mainstream that does not consider LPMs as hardworking, the moderately acculturated may move their perceptions toward the Mainstream mean of only moderately hardworking. However, the very acculturated Hispanics may have developed "ethnic pride." Just because the Mainstream considers LPM only moderately hardworking they judge LPM to be extremely hardworking. This is a post hoc speculation that invites further research.

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Table 1

Number of Times the Mainstream Means are Higher or Lower than the Hispanic Means

(with number of times the difference was statistically significant, by t-test, in parenthesis)

(trichotomized acculturation score)

	Hispanic Means Higher than Mainstream	Mainstream Means Higher than Hispanic	z	p
LOW ACCULTURATION SUBJECTS				
Positive Behaviors	21(6)	7(0)	2.4	.008
Negative Behaviors	2(0)	25(12)	4.2	.000
MEDIUM ACCULTURATION SUBJECTS				
Positive Behaviors	13(1)	15(0)		NS
Negative Behaviors	4(0)	23(7)	3.4	.0003
HIGH ACCULTURATION SUBJECTS				
Positive Behaviors	12(0)	16(0)		NS
Negative Behaviors	5(0)	22(3)	3.18	.001

Table 2

Simpatía as a Function of Level of Acculturation

(Scores are means on a zero to one probability scale)

	Mainstream	Highly Acculturated	Medium	Low Acculturated
		Hispanics		
Positive Behaviors	.63	.63	.64	.70
Negative Behaviors	.17	.13	.11	.09

Note. The means that are underlined are not significantly different from each other.

Table 3

Product-Moment Correlations between Acculturation Indices and Perceived Behaviors in Selected Roles

(only statistically significant correlations are shown)

	Index 1 Length of Residence			Index 2 Media Acculturation			Index 3 Co-Workers			Index 4 Romantic Partners			Sum of all Acculturation Indexes		
Behaviors:	Obeys	Supports	Fights	Obeys	Supports	Fights	Obeys	Supports	Fights	Obeys	Supports	Fights	Obeys	Supports	Fights
Roles															
Father-Son							-.40**	.34*				.36**	-.27*		
Son-Father	-.33*											.37**	-.25*		.29*
Seaman-Officer			.25*												.27*
Officer-Seaman	-.32*						-.39**			-.35**			-.48***		
Worker-Foreman	-.39**		.34*									.34*			.28*
Foreman-Worker							-.43**		.34*	-.49***		.35**	-.53***		.30*
Seaman-Seaman							-.44**					.41**			.28*
Officer-Officer							-.31*					.36**			.32*
Friend-Friend							-.47***		.33*			.48***			.36**

* $p<.05$

** $p<.01$

*** $p<.001$

Table 4

Role Differential Judgments that Correlated Significantly with Acculturation

Judgment	Mainstream Mean	Mean of Low Acculturation Hispanic Sample	Correlation*	*p*-value
MOTHER helps SON	7.0	8.3	-.26	.03
MOTHER teaches good behavior to SON	7.4	8.3	-.27	.03
FATHER goes out with SON	3.8	3.6	+.30	.02
MOTHER teaches housework to DAUGHTER	6.3	8.2	-.27	.03
MOTHER teaches how to be a mother to DAUGHTER	6.2	7.8	-.30	.02
FATHER protects DAUGHTER	7.4	8.8	-.27	.03
MOTHER respects SON	7.2	7.8	-.38	.003
MOTHER-IN-LAW is critical of SON-IN-LAW	4.0	3.6	+.24	.05
MOTHER-IN-LAW treats SON-IN-LAW as a son	5.1	7.4	-.25	.04

* When this correlation is positive it indicates that the higher a Hispanic's level of acculturation the higher is his role differential rating.
When it is negative it indicates that the higher the Hispanic's level of acculturation the lower is his role differential rating.

Table 5a. Summary of Results for Behavioral Intentions for Stimulus Persons

		Unskilled Laborer				Restaurant Owner				
Ethnicity	Behavior	Transient*		Permanent*		Transient*		Permanent*		Row totals* (see text)
MEXICO	Associat.	n.s.	3 4 1 2	n.s.	3 4 2 1	n.s.	3 2 4 1	n.s.	4 3 2 1	n.s. 3 4 2 1
	Dissociat.	.0008	1 3 2 4	.0000	1 3 2 4	.0008	1 3 2 4	.0019	1 3 2 4	.0002 1 3 2 4
	Superord.	.0018	1 3 4 2	.0006	3 1 2 4	.0039	1 3 2 4	.0001	3 1 2 4	.0001 3 1 2 4
	Subord.	n.s.	3 4 2 1	n.s.	4 3 1 2	n.s.	3 2 4 1	n.s.	2 4 3 1	n.s. 3 4 2 1
PUERTO RICO	Associat.	.049	4 3 2 1	n.s.	3 4 1 2	n.s.	4 2 3 1	n.s.	4 3 2 1	n.s. 4 3 2 1
	Dissociat.	.0119	1 3 2 4	.0005	1 3 2 4	.0172	1 3 4 2	.0006	1 3 2 4	.0006 1 3 2 4
	Superord.	.0005	1 3 2 4	n.s.	3 1 2 4	.0230	1 3 2 4	.0012	1 3 2 4	.0004 3 1 2 4
	Subord.	n.s.	3 4 2 1	n.s.	3 4 1 2	n.s.	2 4 3 1	n.s.	3 4 1 2	n.s. 3 4 1 2
CUBA	Associat.			.0005	3 4 2 1			n.s.	3 4 2 1	.0127 3 4 2 1
	Dissociat.			.0026	1 3 2 4			.0027	1 2 3 4	.0110 1 2 3 4
	Superord.			n.s.	1 3 2 4			.0109	1 3 2 4	.0240 1 3 2 4
	Subord.			n.s.	3 4 2 1			n.s.	4 3 2 1	n.s. 4 3 2 1
ENGLAND	Associat.			n.s.	3 4 2 1			n.s.	2 3 4 1	n.s. 3 4 2 1
	Dissociat.			n.s.	1 3 4 2			n.s.	1 3 4 2	.0360 1 3 4 2
	Superord.			n.s.	1 3 2 4			.0252	1 3 4 2	.0254 1 3 2 4
	Subord.			n.s.	3 2 4 1			n.s.	2 3 4 1	n.s. 2 3 4 1
COLOMBIA	Associat.	.0391	4 3 2 1			n.s.	4 3 2 1			n.s. 4 3 2 1
	Dissociat.	.0069	1 3 2 4			.0152	1 3 2 4			.0048 1 3 2 4
	Superord.	n.s.	1 3 2 4			n.s.	1 3 2 4			n.s. 1 3 2 4
	Subord.	n.s.	4 3 1 2			n.s.	3 4 2 1			n.s. 3 4 2 1
BLACK	Associat.			n.s.	4 3 1 2			n.s.	4 3 2 1	n.s. 4 3 2 1
	Dissociat.			n.s.	1 3 2 4			.0208	1 3 2 4	.0329 1 3 2 4
	Superord.			n.s.	3 1 2 4			.0116	1 3 4 2	.0201 1 3 4 2
	Subord.			n.s.	3 4 2 1			n.s.	4 2 3 1	n.s. 3 4 2 1
HISPANIC	Associat.			.0082	4 3 2 1			.0169	4 3 2 1	.0034 4 3 2 1
	Dissociat.			.0127	1 3 2 4			.0072	1 3 4 2	.0068 1 3 4 2
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MILLION-AIRE FROM CUBA	Associat.							n.s.	4 2 1 3	
	Dissociat.							n.s.	1 3 4 2	
	Superord.							n.s.	1 3 2 4	
	Subord.							n.s.	4 2 3 1	
MILLION-AIRE FROM MEXICO	Associat.							.0475	4 1 2 3	
	Dissociat.							n.s.	1 3 4 2	
	Superord.							.0353	1 3 2 4	
	Subord.							n.s.	4 1 2 3	

* Values on left-hand of cell represent the *p*-value for the corresponding overall ANOVA.

Numbers at the right indicate the sample means, from lowest to highest, as follows:

1 = Unacculturated Hispanics
2 = Moderately acculturated Hispanics
3 = Highly acculturated Hispanics
4 = Mainstream Americans

Note: The groups that are connected with a line under them are not significantly different from each other.

Table 5b

Summary of Results of Behavioral Intentions for Five Categories of Stimulus Persons

Stimulus Person	Behavior	Sequences*	
UNSKILLED LABORERS	Association	.0478	4 3 2 1
	Dissociation	.0037	1 3 2 4
	Superordinat.	.0072	3 1 2 4
	Subordination	n.s.	3 4 2 1
RESTAURANT OWNERS	Association	n.s.	4 2 1 3
	Dissociation	.0316	1 3 2 4
	Superordinat.	.0001	1 3 2 4
	Subordination	n.s.	3 4 2 1
TRANSIENT VISITORS	Association	n.s.	4 3 2 1
	Dissociation	.0014	1 3 2 4
	Superordinat.	.0034	1 3 2 4
	Subordination	n.s.	3 4 2 1
PERMANENT RESIDENTS	Association	n.s.	4 2 3 1
	Dissociation	.0165	1 3 2 4
	Superordinat.	.0004	1 3 2 4
	Subordination	n.s.	3 4 2 1
MILLIONAIRES	Association	n.s.	4 2 1 3
	Dissociation	n.s.	1 3 4 2
	Superordinat.	.0260	1 3 2 4
	Subordination	n.s.	4 3 1 2

* Values on left-hand of cell represent the p-value for the corresponding overall ANOVA.

Numbers at the right indicate the sample means, from lowest to highest, as follows:

1=Unacculturated Hispanics
2=Moderately acculturated Hispanics
3=Highly acculturated Hispanics
4=Mainstream Americans

Note: The groups that are connected by a line under them are not significantly different from each other.

Table 6. Significant Results for Stereotypes

Stimulus Person	Trait	*p*-value*	Sequence**
Latino Seamen	Intelligent	.01	4 2 3 1
	Important	.03	4 2 3 1
	Brave	.004	4 2 1 3
	Aggressive	.015	4 2 1 3
	Active	.003	4 1 2 3
	Helpful	.001	4 1 3 2
	Hardworking	.005	4 2 1 3
	Trustworthy	.015	4 1 3 2
Latino Naval Officer	Active	.05	4 2 1 3
	Tough	.01	4 1 2 3
	Hardworking	.02	4 1 2 3
My father	Aggressive	.015	1 4 2 3
My friends	Brave	.05	2 4 1 3
Latino Job Foremen	Brave	.02	4 1 2 3
	Aggressive	.014	1 4 2 3
Latino Professional Men	Intelligent	.05	4 2 1 3
	Important	.003	4 2 1 3
	Brave	.006	4 2 1 3
	Aggressive	.03	4 1 2 3
	Active	.0008	4 2 1 3
	Helpful	.004	4 2 1 3
	Tough	.03	4 2 1 3
	Hardworking	.0006	4 2 1 3
	Trustworthy	.03	4 2 1 3
White Professional Men	Helpful	.03	2 4 3 1
	Tough	.02	4 2 1 3
	Hardworking	.01	2 4 3 1

* P-values reported correspond to those for the overall ANOVA.

** Group code is: 1 = Unacculturated Hispanics
2 = Moderately Acculturated Hispanics
3 = Highly Acculturated Hispanics
4 = Mainstream Americans

Note: The groups that are connected by a line under them, are not significantly different from each other.

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Samples of Hispanic and Mainstream recruits responded to a questionnaire which presented 64 supervisors and asked for an estimate of the degree of liking and the probable productivity of workers working under each supervisor. There were no systematic differences between the Hispanics and the Mainstream. Both samples indicated a preference for structured (he tells you exactly what to do...) open (you know exactly what he thinks about you) and considerate (when you don't feel well he assigns you an easy job) supervisors.

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Navy Recruits' Expectations of Productivity, Liking, and Intentions to Quit under Different Supervisors

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Social interaction seems to be determined by mutual attributions and expectations held by the participants of the interaction about each other (e.g. McCall & Simmons, 1978; Triandis, 1977a, 1977b, 1981), as well as by the behavioral and social alternatives of the participants (e.g. Putallaz & Gottman, 1981; Thibaut & Kelley, 1959).

Diverse researchers have studied the effects of attributions and expectations on supervisory and leadership styles as well as the effects of these styles on the perceptions, behavior, and productivity of group members (e.g., Bales, 1950; Cartwright & Zander, 1968; Hollander, 1978). Of particular interest, along these lines, have been the effects of emphasis on productivity as opposed to emphasis on the personal well-being of the workers (e.g., Bales, 1950; Fiedler, 1967). More specifically, two factors have been identified to be of major relevance for effective leadership and supervision: Consideration for the workers and initiation of structure by the supervisor (Hemphill, 1955; Katz & Kahn, 1978). Whether a supervisor provides workers with information about the work environment has also been observed to affect the workers' satisfaction with and efficiency in their jobs (e.g., Katz & Kahn, 1978; Laird & Laird, 1975 edition).

In this study we assessed the relevance of these supervisory styles for the perception of high productivity and quitting intentions, as well as for the expressed liking for the supervisor, among Hispanic and Mainstream Navy recruits. In addition, we examined the effects of the supervisor's personal characteristics, such as his age, race, or ethnic background, on these perceptions.

Subjects

Two samples of male Navy recruits separately responded to two questionnaires as part of a larger study of their perceptions of the social environment. One of these samples was formed by 19 Mainstream (see description below) and 20 Hispanic participants, while 40 Mainstream and 40 Hispanic recruits constituted the second sample. These samples were formed at different times following the procedure to be described next. In each of three Navy Recruit Stations, when a recruit with a Spanish surname was to be classified the classification officer checked the recruit's self-identification on an application form on which "Hispanic" was one of the ways in which the applicant could identify himself. A Spanish-surnamed recruit who identified himself as Hispanic was asked to complete the aforementioned questionnaires. At the same time, another recruit was randomly selected and given the same questionnaire. The recruits in the latter group constitute the "Mainstream" sample.

The contrast between the Hispanics and Mainstream was of special interest, since if there is a contrast between a common set of cultural elements across diverse American groups (differing in race and region) with U.S. Hispanic culture, it would be useful to extract it for Hispanic recruitment, training, and retention programs, both in the Navy and in U.S. industry.

Procedure

Two questionnaires presented 64 stimulus persons. They described male supervisors who varied along four dimensions: age (25- or 45-years old), race (white or black), ethnicity (Anglo or Hispanic), and supervisory style. The supervisor's style was: (1) Either open (described as "He tells you more than you want to know about what is going on on the job. You know exactly what he thinks about you") or closed ("You don't know

what he thinks about you; he tells you nothing about what goes on on the job"); (2) either laissez-faire ("He never tells you what to do, and sets no deadlines for your work; he does not check to see whether you complete your assignments") or structured ("He tells you exactly what to do and sets specific deadlines for when it should be done. He makes sure you carry out your assignments exactly as expected"); (3) either considerate ("When you don't feel well, he assigns you an easy job. One time your brother was sick in the hospital and he let you take leave and visit him") or inconsiderate ("In assigning jobs to you, it makes no difference to him whether you feel well or not. One time your brother was sick in the hospital and he did not give you leave and insisted that you stay on the job"); or (4) either intimate ("He reveals you his intimate feelings about the way he feels about the commanding officer; he talks to you openly about his sex life") or formal ("He tells you nothing about his intimate feelings concerning others; he keeps his sex life completely secret from you"). This results in a 2^4 within-subjects design (age, sex, ethnicity and behavior) for each of four behavioral dimensions, plus a between subjects ethnicity factor. Thus a total of 4x16=64 different supervisors were used.

Each participant was asked to rate how much they would like each of these 64 supervisors, and to indicate how likely it would be that, given a particular supervisor and behavior, they would "work faster and produce more", "quit", "work more carefully and increase the quality of your work", and that "productivity (output/hour) would increase in America".

One of the samples answered this questionnaire using a 5-point scale, whereas a second sample responded on a 10-point scale for a methodological study reported elsewhere. In both cases, the lowest category was "never" and the highest was "always" and "for sure". Corresponding middle points in the scales (C, and 5 or 6, respectively) indicated that the participant was undecided about the likelihood of an event given a particular supervisor.

A principal axes factor analysis with varimax rotation was then

performed on the sums of the five categories of events, for each of the two versions of the questionnaires. Results from these analyses suggested that the best grouping of the scales was in three clusters: (1) productivity expectations (work faster and produce more, work more carefully and increase the quality of the work, productivity in America would increase); (2) expected quitting intentions; and (3) expected liking. This permitted three repeated-measures split-plot 5-way ANOVAs, with one between subjects and four within subject factors. Whenever a cell score in a 2x2x2x2x2 matrix was missing for a participant, all of his scores were dropped from the analysis.

Results

Results for the analyses of variance showed consistent and very strong main effects for supervisory styles. These effects were inconsistently moderated but rarely overriden by higher-order interaction effects. Given these considerations, we will limit our discussion to consistent main effects. Before detailing our results we would like, however, to highlight the fact that, given the nature of our research design, it was possible to ascertain that the results to be reported apply to both Mainstream and Hispanic Navy recruits.

Both samples (5 point and 10 point scales) reported higher expectations and intentions of productivity when the supervisor was structured [$F(1,34)= 31.56$, $p=.0000$, and $F(1,54)= 86.1776$, $p= .0000$], open [$F(1,36)= 4.16$, $p= .0487$, and $F(1,55)= 40.79$, $p= .0000$], and considerate [$F(1,33)= 47.23$, $p= .0000$; $F(1,57)= 109.83$, $p= .0000$], than when he was laissez-faire, closed, and inconsiderate.

Regarding quitting intentions, the participants of both samples indicated higher intentions to quit whenever the supervisor was laissez-faire [$F(1,32)= 5.67$, $p= .0233$; $F(1,61)= 22.86$, $p= .0000$] or inconsiderate [$F(1,35)= 16.43$,

$p = .0002$; $F(1,60) = 36.08$, $p = .0000$]. However, the results for the other supervisory styles were more complex.

Results for liking scores show patterns similar to those for productivity Both samples indicated that they would like structured [$F(1,34) = 9.17$, $p = .0046$; $F(1,59) = 47.51$, $p = .0000$], open [$F(1,35) = 4.24$, $p = .0470$; $F(1,58) = 57.1632$, $p = .0000$], or considerate supervisors [$F(1,34) = 41.90$; $F(1,64) = 187.73$, $p = .0000$] better than laissez-faire, closed, or inconsiderate supervisors.

Discussion

Our results suggest that a supervisor's behavior is of paramount importance in influencing workers' perceptions of him and their intention to produce and quit. If this is the case, training programs in leadership and social skills, as well as simple recommendations to supervisors regarding "appropriate" supervisory behaviors may prove a fruitful avenue to increase workers' satisfaction and productivity, and to reduce turnover.

On the other hand, it is theoretically appealing to assume that liking for a supervisor affects productivity and quitting intentions, but our results do not indicate an unqualified support for this hypothesis. The fact that liking results seem to parallel those for expectations of productivity, however, call our attention to the possibility that quitting intentions may be highly influenced by the availability of alternatives (Thibaut & Kelley, 1959) and that dislike for a supervisor might be better reflected by a drop in productivity (psychological withdrawal) than by quitting (e.g., Hom & Hulin, 1978; March & Simon, 1958; Miller, 1981). Further research in this area, however, is clearly necessary.

The Hispanic/Mainstream contrast, in this study, did not reveal any important differences. While on several other studies with the same sampling design (Technical Reports ONR-13, ONR-14, ONR-15, ONR-19, and ONR-24) there were important cultural differences, the present study did not identify any.

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