**STO TECHNICAL REPORT**                    **TR-HFM-258**

# Impact of Military Life on Children from Military Families

## (Impact de la vie militaire sur les enfants des familles de militaires)

Final Report of NATO RTG HFM-258.

Published February 2019

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Final Report of NATO RTG HFM-258.

Editor:

Alla Skomorovsky, Ph.D.

(with the assistance of Mr. Waylon H. Dean)

# The NATO Science and Technology Organization

Science & Technology (S&T) in the NATO context is defined as the selective and rigorous generation and application of state-of-the-art, validated knowledge for defence and security purposes. S&T activities embrace scientific research, technology development, transition, application and field-testing, experimentation and a range of related scientific activities that include systems engineering, operational research and analysis, synthesis, integration and validation of knowledge derived through the scientific method.

In NATO, S&T is addressed using different business models, namely a collaborative business model where NATO provides a forum where NATO Nations and partner Nations elect to use their national resources to define, conduct and promote cooperative research and information exchange, and secondly an in-house delivery business model where S&T activities are conducted in a NATO dedicated executive body, having its own personnel, capabilities and infrastructure.

The mission of the NATO Science & Technology Organization (STO) is to help position the Nations' and NATO's S&T investments as a strategic enabler of the knowledge and technology advantage for the defence and security posture of NATO Nations and partner Nations, by conducting and promoting S&T activities that augment and leverage the capabilities and programmes of the Alliance, of the NATO Nations and the partner Nations, in support of NATO's objectives, and contributing to NATO's ability to enable and influence security and defence related capability development and threat mitigation in NATO Nations and partner Nations, in accordance with NATO policies.

The total spectrum of this collaborative effort is addressed by six Technical Panels who manage a wide range of scientific research activities, a Group specialising in modelling and simulation, plus a Committee dedicated to supporting the information management needs of the organization.

- AVT     Applied Vehicle Technology Panel
- HFM     Human Factors and Medicine Panel
- IST     Information Systems Technology Panel
- NMSG   NATO Modelling and Simulation Group
- SAS     System Analysis and Studies Panel
- SCI     Systems Concepts and Integration Panel
- SET     Sensors and Electronics Technology Panel

These Panels and Group are the power-house of the collaborative model and are made up of national representatives as well as recognised world-class scientists, engineers and information specialists. In addition to providing critical technical oversight, they also provide a communication link to military users and other NATO bodies.

The scientific and technological work is carried out by Technical Teams, created under one or more of these eight bodies, for specific research activities which have a defined duration. These research activities can take a variety of forms, including Task Groups, Workshops, Symposia, Specialists' Meetings, Lecture Series and Technical Courses.

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# **Preface**

The NATO Science and Technology Office (STO) task group was driven by a need to better understand the effects of military life on children from military families. It was spurred on by a passionate group of experts who have dedicated their life's work to informing science about military families and to improving programs and support for military parents and their children. When we began this effort, we focused on identifying a model of child well-being that could be applied to military families. This proved difficult, and we launched into a process to identify how children in military families were affected by factors that also affect civilian children while trying to elucidate the story that is common to children in military families. Over the course of this task group, we learned about the socio-political and cultural factors that make the experience different in each country. We came to understand that there is no single narrative for children in military families, but that each country, and even regions within those countries, may have a different story to tell. Each story adds to our understanding of the impact of military life on children. As the first NATO STO task group to focus on children from military families, we are honoured to have served in this important role. The task group was made up of 19 experts, psychology and sociology researchers, epidemiologists, prevention specialists, family interventionists, child development experts, implementation scientists, and military service members, spouses, and parents, coming from 12 countries. We recognize that it was a privilege to be able to serve alongside so many intellectually curious, dedicated, and wise individuals. We are excited to see the many collaborations that have already grown out of this effort and will continue into the future to build high-quality programs and services for military families.

It is important to note that while the authorship of each chapter indicates its main contributors, the contents of each chapter were developed and refined by all the group members through interactive discussions and detailed chapters' reviews. It should also be noted that several group members did not co-author a chapter of this report but made a significant contribution through discussions on the content of each chapter, the development of the well-being model of children from military families, and the review of the chapters.

We believe that RTG HFM-258 advanced the state of imperative knowledge of NATO nations in the area of impact of military life on children and can assist military organizations in improving the services for children and ultimately increasing well-being of children from military families.

*Alla Skomorovsky, Ph.D., Chair*

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# Impact of Military Life on Children from Military Families
## (STO-TR-HFM-258)

# Executive Summary

Children in military families experience stressors associated with military life that may affect every stage of their lives and disrupt normal development. Family separations due to deployments or other military-related duties, for instance, have been shown to be stressors for military families. Negative outcomes include higher levels of internalizing behaviour and psychopathological symptoms, decreased academic performance, intense feelings of sadness, loneliness, abandonment and anger, and acting-out behaviours. Poor child well-being will likely negatively impact the wellness of the military family and, ultimately, affect the operational readiness of the serving member. Nonetheless, very little research has been conducted in this area.

This technical report is a detailed summary of the findings of the NATO RTG HFM-258, "The Impact of Military Life on Children from Military Families" (January 2015 to January 2018), which involved nineteen representatives from NATO countries and partners. The objectives of the NATO working group were:

1) To review the literature and identify key questions and issues related to the impact of military life on children from military families;

2) To develop a universal framework for well-being of children in military families and to operationalize the term well-being in this context;

3) To identify differences and similarities in the well-being of children from military families across different nations as a function of programs available in these nations; and

4) To promote and serve as a form for active collaboration (e.g., survey development, metrics to guide future work).

The report is divided into eight chapters – civilian child well-being, military child well-being, development of universal child from military families' model, program reviews, and measurement assessments were discussed in detail. After reviewing the literature and evaluating existing programs and frameworks, the report discusses key findings, recommendations for military organizations, limitations of the current working group, and future research recommendations.

The results of NATO RTG HFM-258 provide researchers with a framework of child well-being tailored to the military context, which will help militaries and service providers identify children at risk and the most effective ways of providing support to children in military families. The outputs of this group should enhance NATO's military preparedness by addressing the well-being concerns of military families.

# Impact de la vie militaire sur les enfants des familles de militaires
## (STO-TR-HFM-258)

# Synthèse

Les enfants des familles de militaires sont soumis à des facteurs de stress associés à la vie militaire, qui peuvent influencer chaque étape de leur vie et perturber leur développement normal. Il a par exemple été démontré que les séparations familiales dues au déploiement ou aux autres missions militaires étaient des facteurs de stress dans les familles de militaires. Les conséquences négatives sont notamment un comportement d'internalisation et des symptômes psychopathologiques plus fréquents, une baisse des résultats scolaires, des sentiments intenses de tristesse, de solitude, d'abandon et de colère et des passages à l'acte. Le mal-être des enfants a probablement des répercussions sur le bien-être de la famille et finit par nuire à l'état de préparation opérationnelle du militaire en service. Néanmoins, très peu de recherches ont été menées dans ce domaine.

Le présent rapport technique est un résumé détaillé des conclusions du RTG 258 de la Commission HFM de l'OTAN, « Impact de la vie militaire sur les enfants des familles de militaires » (janvier 2015 - janvier 2018), qui a impliqué dix-neuf représentants de pays de l'OTAN et de pays partenaires. Les objectifs du groupe de travail de l'OTAN étaient :

1) Passer en revue la littérature et identifier les questions et problèmes essentiels liés à l'impact de la vie militaire sur les enfants des familles de militaires ;

2) Développer un cadre universel de bien-être des enfants dans les familles de militaires et opérationnaliser le terme « bien-être » dans ce contexte ;

3) Identifier les différences et les similitudes du bien-être des enfants des familles de militaires dans différents pays, en fonction des programmes disponibles dans ces pays ; et

4) Favoriser et être une forme de collaboration active (par exemple, élaboration d'études, indicateurs orientant les travaux ultérieurs).

Le rapport se compose de huit chapitres. Le bien-être des enfants de civils, le bien-être des enfants de militaires, le développement d'un modèle universel d'enfants des familles de militaires, l'examen des programmes et l'évaluation des mesures ont été discutés en détail. Après la revue de la littérature et l'évaluation des programmes et cadres existants, le rapport présente les conclusions clés, les recommandations pour les organisations militaires, les limites du groupe de travail actuel et les recommandations pour les futures recherches.

Les résultats du RTG 258 de la Commission HFM de l'OTAN fournissent aux chercheurs un cadre de bien-être des enfants adapté au contexte militaire, qui aidera les militaires et les prestataires de services à identifier les enfants à risque et les manières les plus efficaces d'apporter un soutien aux enfants dans les familles de militaires. Les résultats de ce groupe de travail devraient améliorer l'état de préparation des militaires de l'OTAN en répondant aux inquiétudes sur le bien-être des familles de militaires.

# Chapter 1 – INTRODUCTION

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## ABSTRACT

*Children in military families experience stressors associated with the demands of military life, which may affect every stage of their lives and disrupt normal childhood development. Very little research has been conducted in this area. The 19-member NATO RTG-HFM-258 was established to examine the impact of military life on the well-being of children from military families. This introduction explains the rationale for the international collaboration, the scope and objectives of the NATO working group, and provides a synopsis of the report. The result of the working group is a framework of child well-being for a military context, which can help militaries and service providers identify children at risk and the most effective ways of supporting children in military families. The outputs of this group should enhance NATO's military preparedness by addressing the well-being concerns of military families.*

*Children in military families[1,2] experience stressors associated with the demands of military life, which may affect every stage of their lives and disrupt normal childhood development. Despite the evidence that such stressors have serious implications for the well-being of military families (and thus for military preparedness), very little research has been conducted in this area. The NATO RTG-HFM-258, The Impact of Military Life on Children from Military Families, was set up to assess the state of knowledge and practice regarding the well-being of children in military families. This report is a detailed summary of the results and findings of the NATO working group.*

## 1.1   RATIONALE FOR INTERNATIONAL COLLABORATION

It is widely recognized that the success of the military depends not only on the well-being of its personnel, but on the well-being of their families. Children from military families experience the same developmental and motivational processes as their civilian counterparts, but they also encounter unique stressors from the demands of military life, such as frequent relocations, changes in social networks and disruptions in their daily routines, parental separation, reduced feelings of belongingness and stability, and they risk the combat-related injury or death of a parent, sibling, or other family member. Thus, the military adds an additional layer of complexity to the study of child well-being.

Children in military families experience effects from military life-related stressors, such as parental absence and frequent relocations [1], [2]. Research shows that military-life stressors, including separations, have a negative impact on the children of military personnel, including their psychological well-being, the development of their identities and attachment styles, and their relationships with their parents (e.g., [3]). The negative outcomes include psychopathological symptoms (e.g., depression and anxiety), decreased academic performance, acting-out and other externalizing behaviours, and intense feelings of sadness, loneliness, abandonment, and anger (see Refs. [4], [5], [6], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16], [17]).

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[1] Military family is a broad term that can refer to families with members of active-duty, National Guard, Reserve, veterans, and those who had lost their lives during service. Military families can include both immediate and extended families. While military families can include childless couples, step-parents, single military members (with or without children), and caregivers of dependents (e.g., sibling, parent), the current literature on military well-being often involves the examination of nuclear families with dependent children younger than 19.

[2] It has also become apparent within the Task Group that "military families" is not a commonly used term in some countries, such as Europe, as it is used in Canada and the United States, please note that "military families" as used in the current report refers to families where at least one parent of the family is a military member.

Evidence suggests that a military lifestyle may influence children's ability to meet developmental milestones and increase their vulnerability to physical and mental health impairments across their lives [18], [19], [20]. Yet little is known about the well-being of children from military families, especially about how they use their resources and cope with the demands of military life across their development. It is therefore important to understand in more depth, the experiences of children from military families and their well-being and to recognize how multiple systems contribute to children's and families' responses to military stressors, including their ability to adapt. If families, and in particular, children, are not able to adapt to the demands of a military lifestyle, they may not be able to effectively support the military personnel in coping with occupational demands and, in turn, negatively impact military personnel's well-being and performance.

To address this knowledge gap and understand the influence of military stressors on child well-being, the NATO RTG-HFM-258, The Impact of Military Life on Children from Military Families, was established in January 2015 and concluded in January 2018. Nineteen representatives (including a mentor) from the following countries participated in the working group: Belgium (1), Canada (1), the Czech Republic (1), Denmark (2), Estonia (1), Germany (1), Norway (1), Romania (1), Slovenia (1), Sweden (2), the United Kingdom (3), and the United States (4).

The original objectives of the RTG HFM-258 were:

1) To identify key questions and issues within this topic and develop a program of work to address them;

2) To identify and evaluate current data sources;

3) To define the term *well-being* for children from military families;

4) To initiate collaboration between nations;

5) To identify differences and similarities in the well-being of children from military families across different nations; and

6) To serve as a forum for active collaboration on surveys and metrics to guide current and future work.

The working group would also attempt:

1) To identify unique aspects and challenges associated with research conducted with children (e.g., research conducted directly with children requiring parental consent vs. research conducted with parents, collecting data on children indirectly); and

2) To identify the main risk factors associated with the development of psychological problems among children in military families as well as resilience factors that protect children against the negative impact of stress.

The RTG agreed that it was vital to optimize resources by exchanging existing knowledge between nations and to develop a universal military child well-being framework to guide future work. This framework was intended to assist militaries and service providers to identify the most effective ways of supporting military families and their children in adapting to the demands of military life. The outputs of this group have a potential to enhance NATO's military preparedness by improving military families' well-being.

## 1.2   NATO RTG HFM-258 RESEARCH PROCESS

Once the working group was set up, members pared down the RTG's objectives to four and operationalized them as follows:

1) Review the literature and identify key questions and issues on the impact of military life on children from military families.

2) Develop a universal framework for the well-being of children in military families and to operationalize the term *well-being* in this context.

3) Identify differences and similarities in the well-being of children from military families across different nations as a function of programs available in these nations and their legal and political contexts.

4) Promote and serve as a forum for active collaboration (e.g., survey development, metrics to guide future work).

To achieve these goals, the RTG developed a 3-year research plan, with sub-groups formed and assigned specific responsibilities. It is important to note, that as a collective group, the task group worked collaboratively at all stages of the research plan. Specifically, the well-being model of children from military families (HELMS) was developed by the group. At a later stage, the sub-groups were assigned to write the chapters to summarize the group work, and upon the completion, the chapters were peer-reviewed by two to three experts from within the task group.

The first step was to review the literature on child well-being in civilian literature and the effects of military life on child well-being. Several models of child well-being were found, but none took into account military factors. Moreover, several definitions of child well-being have been proposed, but agreement over the operationalization of the construct appeared elusive. As a result, the working group sought to build on civilian knowledge and investigate the military research on this topic. Although child well-being has not been well-researched in the military literature, some factors have been investigated, such as the effects of relocations on child well-being and their development. This groundwork identified the gaps in the literature and provided insight into areas that required more attention.

Thus, the first gap was a universal understanding of the well-being of children from military families and a model for assessing the construct. In response, the working group conducted a thematic analysis of the civilian and military literature to identify particular well-being indicators, dimensions, and components. The proposed model of child well-being in military families is closely aligned with Bronfenbrenner's Bioecological Model of Human Development [21] and Minkkinnen's Structural Model of Child Well-being [22]. The model also informs the operationalization of the construct.

A new problem emerged in universalizing the model. The working group recognized that the political and legal climate of each nation greatly determines the availability of programs to military families; thus, child well-being may differ from one NATO nation to the next. As a result, members of the group determined it was pertinent to evaluate and review the well-being of children in military families in different countries, and to outline best practices at a multi-national level.

After an initial review of the varying levels of child well-being in different NATO nations, working group members initiated a study that invited representatives from participating NATO nations to complete a survey about the programs they offered and to submit a few representative programs available in their country for assessment. The programs submitted were objectively reviewed and recommendations regarding program development, evaluation, and implementation were discussed.

To address the final objectives of the report, the working group reviewed measurements of child well-being and provided recommendations for measuring this construct in the military context – and could be used in cross-national surveys. The selection process for the measures was largely based on the proposed operationalization of child well-being and the working model of child well-being. Measures of interest included those that assessed health-related quality of life and mental health screening tools, while taking into account the following four domains: physical and mental health, social well-being, material well-being, and education. In addition to reviewing measurements, the group identified assessment tools that would reveal protective and risk factors that would be feasible to administer, that had high sensitivity and specificity, and that would enable cross-national comparisons between children from military families and between civilian and military families.

The working group conducted a final overview of the state of research, the working group's research process, and a summary of the research findings. The current state of the literature necessitates a series of research projects to validate the proposed model and the model's limitations (for details see Chapters 7 and 8). Finally, the working group developed the structure of the final report, which was divided into eight chapters. Following is a synopsis of the remaining seven chapters in this report.

## 1.3 SYNOPSIS OF THE REPORT

### 1.3.1 Chapter 1 – Introduction

The aim of the current chapter (Introduction) is to provide the rationale for establishing the international working group on the topic, state the objectives of the working group, describe the research process of the working group, summarize the results of the working group research, and explain the structure of the report.

### 1.3.2 Chapter 2 – Child Well-Being Models

Research into civilian child well-being has yielded new theoretical models from different disciplines and schools of thought, all of which is leading to an interdisciplinary understanding of this construct. Chapter 2 discusses two of the more commonly discussed models of child well-being, the Two Sources Theory of Child Well-being [23] and the Structural Model of Child Well-being [22]. Both of these models draw on Brofenbrenner's bioecological model [21].

The chapter explains a few limitations that arose regarding the current theoretical models of child development:

1) Well-being is a multidimensional construct that is used as an umbrella term, and it can be understood and investigated differently depending on the discipline and research question;

2) The multidimensional nature and varying definitions of child well-being make it difficult to establish a shared understanding and consistent measurement of this construct; and

3) The current theoretical models of well-being are largely based on civilian data and are therefore not applicable to children in military families (a point discussed more in Chapters 3 and 4).

Given these limitations, the working group proposed an international model of well-being for children in military families, based on the data collected from various NATO countries. *Child well-being*, as used in this report, refers to a multidimensional construct comprising health, education, legal, material, and social (HELMS) well-being. It is proposed that child well-being depends on the components of HELMS, such as physical health, psychological health, family functioning, peer and social relationships, the environment, and access to education, information, and health benefits. (The HELMS model of child well-being will be discussed in detail in Chapter 4.)

### 1.3.3 Chapter 3 – Well-Being of Children from Military Families

Building upon the dimensions of well-being mentioned in the second chapter of this report, Chapter 3 reviews 36 empirical studies of varying methodological nature (i.e., cross-sectional, longitudinal, and retrospective cohort) and investigates several military factors associated with a military parent that affect child well-being (e.g., deployments, relocations, residential locality). Chapter 3 shows the importance of examining military child well-being through the bidirectional relationship, between child and parent, and how the well-being of children will impact the wellness of the whole military family.

Chapter 3 shows that current research yields inconsistent evidence on the effects of military stressors on child well-being. Deployments and relocations are thought to be particularly disruptive to military families

and detrimental to child well-being due to the disruption they cause in children's lives. When children are required to relocate, they have to leave behind established social networks (e.g., friends, family) and form new peer relationships. As a result, children may experience (fear of) peer victimization from stigma surrounding the military. The new location may also have different language and academic requirements to which the child will have to adapt. Studies have reported that some children who experience a greater number of relocations may be better able to adapt because they have had more opportunities to exercise coping strategies. But some children may also experience increased psychological distress, may withdraw socially, and may experience feelings of instability or lack of belonging.

With respect to deployments, emerging research suggests that there are distinct experiences and stressors associated with the phases of deployment. Children may experience impairments in peer and academic functioning from intense feelings of loneliness, worry, and psychological distress. Children may also have difficulties adjusting to the return of the deployed parent, especially if the parent is ill or injured.

### 1.3.4 Chapter 4 – Developing the Military Child Well-Being Model

Enhancing child well-being will certainly improve the well-being of the family as a whole, but a universal framework of children's development in military families has yet to be constructed. Child well-being is a multifaceted construct, but the varying operationalized definitions of the term prevent consistent examination, measurement, and understanding of the construct. Moreover, the majority, if not all the current models of child well-being are based on civilian research, which is not fully representative of the experiences and well-being of children from military families.

Given these limitations, members of the group developed a structural model of child well-being unique to children in military families, comprising five dimensions: Health, Education, Legal, Material, and Social (HELMS). The military HELMS model of child well-being is closely aligned with Bronfenbrenner's bioecological model [21] as well as Minkkinen's Structural Model of Child Well-being [22]. It incorporates aspects of the Organisation for Economic Cooperation and Development's measures of child well-being, while taking into consideration the relevant factors unique to a military lifestyle that influence child well-being.

The HELMS model accounts for military factors that may influence child well-being while assessing:

1) The physical and psychological health of the child and their parent/caregiver (health);

2) The satisfaction with and access to childcare and education, as well as parental education (education);

3) The statutory and governmental directives, which seek to ensure a safe and healthy environment for children (legal);

4) Having material needs met (e.g., food, clothing, shelter) that are normally necessary in the standard of living in the society and culture (material); and

5) The relationships in the child's life, such as the child-parent dyad, peer relationships, as well as community and cultural factors, which may influence immediate relationships (social).

### 1.3.5 Chapter 5 – The Effects of Societal, Cultural, and Legal Contexts on Child Well-Being

After the development of the HELMS model, it was recognized that child well-being likely differs between NATO countries due to the interplay of different welfare regimes (e.g., social democratic, liberal, and conservative) that characterize countries and their different resources and services for military families and children. Unique to the HELMS model of child well-being, therefore, is the recognition that differences in political, social, and legal context can affect the well-being of children in military families.

Chapter 5 is particularly concerned with children's rights and position in both the society and the military, and the role that provision, one of the three main rights for children, has in their well-being.

### 1.3.6    Chapter 6 – Programs for Children in Military Families

Following the literature review on the impact of social and legal contexts framing the well-being of children in military families across different countries, the group proceeded to review the representative programs for military families and children in each participating NATO and PfP (Partnership for Peace) country. This is the subject of Chapter 6. Each country was invited to submit up to three programs offered to military-connected children and families, and the submitted programs were compared across countries. This chapter shows that the number of services offered in each country was affected by three factors:

1) The size of the military;

2) The degree to which military life is separated (or immersed) in civilian life; and

3) Military members' access to universal and preventive healthcare.

Descriptions of programs submitted by each country and recommendations for program development, evaluation, and implementation are also discussed in this chapter.

### 1.3.7    Chapter 7 – Measuring Well-Being in Military Children

Chapter 7 reports the final step of the group's research process: the examination of available well-being measurement tools and the identification of those appropriate for military use.

The working group employed two guiding principles for the review of measures, validity and utility; hence, the psychometric properties (including sensitivity and specificity) and the feasibility of the measures were investigated. The measures were also selected based on their ability to identify risk and protective factors, inform existing policies and programs, enable cross-national comparisons between children in civilian and military families, and for use in large-scale, cross-sectional and longitudinal studies.

Although there is currently no gold standard for measuring child well-being in military families, the working group recommended a battery of complementary questionnaires – which includes a mental health screening measurement – to be administered to assess child well-being in military families. Limitations of the available measures and potential future developments to overcome these shortcomings are also discussed in this chapter.

### 1.3.8    Chapter 8 – Summary Discussion

Chapter 8 concludes this report with a summary of our research process and findings. The task group made three important contributions:

1) The development of the military HELMS model of child well-being, which, to our knowledge, is the first theoretical model of child well-being to take into account military stressors.

2) The assessment of child well-being in military families in various NATO and PfP countries, including a review of available support programs and recommendations for program development, evaluation, and implementation.

3) The evaluation of existing assessment tools and the identification of a battery of tools that is sensitive, specific, cost- and time-efficient, and feasible.

Nonetheless, there are several limitations to this research, such as the use of a strict inclusion/exclusion criteria for the development of a military model of well-being. The military HELMS model of child

well-being also does not take into account possible differences due to attachment styles and age. Nor is it likely as effective as a model that assesses child well-being in younger children (i.e., under the age of 5), given the parameters used in its assessments. Despite the working group's efforts in offering a transnational assessment of child well-being, moreover, it may not be generalizable to all countries because of differences in culture, traditions, and religious beliefs, among many other reasons. All the same, this RTG offered significant insight into child well-being in the military, and Chapter 8 concludes with various recommendations and suggestions for future research directions.

## 1.4  CONCLUSION

The purpose of this report is to publish the results of the NATO RTG HFM-258, The Impact of Military Life on Children from Military Families, which examined the impact of military life on children from military families. The group developed a well-being model for children from military families and outlined the best practices at the multi-national level. The group also identified areas where further research that will have a significant impact on military child well-being. The results of this working group findings will assist the military organizations and services providers in identifying the most effective ways of providing support to children to adapt and cope with the demands of a military lifestyle. The output of this group will also enhance NATO's military readiness by improving the understanding of well-being in military children and the services available to them, thereby improving the well-being of children from military families and, ultimately, improving military families' well-being.

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# Chapter 2 – CHILD WELL-BEING IN THE CIVILIAN LITERATURE

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## ABSTRACT

*The well-being of children is a priority within many nations, and is a crucial research priority. Despite the substantial literature on this topic in which several definitions of child well-being have been presented, agreement on what well-being means appears elusive. Further, while there are some definitions that provide a useful starting point to understand and study this phenomenon, some do not reflect the current consensus on the critical elements of child well-being. In contrast, scant attention has been devoted to theory development, which can guide research in this area, and most research appears to be atheoretical. Consequently, much of the existing literature in the English language contributes little toward a holistic understanding of the complex interaction of the proximal and distal factors that affect child well-being. This chapter summarizes what is known about child well-being in the civilian literature, including definitions. The critical elements of child well-being are also outlined and the existing theoretical perspectives are presented and discussed. Lastly, major empirical findings on the key factors that influence child well-being are highlighted.*

## 2.1 INTRODUCTION

The focus on the well-being of children in Western Europe and the United States has been traced to developments that occurred in the seventeenth, eighteenth, and nineteenth centuries that elevated children's importance. These developments included a decrease in child fertility and mortality rates; the demand for child laborers during the early part of the industrial revolution; and the Enlightenment [1]. Parents also began to be more emotionally invested in their children, which eventually led to children's retreat from the workplace in the latter part of the Industrial Revolution (nineteenth century) [2]. Further, the Enlightenment's focus on "developmentally-appropriate education" led to the expansion of schooling for middle-class children [1]. As a result, by the early twentieth century, Western societies, on the whole, manifested a greater appreciation of children, and a resultant focus on ensuring that they were cared for [1], which continues to the present time. This critical focus on how children are faring has resulted in a substantial academic literature on the well-being of children.

This literature also reflects how the understanding of child well-being has shifted over time. According to Raghavan and Alexandrova [1], understandings of child well-being have moved from a focus on "child protection…to the aspiration that all aspects of the ontology of childhood should be promoted – intrapersonal, interpersonal, familial, and social" (p. 6). This led to the development of new ways to measure child well-being in the twentieth century, particularly the development of well-being indicators [1].

The goals of this chapter are to highlight key elements of child well-being, present existing definitions of child well-being, introduce child well-being theories, and summarize the extensive literature on the factors associated with child well-being.

## 2.2 METHODS

The literature searches were conducted in 2016 and 2017, both for theories of child well-being, and for empirical studies of factors associated with child well-being. The initial searches for empirical studies were performed in Google Scholar in 2016 and led to a refinement of terms for subsequent searches. Also in 2016,

three literature searches were performed by an institutional librarian using PUBMED, Web of Science, and ProQuest (inclusive of Embase, ProQuest Dissertation and Theses, PsychINFO, SciSearch, and Social SciSearch) with *child/children well-being* and *child development* as the key terms. Given the vast literature, these searches were restricted to ones that were research/empirical studies and reported the use of data. The searches further excluded articles about maltreatment, disorders, illnesses, or interventions and were limited to those published between 1998 and 2017 because the task group agreed on a 20-year limit. The current review overlaps slightly in years with a review of the same topic done by Pollard and Lee [3]. However, Pollard and Lee's review period ended in 1999. Further, [3] was designed as a systematic review, while this chapter is largely an overview of existing literature and does not discuss research instruments that have been used to measure child well-being indicators.

The search for child well-being theories were also conducted by an institutional librarian in PUBMED, Web of Science, ProQuest, and the Grey Literature Report, which did not yield new or usable articles that outlined a theory of child well-being.

Task group members provided feedback on the sections of this chapter, including on what should be excluded after an outline of the chapter was presented at the December 2016 task group meeting. The exclusions included sections on the measurement of child well-being and on well-being indicators. This led to an additional literature search undertaken in 2017. There was a PUBMED search for articles published between 1997 and 2017 on *subjective well-being*, *well-being* and *life satisfaction*. These searches were done iteratively. The initial results were previewed and more restrictions were added to the queries to refine the results. These restrictions as well as the manual exclusions (those done by the author) were to eliminate articles that focused on well-being among children with specific diseases or illnesses such as cerebral palsy, AIDS/HIV and cancer, and those that focused on well-being surrounding particular life events such as divorce and adoption. Articles that presented interventions or the validation of measures were also excluded. The quest for summary articles led to a search for systematic reviews and meta-analyses for both child well-being and life satisfaction in OVID, which includes PsychINFO.

## 2.3 KEY ASPECTS OF THE CHILD WELL-BEING CONSTRUCT

Over time, the measures and conceptualizations of child well-being have expanded to include shifts in focus from negative outcomes to positive ones [4] and from a future orientation only, *well-becoming*, to a current one, *well-being* [5], the incorporation of the rights of children perspective and the need to ask children about their well-being [6]. Asking children about their own well-being is the main way to gather subjective well-being data, which contrasts with objective data obtained by examining the "state or status" of children [4]. As will be seen, these aspects of well-being are interrelated. They are briefly outlined below. The challenges and methods of conducting subjective well-being research will also be identified.

### 2.3.1 Positive Outcomes

The focus on negative outcomes is sometimes referred to as a deficit approach [7], with a look at outcomes such as anxiety or depression [3], "injury, poverty, illness" [8], or "dying, distress, disability and discomfort" [6]. In contrast, positive outcomes refer to factors such as a sense of purpose/belongingness and life satisfaction [9], which is a more strength-based approach [7]. Further, positive outcomes are not the inverse of negative ones, and thus have to be distinctly measured [6]. The focus on positive outcomes does not necessarily mean that negative ones are no longer considered. Instead, multidimensional measures of child well-being that include all aspects of well-being have been advocated for and developed [8].

### 2.3.2 Well-Being versus Well-Becoming

*Becoming* pertains to what children are required to have to ensure that they turn out to be the right kind of adult [10]. Critics of this approach contend that it ignores what children need now to have fulfilling

childhoods and treats childhood as merely a stage on the way to adulthood [1]. In contrast, *being* has to do with children's present quality of life [10], and not just on whether they are getting, for example, an adequate education to prepare them for successful careers. It focuses on the factors that make for a "good" childhood. Children are seen as citizens now with rights and not merely as future citizens [11]. It should be noted that being and becoming are related and that neither one is more important than the other. For example, children can acquire knowledge and learn skills at school while also developing friendships. Fattore *et al.* [10] suggest that a child's enjoyment of the learning environment enhances learning and the development of other skills that can result in better adult functioning. In other words, being can enrich becoming. In sum, child well-being has to incorporate both.

### 2.3.3    Children's Rights

A focus on *being* is associated with the recognition that children have rights [10]. This recognition requires that children should have a say in decisions that affect their lives [10]. A rights focus tends to be a legal one, which is evidenced by the UN Convention on the Rights of the Child [12], which sets minimum international standards for how children should be treated. Some have pointed out that a children rights approach is insufficient for promoting children's well-being. Ben-Arieh [6] has argued that an examination of child well-being has to focus not just on minimum standards but on "what is desired."

### 2.3.4    Objective versus Subjective Measures

Objective measures have dominated assessments of child well-being [8]. Researchers obtain objective data by assessing the state or status of children, while subjective data comes from the collection of information on "opinions, behaviors, beliefs or experiences from children" [4]. Objective data are often derived from administrative records and involve indicators such as child mortality rates. Subjective measures seek to understand how children view their well-being and their perceptions of the factors that influence it [13]. A key explanation for the dominance of objective measures is that they are easier to use and less expensive to obtain than subjective ones.

However, it has been argued that if child well-being is only examined by looking at objective data, the information would largely come from adults and could therefore be biased [11] or that the data could be derived from units, such as households, and not from any particular child [14]. Further, studies have found that adults and children do not view well-being in the same way [8], which aligns with the view that well-being is subjective [13]. The importance of this type of data has been implicitly linked to one rationale for focusing on *being* as well as *becoming* – the need to recognize that children are citizens whose voices should be heard [11]. Conversely, solely subjective measurement can be limited by a children's developmental inability to know and articulate their desires [1].

#### 2.3.4.1    Challenges and Limitations of Subjective Well-Being Data

There are several challenges involved in obtaining subjective well-being data from children. Among these are the ethical issues of power differences between adult researchers and child participants, and how to translate the concept of well-being so that it has meaning for children [13]. Further, children's assessment of their well-being is influenced by their experiences and the cultural and other aspect of their lives [14], [15], which may hamper comparisons across cultures [4], and perhaps over time within the same culture. Another possible limiting factor is age because younger children are unlikely to comprehend researchers' questions and provide usable data [4], [13].

Genetics and personality factors have also been identified as reasons why assessing subjective well-being is problematic because it may mean that subjective well-being is "largely inflexible and genetically determined" [16]. In other words, if children's perception of their well-being is dictated by their genes and personality (i.e., they were born that way), then there is little that can be done to improve their subjective

well-being. However, despite the need for additional research in this area, the current evidence suggests that subjective well-being is not fixed [16]. Lastly, it has been noted that subjective well-being is difficult to define and is used to refer to a variety of phenomena, including happiness and life satisfaction [16]. However, Main [16] indicates that strides have been made in defining and measuring subjective well-being. Despite these limitations, Mashford-Scott *et al.* [13] argue that it is not only possible to conduct research on subjective well-being in children, including young children, but that such "child-centered" research is critical.

### 2.3.4.2    Conducting Research Using Subjective Measures

The volume of research on the objective well-being of children dwarfs the research in this population using subjective measures. Nevertheless, researchers have successfully studied this in children [16], [17], [18]. As noted above, given that the ages of children can limit measurement of subjective well-being, studies have focused on children who are 5 years old or older [19], [20], or children 8 years old and older [16], [17], [18].

Data collection techniques among children may have to be modified or created to obtain the necessary information. Researchers on the Young Lives Study, studying children 5 and 6 years old, have used a variety of qualitative methods to gather data from children about their subjective well-being. These include drawing, daily activities diaries, photo-elicitation, and semi-structured interviews (see Ref. [19]). Drawing may involve asking children to think and draw a picture of a similarly aged boy or girl in their community who was living a good or bad life [21]. Photo-elicitation involves children taking photographs of whatever they choose based on some guidance followed by a child-led discussion about the photographs [20]. Overall, it appears that a multi-method approach that is flexible may work best with children in younger age-groups [19].

## 2.4    CHILD WELL-BEING DEFINITIONS

In contrast to the apparent consensus about the key aspects that should be considered when measuring child well-being, no universal definition of child well-being exists. This is partly due to the different perspectives of the several disciplines, including psychology, sociology, and public health, that are concerned with child well-being, the age groups of the children studied, cultural, national and other differences [3]. The absence of a formal definition is widely seen as a shortcoming [3], [7], [22]. Marjanen *et al.* [7] note that "as interest in the measurement of well-being grows, there is a greater necessity to be clear about what is being measured, and how the resulting data should be interpreted, in order to undertake a fair and valid assessment" (p. 222). The use of terms like "quality of life" as a synonym for well-being, and that well-being is often used as an umbrella term for a variety of physical and psychological health outcomes, which themselves are aspects of well-being [22], further points to the necessity of a universal definition.

However, there are various working definitions of well-being (Table 2-1). Few of the definitions in the table are specific to children, ignoring the fact that child well-being may not be synonymous with adult well-being. Some authors provide descriptions of the aspects of well-being instead of a definition (see Ref. [7] for a more detailed critique). Further, some of the definitions fail to incorporate important aspects of child well-being such as being, becoming, and its subjective nature.

**Table 2-1: Definitions of Well-Being.**

| Author(s) | Definition |
|---|---|
| Columbo, S.A. (1986)[a] | "A multidimensional construct incorporating mental/psychological, physical, and social dimensions." (p. 64) |
| Keith, K.D. and Schalock, R. L. (1994)[a] | "General view of the person's feelings regarding his/her life circumstances, including personal problems and some questions about family." (p. 65) |

| Author(s) | Definition |
|---|---|
| Weisner, T.S. (1998)[a] | "The ability to successfully, resiliently, and innovatively participate in the routines and activities deemed significant by a cultural community. Well-being is also the states of mind and feeling produced by participation in routines and activities." (p. 65) |
| Andrews, A., *et al*. (2002)[b] | "Healthy and successful individual functioning (involving physiological, psychological and behavioural levels of organisation), positive social relationships (with family members, peers, adult caregivers, and community and societal institutions, for instance, school and faith and civic organisations), and a social ecology that provides safety (e.g., freedom from interpersonal violence, war and crime), human and civil rights, social justice and participation in civil society." (p. 16) |
| Bornstein, M.H., Davidson, L., Keyes, C.L.M., and Moore, K. (2003)[b] | "Well-being is a state of successful performance throughout the life course integrating physical, cognitive and socio-emotional function that results in productive activities deemed significant by one's cultural community, fulfilling social relationships and the ability to transcend moderate psychosocial and environmental problems." (p. 16) |
| Statham and Chase [8] | "Wellbeing is generally understood as the quality of people's lives. It is a dynamic state that is enhanced when people can fulfil their personal and social goals. It is understood both in relation to objective measures, such as household income, educational resources and health status; and subjective indicators such as happiness, perceptions of quality of life and life satisfaction." (p. 2) |
| Mashford-Scott, *et al.* [13] | "Holistic wellbeing involves both positive emotions or affect and ''fulfilling ways of being' (Thoilliez 2011 p. 347) associated with the development of a positive sense of self and one's relation to others (Deci and Ryan 2008)." (p. 236) |
| Dodge *et al.* [22] | "The balance point between an individual's resource pool and the challenges faced." (p. 230) |
| Minkkinen [23] | "Child well-being can be defined as a dynamic process wherein a person's physical, mental, social and material situation is more commonly positive than negative, and as an outcome of intrapersonal, interpersonal, societal and cultural processes." (p. 3) |
| Schües and Rehmann-Sutter [12] | "The well-being of the child relates to the physical, mental, personal, cultural and social development which results in a meaningful life with other humans." (p. 199) |

[a] Cited in Pollard and Lee [3].
[b] Cited in Hanafin and Brooks [24].

## 2.5 THEORETICAL MODELS OF CHILD WELL-BEING

The development of theoretical models of child well-being appears not to have kept pace with the understanding of how child well-being should be measured. Two theoretical models have been identified in the literature, the Structural Model of Child Well-Being and the Two Sources Theory of Child Well-Being, which will be described below. It should be noted that neither of these theories appear to be have been tested empirically. However, prior to outlining the two theoretical models, the theoretical work of Urie Bronfenbrenner, the influential development psychologist, which appears to have informed both well-being theories, will be outlined.

### 2.5.1  Bronfenbrenner's Bioecological Model of Human Development

The Bioecological Model sees human development "as the phenomenon of continuity and change in the biopsychological characteristics of human beings, both as individuals and as groups. The phenomenon extends over the life course, across successive generations, and through historical time, both past and future" ([25], p. 793). It should be noted that the description that follows is based on the latest version of Bronfenbrenner's theory. He was continually refining his theory until his death in 2005. However, as Tudge, *et al.* [26] have noted, researchers assert that they use his theory but either use an earlier conceptualization or use only parts of it.

The model has four principal components (Process, Person, Contexts, and Time), which have interactive relationships with each other [25]. Process or proximal process refers to the ongoing "reciprocal interaction" between a developing individual and his/her environment – both people, and objects and symbols [25], [26]. The nature of the Process between Persons and their environments is affected by factors such as their age, skin color, gender, and appearance (demand characteristics); their "ability, experience, knowledge, and skill" (resource characteristics); and their "behavioral dispositions", temperament and the like (force characteristics) [25], [26].

This environment is termed the Context and has four interrelated systems: microsystem, mesosystem, exosystem, and the macrosystem [25], [26]. The microsystems are those like home or school in which a Person often operates while multiple interacting microsystems together constitute a mesosystem [25], [26]. Exosystems are those that indirectly affect a Person, for example, one's mother's work, and macrosystems are the broader cultural/social context within which the other systems operate [26]. Time refers to the interval within which an activity/interaction occurs (microtime); the frequency at which such an activity/interaction occurs (mesotime); and the influence of the particular historical era on developmental processes (macrotime) [26].

### 2.5.2  Two Sources Theory of Child Well-Being

According to this theory, child well-being has two conditions (or two sources):

1) The development of *stage-appropriate capacities* for a *successful future* within the *environment* in which he/she exists; and

2) Interaction with the world in *child-appropriate ways* such as with curiosity [1].

The four italicized terms are the four key elements of this theory [1]. Stage-appropriateness recognizes that children can only be expected to demonstrate capacities that are consistent with their stage of development, which is not necessarily age-specific. Successful future incorporates well-being and well-becoming and sees the former as part of the latter, and that several skills required for adulthood (such as secure attachment) are acquired during childhood. The inclusion of environment is based on an understanding that acquiring state-appropriate capacities and having a successful future is in part influenced by the "social, economic, and cultural environment." Lastly, child-appropriate ways refers to the "combination of emotional outlook and behaviors" demonstrated by "normal" healthy children. The authors did not provide a diagram to illustrate the theory.

### 2.5.3  Structural Model of Child Well-Being (SMCW)

Informed by the World Health Organization's definition of health, Bronfenbrenner's bioecological model of child development (see Ref. [27]), social support theory, the socio-cultural approach of Lev Vygotsky and Aleksie Leont'ev, and the new paradigm of childhood outlined by Jens Qvortrup, William Corsaro, and Allison James, Chris Jenks and Alan Prout, the SMCW conceives of well-being as a process and an as an outcome. The SMCW model, Figure 2-1 identifies four dimension of well-being – physical, mental, social,

and material [23]. The model is illustrated with six concentric circles beginning from the "internal prerequisites" of the child and moving outward to the four dimensions identified above, followed by "subjective action", "circle of care", "structures of society", and lastly "culture". It also includes bi-directional arrows to and from elements of the model to its adjacent element to show how they interact with each other.

*Internal prerequisites* appears to include both what children are born with (e.g., heredity) but also includes aspects such as self-regulation, and social competence, which may be both genetic and socially acquired. *Physical well-being* focused on the absence of disease and good physical functioning while *mental well-being* not only includes emotional well-being and the absence of psychiatric problems, but the child's subjective well-being. *Social well-being* has to do with relationships with parents, friends etc., and social support while *material well-being* is about children having nutritious food, sufficient housing etc. [23]. *Subjective action*, which is activity that a child engages in either internally (e.g., thinking) or externally (e.g., playing, learning skills) that either enhance or diminish well-being mediates between the child well-being dimensions and the "societal frame of well-being" [23], p. 6.
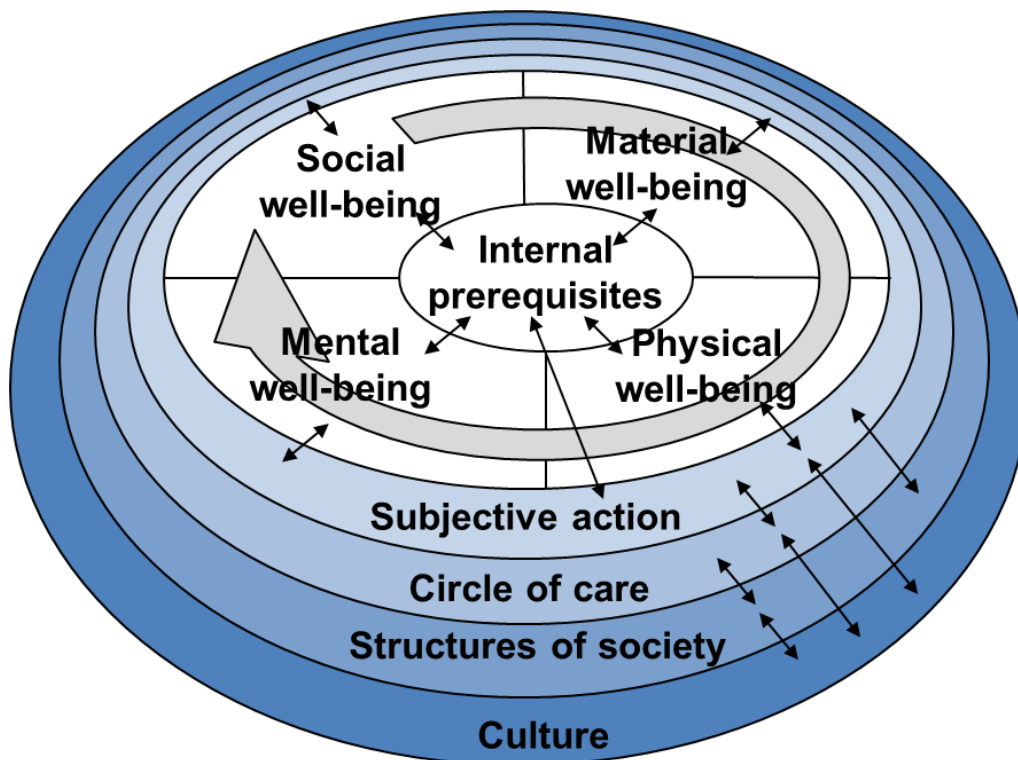


**Figure 2-1: Structural Model of Child Well-Being.**

Missing from the SMCW is educational well-being, which [23] acknowledges is often used an index of child well-being. She argues that educational attainment is not a well-being dimension but belongs in the subjective action circle because it is "a contextual factor which has the potential to promote well-being" [23], p. 6. *The circle of care* is similar to Bronfenbrenner's microsystem, while the *structures of society* and the culture are analogous to Bronfenbrenner's macrosystem and exosystem respectively [23].

The task group liked the ecological approach of this theory and decided to use it as the foundation for its work. Further, the definition of child well-being developed by Minkkinnen [23] was adopted as the Group's working definition of child well-being. Minkkinnen's definition largely reflects the key aspects of well-being presented previously (positive outcomes, well-being and well-becoming, children's rights, and subjective measurement).

## 2.6 EMPIRICAL FINDINGS

In this section, the studies that have examined factors/variables that have been identified as associated with different aspects of the well-being and life satisfaction of children are summarized. Life satisfaction has been included because it is perhaps the best exemplar of subjective well-being. The listings are organized, for the sake of clarity, according to the four dimensions of well-being that Minkkinen [23] identified: social, material, mental and physical. Further, comments are made about the articles in each dimension to illustrate how they fit with the SMCW [23]. Please note that studies are repeated across tables if they used outcomes from more than one dimension. Tables were organized by a descending alphabetical order of the outcomes that are listed in the first column.

### 2.6.1 Social Well-Being

As Table 2-2 illustrates, social well-being has been associated with leisure activities, for example, electronic media use including television. It was interesting to note that some of the exposure variables, bullying, and hostile parenting, can also be facets of social relationships. For half of the six articles listed in the table, children were respondents. In contrast to some other dimensions, the study populations were not predominantly from one country.

Consistent with the SMCW [23] most of the articles focused on peer and family relationships. One demonstrated the interrelationships that can exist between the four well-being dimensions. It focused on the link between physical well-being (participation in sports) and social well-being (social competence) [28]. It may also demonstrate the link between social and material well-being in that children's participation in extracurricular activities such as sports is sometimes directly related to the financial circumstances of their families. Another article [29] examined the relationship between an aspect of the *circle of care* ("people interacting with the child face to face and their physical, cognitive, emotional, and material support for the child"; [23], p. 8) – maternal depression – was associated with social well-being.

### 2.6.2 Material Well-Being

Initially, there was only one article that had material well-being as an outcome. Consequently, secondary searches were conducted that searched specifically for that term. The secondary searches yielded an article that stated that "food insecurity" is a key indicator of material well-being and that term was used for the subsequent PUBMED search, which resulted in eight relevant articles. Food insecurity, according to Broughton *et al.* [30] "includes a continuum, typically progressing from uncertainly or anxiety about a household's food supply, to reduced quality and the quantity of food consumed by adults and then children" (p. 214).

The literature indicated that material well-being is associated with adverse circumstances such as armed conflict, personal finance management practices, household size, and deprived neighborhoods. Household participation in the United States in social welfare programs such as Supplemental Nutritional Assistance Program (SNAP) and the Women, Infant, and Child (WIC) program were inversely associated with food insecurity. This is consistent with the finding that state-level policies such as paid parenting and public childcare are associated with lower child poverty rates. The one unexpected finding was that children were more likely to have food insecurity if they lived with an adult smoker [31]. Only two of the studies used child respondents, and the majority of the studies were conducted in the North American countries of the United States and Canada.

Several of the exposure variables are facets of the SMCW's societal frame of child well-being. Specifically, armed conflict [32], the provision of social welfare programs [33], [34], social environmental factors (deprivation, social cohesion, and disorder) [35], and paid parental leave and public child care [36] reflect aspects of the *structure of society*. Variables such as financial management practices [37], living with an

adult smoker [31], and unwanted childbearing [38] illustrate how the decisions and activities of adults in the *circle of care* can affect children. These findings are illustrated in Table 2-3.

## 2.6.3    Mental Well-Being

Of the four dimensions, mental well-being is the most researched. After the final selection to determine whether the operationalizations of the outcomes were consistent with this dimension, 67 articles were retained. During the final selection, articles were eliminated if they had unclear outcomes such as one manuscript that combined peer problems (social well-being) with emotional symptoms as internalizing behavior. There were both objective outcomes such as mental health (depression, psychological distress, behavior problems) and subjective (life satisfaction, quality of life, happiness, subjective well-being, and positive self-perception). A few of the outcomes identified as related to mental well-being are arguably multi-dimensional, for example, psychosocial adjustment, health-related quality of life, somatic symptoms, social anxiety, and socio-emotional well-being.

Numerous exposures were examined. Some, at the individual level (e.g., birth weight, ethnic identity); others were about social relationships such as father-child, sibling and peer ones or supportive communication with parents, and family dinners. Expected relationships between parental mental health, and adverse childhood experiences (including bullying), with children's mental well-being were also demonstrated. Leisure/physical activity (including electronic media use) were found to be associated with mental well-being as were factors at the larger societal level such as the school environment, and neighborhood characteristics. One article revealed inter-country variations in mental well-being among twenty-six European Union countries [39].

Exposures like the Mediterranean diet and parental religious attendance were unique ones. Less unique were exposures that were measures of family material well-being such as Socio-Economic Status (SES), poverty, and possibly, food insecurity. The study populations in which this dimension was examined were from several countries. However, the country with the most studies was the United States followed by the United Kingdom and Canada. Children were the sole respondents for the slightly more than half of the studies, and were among the respondents for six additional studies.

Socio-demographic factors such as SES and poverty have been associated with mental well-being. Two studies were found that specifically examined whether Subjective Well-Being (SWB) was better explained by socio-demographic factors or by other variables. The quest to better understand SWB was spurred by the frustration with the low explanatory power of socio-demographic ones [17]. Using a sample of 2,400 English children between 10 – 15 years of age, Goswami [17], found that as a block, personality characteristics (Extraversion, Agreeableness, Conscientiousness, Emotional stability, and Openness) bested socio-demographics ones (age and gender, disabilities, learning difficulties, ethnicity, country of birth, religious affiliation, family structure, and child poverty) in the amount of explained SWB variation (18.5% vs. 15%). SWB was measured by the Students' Life Satisfaction Scale. However, individually, the age and maternal deprivation socio-demographic variables were more strongly related to SWB than personality characteristics like extraversion, conscientiousness, and openness.

A more recent study looking into which set of variables better explained SWB was done using data from the International Study of Children's Well-Being. Data were collected from 14 countries from more than 34, 000 children aged 8, 10, and 12 years [18]. In contrast to Goswami [17], Dinisman and Ben-Arieh [18] separated demographic factors (age, gender, and whether the children was born in the country) from socio-economic ones (quality school clothing, home computer access, and Internet access), and did not include personality variables. Also, their measure of SWB was also different. They used three SWB different scales: Overall Life Satisfaction; Overall satisfaction, and Overall SWB. Country explained the most variation, followed, by socio-economic items, and lastly demographic ones, which led the authors to conclude that "the answer for understanding children's SWB does not lay in the socio-demographic characteristics" ([18], p. 1). Taken

together, despite the studies' differences, these findings indicate that more research is warranted on the factors that affect SWB.

With regards to the SMCW [23] the literature in this dimension showed interconnections between mental well-being and the other dimensions as well as the outer circles of *subjective action*, *circle of care*, and *structures of society/culture*. One article focused on the association of country of residence and life satisfaction [39]. Aspects of country of residence seem related to the outermost circle of the SMCW – *culture*. However, country of residence also has implications for the next circle – *structures of society*. Articles looking at association of parental mental health with children's mental health (for example, [40], [41]) illustrate how the functioning of adults within the *circle of care* affects child well-being. An aspect of the SMCW that is emphasized by Minkinnen [23] is *subjective action*. Children engage in both internal and external activities that promote or degrade their well-being. It seems that exposure variables such as sedentary behavior [42], physical activity [43], and the use of electronics (for example, [44], [45], [46]) are all examples of external activities that children engage in that have implications for their well-being. Of course, these activities are not isolated from other parts of the model. For example, parenting practices, which fall under the *circle of care*, will inform the access that children have to electronics. Lastly, some articles showed the interconnections between material [47], physical [48] and social well-being [49] with this dimension. These findings are illustrated in Table 2-4.

## 2.6.4    Physical Well-Being

Physical well-being outcomes, particularly self-rated health, are often examined along with mental well-being measures. As can be seen in Table 2-5, in about half of the articles that examined what factors are associated with physical well-being, the measure of this dimension was self-rated health. The other outcomes included objective ones such as birth weight, injuries, body mass index, waist circumference, and infant/teen mortality.

Unlike the exposures of the mental well-being dimension, this dimension had few studies that looked at the association of social relationships and physical well-being. The exceptions were the exposures of bullying and family. There were societal level exposures such as neighborhood characteristics, physical environment conditions, and the school environment as well as physical/leisure activities. Interestingly, some of the exposures that were studied seem to be physical well-being outcomes; specifically, perceived weight status, perceived weight status, obesity, cardiovascular fitness, and body mass index. In addition to expected exposures such as SES, income, and television viewing, there were others at the broader societal level such as racial/ethnic composition, support for paid parenting level, public child care, women's employment and earnings, women's economic and social autonomy, and reproductive rights. The same study that examined inter-country differences in mental well-being dimension also examined differences in physical well-being (specifically, self-rated health) [39].

Of the twenty-three studies listed in Table 2-5, children were the vast majority of respondents. In terms of the countries from which the study populations were drawn, there was a variety with no one country dominating.

As with the other well-being dimensions, the articles in this dimension demonstrated the interrelationships between the well-being dimensions and with the *circle of care*, *structures of society*, and *culture* of the SMCW. Adverse childhood experiences in one exposure that was examined [50] which includes aspects of social, material, and physical well-being. Other exposures such as neighborhood characteristics [51] and quality of the physical environment [52] are aspects of the *structures of society*. Country of residence is also associated with physical well-being and as stated previously relates to both *structures of society* and *culture*.

### 2.6.5    Summary

The empirical literature reviewed in this section covered many aspects of the SMCW. In particular, they highlight that child well-being is affected by things that occur in aspects such as the *circle of care* or *structures of society* that are beyond a child's control. However, of the three circles representing the societal frame, few articles about how aspects of *culture* affected child well-being were found. Further, articles that focused on the internal and external subjective action that children take that affects their well-being were poorly represented, which may reflect the literature itself or the terms that were used for the searches. Lastly, articles on what Minkinnen referred to as the *internal prerequisites* are missing. Overall, this demonstrates that the study of child well-being needs to be more inclusive.

## 2.7    DISCUSSION

In this chapter, a brief background on the how western nations have evolved in their understanding of child well-being was provided and key aspects of the current understanding of child well-being were reviewed. Further, definitions of child well-being were presented and reviewed, the existing child well-being theories were reviewed, and empirical findings about the factors that affect social, material, mental and physical well-being were summarized.

The lack of consensus on what is meant by *child well-being* do has not constrained research in this area. Researchers, who examine this phenomenon, seem to have a (implicit or explicit) working definition of it that guides their approach. However, as was shown by the findings from the empirical literature, child well-being is often used as an umbrella term that refers to a wide variety of concepts, and is normally concerned with subparts of well-being rather than reflecting a holistic understanding of the concept. It probably occurs because these studies do not utilize a theoretical framework.

It was noted that the vast majority of the research on child well-being is did not utilize a theoretical perspective. The criticism that research is atheoretical is not rare. Nonetheless, it seems to be especially appropriate here because the absence of a theoretical framework in the research that has been done likely reflects the paucity of child well-being theories. Only two theoretical models of child well-being – the Two Sources and the Structural Model – were found in the literature. However, to date, no evidence was found that either has been empirically tested.

Developing and testing theoretical models is undoubtedly challenging work. Nevertheless, it is perhaps obvious that the atheoretical research in this area is problematic. It is problematic in two main ways. Firstly, without a theoretical approach, the use of a variety of working definitions can result in narrow or inaccurate operational definitions (i.e., the outcome measures/indicators) of child well-being. Secondly, narrow or inaccurate operational definitions result in findings that are the narrow or inaccurate. Consequently, definitively understanding the factors that inhibit or promote child well-being, which in turn leads to program and policy development, is impeded.

Importantly, any theory development and testing should consider the cross-cultural context. Some of the child well-being research literature is focused on comparing child well-being across nations. Therefore, ignoring how the national context affects well-being, particularly subjective well-being, would be short-sighted and ultimately not useful. Clearly there is a crucial need for a more comprehensive theoretical perspective that reflects the current understanding of what constitutes child well-being and the numerous factors that influence it including the national context.

**Table 2-2: Social Well-Being.**

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---------|---------------------------|------|------|------|------|-------------|-----------|
| | | *N* | Age (Years) | % Female | Country | | |
| Classroom social standing | Bullying | 2,859 | 8 – 12 | 51.4 | Netherlands | Children | van der Ploeg *et al.* [53] |
| Family relations | Television viewing | 680 | 6 – 17 | 49 | Spain | Children | Padilla-Moledo *et al.* [54] |
| Peer problems, social networks | Early childhood electronic media use | 3,604 | 2 – 6 | 47.6 | Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain, Sweden | Parents | Hinkley *et al.* [55] |
| Prosocial behaviour | Electronic games | 4,899 | 10 – 15 | 50.3 | England, Northern Ireland, Scotland, Wales | Children | Przybylski [56] |
| Social competence | Participation in sports | 147 | 9 – 10[a] | 47 | United States | Teachers | Fletcher *et al.* [28] |
| Social impairment | Hostile parenting, maternal depression | 9,398 | 6 – 11 | N/A | Canada | Parents | Lipman *et al.* [29] |

[a] = Typical ages of fourth-grade students in the United States.

**Table 2-3: Material Well-Being.**

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Food insecurity | High social deprivation, low social cohesion, high disorder | 1,786 | 4 – 10 | N/A | Canada | Mother | Carter *et al.* [35] |
| Food insecurity | Living with an adult smoker | 8,817 | ≤ 17 | 49[a] | United States | Parents and children ≥ 8 yrs | Cutler-Triggs *et al.* [31] |
| Food insecurity | Financial management practices | 904 | 2 – 17 | N/A | United States | Adult in household | Gundersen and Garasky [37] |
| Food insecurity | Household with non-citizen mothers, maternal education, Latina ethnicity, household size | 6,068 | 5[b] | N/A | United States | Children, parents, teachers | Kalil and Chen [57] |
| Food insecurity | Armed conflict | N/A | N/A | N/A | Democratic Republic of Congo | National data | Omba Kalonda [32] |
| Food insecurity | Women Infant and Child program participation | N/A | N/A | N/A | United States | Mothers | Lindsay *et al.* [33] |
| Food insecurity | Supplementation nutrition assistance program | 2,717 | N/A | N/A | United States | Adult in household | Mabli and Worthington [34] |
| Food insecurity | Unwanted childbearing | BL = 6,150 FU = 4.650 | 9 m and 2 yrs | 48.4[a] | United States | Mothers and fathers | Patel and Surkan [38] |
| Food insecurity | BMI, serum ferritin and zinc levels, number of kitchen appliances, self-rated cooking skill, access to quality food | 142 | 2 – 5 | N/A | Canada | Parents | Broughton *et al.* [30] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Poverty | High level of support for paid parenting leaves, public child care | N/A | N/A | N/A | Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, United States | National data | Engster and Stensota [36] |

ᵃ = Weighted percentage; ᵇ = Typical age of kindergarteners in the United States.

BL = Baseline; FU = Follow-Up; BMI = Body Mass Index

**Table 2-4: Mental Well-Being.**

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Behavior | Parental religious attendance | 38,898 | 6 – 17 | 49% | United States | Parents | Wen [58] |
| Behavior problems | Supportive parenting, school connectedness, ethnic identity | 206 | 13 – 19 | 58% | United States | Children | Prelow *et al.* [59] |
| Behavioral problems | Birth weight | 5,705 | 4 – 15 | 50.2% | United Kingdom | Parents | Kelly *et al.* [60] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---------|---------------------------|------|------------|----------|---------|-------------|-----------|
| | | *N* | Age (Years) | % Female | Country | | |
| Behavioral problems | Partnership instability | 2,111 | 0 – 3 | 47.7% | United States | Mothers | Osborne and McLanahan [61] |
| Behavioral problems | Neighborhood SES, neighborhood social climate | *Systematic review that used multiple articles* | | | United States, Finland, Canada, Netherlands, United Kingdom | N/A | Sellström and Bremberg [51] |
| Conduct disorder, hyperactivity, emotional disorder | SES, neighborhood characteristics | 11,037 | 4 – 11 | N/A | Canada | Person most knowledgeable about the child | Curtis *et al.* [62] |
| Depression | Poverty, income disparity | 1,725 | 10 – 13 | 48.6% | Hong Kong | Children | Ho *et al.* [63] |
| Depression, life satisfaction, quality of life | Personal social position, family SES | 1,815 | 15 | 49.6% | Slovenia | Children | Klanšček *et al.* [64] |
| Depressive symptoms | Father-adolescent relationship | 6,512 | 15 | 50.8% | United States | Children | Videon [49] |
| Emotional and behavioral difficulties | Parental non-standard work schedules | 6,361 | 2 – 11 | 49.3% | Canada | Person most knowledgeable about the child | Strazdins *et al.* [65] |
| Emotional and behavioral problems | Maternal anxiety | 204 | 1 – 6 | 44% | Turkey | Mothers | Yurdusen *et al.* [66] |
| Emotional difficulties, quality of life | Low home economy, leisure activities time | 834 | 12 – 14 | 51% | Denmark | Children | Reinholdt-Dunne *et al.* [67] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---------|---------------------------|---|---|---|---|-------------|-----------|
| | | **N** | **Age (Years)** | **% Female** | **Country** | | |
| Emotional problems | Adverse childhood experiences | 33,747 | 12 – 17 | N/A | United States | Parents/guardians | Balistreri and Alvira-Hammond [50] |
| Emotional problems, self-esteem | Early childhood electronic media use | 3,604 | 2 – 6 | 47.6% | Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain, Sweden | Parents | Hinkley *et al.* [55] |
| Externalizing and internalizing problems, global self-esteem | Perceptions of fairness of parental preferential treatment | 270 | 11 – 17 | 51.5% | United States | Children | Kowal *et al.* [68] |
| Externalizing, internalizing behaviors | Poverty | 1,505 | 4 – 5 | N/A | United States | Mother | Eamon [69] |
| Externalizing, internalizing behaviors | Mother's and father's mental health symptoms | 822 | 3 – 12 | 49.5% | United States | Parents | Kahn *et al.* [40] |
| Externalizing, internalizing behaviors | Maternal early employment | *Meta-analysis* | | | | | Lucas-Thompson *et al.* [70] |
| Externalizing, internalizing, emotional well-being, life satisfaction, prosocial behavior | Family dinners | 26,069 | 11 – 15 | 49.16% | Canada | Children | Elgar *et al.*[71] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---------|---------------------------|---|---|---|---|-------------|-----------|
| | | *N* | Age (Years) | % Female | Country | | |
| Global self-esteem, depression, anxiety | Physical activity | 70 | 10 | 50% | United Kingdom | Children | Parfitt and Eston [43] |
| Happiness, self-concept | Active leisure, passive leisure | 375 | 8 – 12 | 51% | Canada | Children, Parents | Holder *et al.* [72] |
| Hyperactivity, internalizing problem, psychological well-being, quality of life | Sedentary behavior | *Systematic Review* | | | | | Suchert *et al.* [42] |
| Internalizing and externalizing problems | Poverty, food insecurity | 2,810 | 4 – 16 | 50.5% | United States | Children, Primary Caregivers | Slopen *et al.* [47] |
| Internalizing, externalizing behavior | Maternal depression | 2,427 | 5 | 48.08% | United States | Mothers | Turney [41] |
| Life satisfaction | Organized leisure-time activities | 10,503 | 11, 13, 15 | 50.8% | Czech Republic | Children | Badura *et al.* [73] |
| Life satisfaction | Electronic media use, supportive communication with parents | 53,973 | 11, 13, 15 | 52%[a] | Canada, United Kingdom, Germany, Hungary, Italy, Israel, Netherlands, Poland, Scotland | Children | Boniel-Nissim *et al.* [44] |
| Life satisfaction | Traditional and cyberbullying | 318 | 15 – 18 | 41% | Ireland | Children | Callaghan *et al.* [74] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Life satisfaction | Obesity | 12,493 | 10 – 17 | 52% | United States | Children | Forste and Moore [75] |
| Life satisfaction | Income | 5,026 | 9 – 10[b] | 49% | Canada | Children | Gadermann *et al*. [76] |
| Life satisfaction | Bullying | 9,043 | 11, 13, 15 | 51.8% | Latvia, Lithuania | Children | Gobina *et al*. [77] |
| Life satisfaction | Mediterranean diet | 1,973 | 11 – 18 | 49.2% | Spain | Children | Grao-Cruces *et al*. [78] |
| Life satisfaction | Body mass index, perceived weight status | 5,570 | 10 – 18 | 49.98% | Iran | Children | Heshmat *et al*. [79] |
| Life satisfaction | Family, school | 3,034 | 11 – 17 | 51.9% | Greece | Children | Karademas *et al*. [80] |
| Life satisfaction | School environment, peer group, family affluence | 3,291 | 11, 13, 15 | 48.3% | Italy | Children | Lazzeri *et al*. [81] |
| Life satisfaction | Cardiovascular fitness | 684 | 6 – 17 | 46.6% | Spain | Children | Padilla-Moledo *et al*. [48] |
| Life satisfaction | Television viewing | 680 | 6 – 17 | 46% | Spain | Children | Padilla-Moledo *et al*. [82] |
| Life satisfaction | Family affluence, school environment, peer group | 3,296 | 11, 15 | 51.2% | Croatia | Children | Simetin *et al*. [83] |
| Life satisfaction | Country | 140,339 | 11, 13, 15 | N/A | 26 EU countries | Children | Woynarowska *et al*. [39] |
| Life satisfaction, health-related quality of life | School victimization | 2,483 | 10 – 11[c] | 48.6% | Germany | Children | Menrath *et al*. [84] |
| Life satisfaction, sadness, irritability, nervousness, | Peer groups, parents | 4,877 | 11 – 16[d] | 50.4% | Portugal | Children | Tome *et al*. [85] |
| Malaise | Peer status in school | 13,932 | 8 – 12 | 48.7% | United Kingdom | Parents, Teachers | Ostberg [86] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---------|---------------------------|---|---|---|---|-------------|-----------|
| | | *N* | Age (Years) | % Female | Country | | |
| Mental health | Racism, neighborhood characteristics | 200 | 3 – 4 | 53.5% | United States | Primary caregiver | Caughy *et al.* [87] |
| Mental health symptoms, somatic symptoms, life satisfaction | Food poverty | 8,372 | 10 – 17 | 57% | Ireland | Children | Molcho *et al.* [88] |
| Mental well-being | Electronic screen use | 10,829 | 10 – 12 | 49.5% | Iceland | Children | Yang *et al.* [46] |
| Psychiatric disorder | Household income | 10,438 | 5 – 15 | N/A | United Kingdom | Primary caregiver, Children ≥ 11 years | Emerson *et al.* [89] |
| Psychiatric disorders | Father depression | 6,092 | 6 – 7 | N/A | United Kingdom | Parents, Teachers | Ramchandani *et al.* [90] |
| Psychological difficulties | Television/computer use | 1,007 | 10 – 11 | 53.3% | United Kingdom | Children | Page *et al.* [45] |
| Psychological discomfort, positive self-perception, expectation of future success | Parental control, parental support, | 391 373 | 15 – 19 | 39.9% 54.7% | Italy, Netherlands | Children | Ciairano *et al.* [91] |
| Psychological distress | Poverty | 287 | 8 – 10 | 49% | United States | Parents, Children | Evans and English [92] |
| Psychological distress, learned helplessness | Housing quality | 277 | 8 – 10 | 51% | United States | Researchers, Parents, Children | Evans *et al.* [93] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---------|---------------------------|--------------|---|---|---|-------------|-----------|
| | | *N* | Age (Years) | % Female | Country | | |
| Psychological health | SES | 5,650 | 11 – 15 | 50.6% | Germany | Children | Richter [94] |
| Psychosocial adjustment | Father-child relationship, sibling relationship | 88 | 8 – 12 | 58% | Netherlands | Mothers, Children | Hakvoort *et al*. [95] |
| Psychosocial adjustment | Electronic games | 4,899 | 10 – 15 | 20.3% | United Kingdom | Children | Przybylski [56] |
| Psychosocial functioning | Maternal depressive symptoms | 147 | 8 – 9 | 54% | Finland | Mothers, Teachers | Luoma *et al*. [96] |
| Psychosomatic and emotional problems | Childhood adversities | 4,066 | 4 – 11 | 50.3% | Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain, Sweden | Parents | Vanaelst *et al*. [97] |
| Self-esteem | Online communication, social media | *Systematic Review* | | | | | Best *et al*. [98] |
| Social anxiety, depressive symptoms, well-being at school | Bullying | 2,859 | 8 – 12 | 50.4% | Netherlands | Children | van der Ploet *et al*. [53] |
| Socio-emotional adjustment | Peer interaction | 70 | 15 – 23 months | 44% | Netherlands | Parents, Caregivers | Deynoot-Schaub and Riksen-Walraven [99] |
| Socioemotional well-being | Parental debt | 9,011 | 5 – 14 | N/A | United States | Mothers | Berger and Houle [100] |
| Subjective well-being | Perceived community trust | 3,808 | 11 – 15 | 50% | Sweden | Children | Eriksson *et al*. [101] |
| Subjective well-being | Family functioning | 733 | N/A | N/A | China | N/A | Fang [102] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Subjective well-being | Poverty | 3,812 | 11 – 15 | N/A | United Kingdom | Children | Main [16] |

[a] = Weighted percentage; [b] = Typical age of 4th grade Canadian students; [c] = Typical ages of grades 5 and 6 German students; [d] = Typical ages of 6th, 8th, and 10th grade Portuguese students.

**Table 2-5: Physical Well-Being.**

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Self-rated health | Adverse childhood experiences | 33,747 | 12 – 17 | N/A | United States | Parents or guardians | Balistreri and Alvira-Hammond [50] |
| Birth weight, injuries | Neighborhood SES, neighborhood social climate | *Systematic Review* | | | | | Sellström and Bremberg [51] |
| Body mass index, waist circumference, parent-rated health | Outdoor environment quality | 169 | 3 – 5 | N/A | Sweden | Parents | Söderström et al. [52] |
| Current physical illness, physical disabilities | Household income | 10,438 | 5 – 15 | N/A | United Kingdom | Primary caregiver, Children ≥ 11 years | Emerson *et al.* [89] |
| Infant mortality, teen mortality, low birth weight | Racial/ethnic population composition | N/A | N/A | N/A | United States | Natio nal-level data | Mcleod *et al.* [103] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Low birth weight, infant mortality, teen mortality | Women's employment and earnings, women's economic and social autonomy, greater reproductive rights | N/A | N/A | N/A | United States | National-level data | Koenen *et al.* [104] |
| Mortality | High level of support for paid parenting leaves, public child care | N/A | N/A | N/A | Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, United States | National-level data | Engster and Stensota [36] |
| Non-sports related injury requiring medical attention | SES, neighborhood characteristics | 11,037 | 4 – 11 | N/A | Canada | Person most knowledgeable about the child | Curtis *et al.* [62] |
| Perceived overall health | Income | 5,026 | 9 – 10[a] | 49% | Canada | Children | Gadermann *et al.* [76] |
| Physical health | Environmental toxins/hazards, crowding | *Critical Review* | | | | | Leventhal and Newman [105] |
| Self-rated health | Organized leisure-time activities | 10,503 | 11, 13, 15 | 50.8% | Czech Republic | Children | Badura *et al.* [73] |
| Self-rated health | Traditional and cyberbullying | 318 | 15 – 18 | 41% | Ireland | Children | Callaghan *et al.* [74] |

| Outcome | Main Exposure Variable(s) | Participants | | | | Data Source | Reference |
|---|---|---|---|---|---|---|---|
| | | *N* | Age (Years) | % Female | Country | | |
| Self-rated health | Body mass index, perceived weight status | 5,570 | 10 – 18 | 50% | Iran | Children | Heshmat *et al*. [79] |
| Self-rated health | Family, school | 3,034 | 11 – 17 | 51.9% | Greece | Children | Karademas *et al*. [80] |
| Self-rated health | Weight concerns | 6,187 | 10 – 17 | 0% | Ireland | Children | Kelly *et al.* [106] |
| Self-rated health | School environment, family affluence, nutritional status | 3,291 | 11, 13, 15 | 48.3% | Italy | Children | Lazzeri *et al*. [81] |
| Self-rated health | Food poverty | 8,372 | 10 – 17 | 57% | Ireland | Children | Molcho *et al*. [88] |
| Self-rated health | Cardiovascular fitness | 684 | 6 – 17 | 46.6% | Spain | Children | Padilla-Moledo *et al*. [48] |
| Self-rated health | Family affluence, school environment, peer group | 3,296 | 11, 15 | 51.2% | Croatia | Children | Simetin *et al*. [83] |
| Self-rated health | Parental religious attendance | 38,898 | 6 – 17 | 49% | United States | Parents | Wen [58] |
| Self-rated health, health complaints | Bullying | 9,043 | 11, 13, 15 | 51.8% | Latvia, Lithuania | Children | Gobina *et al*. [77] |
| Self-rated health, health complaints | Television viewing | 680 | 6 – 17 | 46% | Spain | Children | Padilla-Moledo *et al*. [82] |
| Self-rated health, subjective health complaints | Country | 140,339 | 11, 13, 15 | N/A | 26 EU countries | Children | Woynarowska *et al*. [39] |

[a] = Typical ages of 4th grade Canadian students.

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# Chapter 3 – THE IMPACT OF PARENTAL MILITARY SERVICE ON CHILD WELL-BEING: A REVIEW

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## *ABSTRACT*

*The aim of this review is to evaluate the literature regarding the association between parental military related factors and child wellbeing. A literature search was conducted for research published from 2000-2017, from NATO and Partnership for Peace (PfP) countries in the English language only. Eligible studies were those that included topics of military personnel and children's well-being, papers that included child maltreatment/abuse were excluded. Search databases included EMBASE, MEDLINE, PsychINFO, Science Direct, Web of Science, Google Scholar and PubMed. Thirty-six, predominantly US-based, studies were included in the review; 27 of cross-sectional study design, 4 longitudinal and 5 retrospective cohort studies. The parental military specific factors that affect child well-being are cumulative deployment months, frequent relocation and factors related to relocation, such as expanded household responsibility, disrupted daily routines, academic interruption, and disruption to social networks. These factors are associated with military children having higher levels of emotional and behavioural difficulties, such as symptoms of depression, than their civilian counterparts. Limitations of the review include the large proportion of studies with a cross sectional design, as well as studies with small sample sizes. Indications for future research include looking at children from dual military families and the use of longitudinal study designs.*

## 3.1 INTRODUCTION

Military life creates a unique set of challenges for children growing up within military families, and a military career in which 'one person joins but the whole family serves' [1] has meant we no longer consider just the active military member as the sole recipient of the stressors of service. Growing up as a child with a parent in military service involves negotiating long periods of absence during deployments [2], changes to family roles and routines [3], and the potential for a parent to return injured, or to be killed in the course of action. In addition, the health of the stay-at-home caregiver can suffer, which can impact on the well-being of dependents [4]. During non-deployed periods, frequent relocations and consequent disruptions to academic education, friendships, and relationships, can contribute to pressures not experienced by civilian counterparts, and act as additive stressors to normal developmental demands [5].

The aim of this review is to evaluate the literature regarding the association between parental military related factors and child well-being. This aim will be addressed through three tasks:

i) Identifying and reviewing literature;

ii) Summarising key findings; and

iii) Providing robust conclusions regarding the role parental military service has on childhood well-being, identifying limitations and making recommendations for future research.

## 3.2   METHODS

For the purpose of this systematic review, 'well-being' is taken to encompass psychological, emotional, behavioural and physiological well-being, and papers included will require appropriately validated tools to assess outcomes of child well-being. Throughout this paper, the phrase 'military children' will be used to describe a child who has a parent within the military.

### 3.2.1   Search and Screening Strategy

Papers for inclusion in the review were retrieved by performing a search of databases. The following search terms were used: [Child*] **AND** [Air Force or Navy or Naval or Marine*or Army or Soldier or Combat or Military Personnel or Armed Forces or Military or Coast Guard or National Guard or Reserv*] **AND** [Mental or Social or Physical or Emotional or Psychological health] **AND** [Injury or Combat injury] **NOT** [child soldier]. Truncation was used to retrieve papers with a word followed by an asterisk (*), in any way it might appear within a paper, e.g., child* would enable papers with children to appear in the search. The databases searched on 11/10/2017 were: Embase, Medline, PsychINFO, Science Direct, Web of Science, PubMed and Google Scholar. A hand search was also performed of bibliographies of selected papers, case reports, press releases and of the UK MoD and US Department of Defense websites for other relevant papers.

### 3.2.2   Inclusion/Exclusion Criteria

Papers were selected if they reported data on:

1) Studies set in NATO and PfP countries;

2) Were published between 2000 and October 2017;

3) Were written in the English language; and,

4) Were published in a peer-reviewed journal.

Papers were excluded if they included (or reported) data on child abuse/maltreatment or were editorials, opinion pieces or reviews.

## 3.3   RESULTS

### 3.3.1   Studies Identified

A total of 36 papers were included in the review, data on the study design (including study location, sample size, population studied), study participants, military factors examined, measures used, key results (that matched the aim of this review) and limitations were extracted by one of the authors (HB) and checked by another (AP), any discrepancies were discussed by all authors to reach an agreement. Of the total 36 papers included in the review, 31 were US-based, 3 were UK-based, 1 took place in Canada and 1 in Australia. Four studies were longitudinal in design, 5 retrospective cohort studies and 27 cross-sectional study designs (see Table 3-1).

**Table 3-1: Study Design and Details.**

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **1) Acion et al.** [6] | USA | Cross sectional | 78,240 | 6th, 8th and 11th graders (20,603 military children, 57,637 civilian children) | 1 year; 2011 | 86% (children) | Active duty: Yes<br><br>Service arm: not reported<br><br>775 children had parents currently deployed, 983 children had parents recently returned, 57637 had non-military parents | Mean age of deployed group = 13.13, 59% male<br><br>Mean age of non-military group = 13.45, 49% male | **Validated measures: No**<br><br>1) Alcohol use: how old were you when you first drank?<br><br>2) Past 30-day binge drinking<br><br>3) Past 30-day marijuana and illegal drugs use<br><br>4) Prescription drugs misuse |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **2) Barnes** *et al.* **[7]** | USA | Longitudinal | 121 | 3 groups of self-categorized adolescents:<br><br>1) military dependents with family members deployed (n = 34);<br><br>2) military dependents with no family members deployed (n = 64);<br><br>3) civilian dependents (n = 51) | 2003 | 81.2% (adolescents) | Active duty: Yes<br><br>Service arm: Army<br><br>34 deployed on Operation Iraqi Freedom, 64 non-deployed | Mean = 15.8 years,<br><br>60 female, 63 male<br><br>48 civilian adolescents, 73 military adolescents | **Validated measures: Yes**<br><br>2 questionnaires: 1 at onset, one at end of OIF hostilities, using:<br><br>1) 12-item Psychosocial Resources Scale (PRS)<br><br>2) A 17-item measure of stress symptoms entitled the post-traumatic stress disorder checklist (PCL)<br><br>3) Resting HR and BP evaluations conducted on March 21 and 25, 2003 at the onset of OIF and on May 15 and 16, 2003 at the declaration of the end of "major hostilities" |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| 3) Cederbaum *et al.* [8] | USA | Cross sectional | 14,299, of which 9% (1305) have a military parent | Statewide survey of public school students - California Healthy Kids Survey (CHKS) | 2011 | 86.5% (adolescents) 96.7% (parental consent rate) | Active duty: Yes Service arm: not reported Single and multiple deployments 16.6% no parental deployments, 16.5% one deployment, 66.9% 2 or more deployments | 52% female, 7th, 9th and 11th grade – evenly distributed | **Validated measures: Yes** ''Sad or hopeless' feelings – via a yes/no question Suicidal ideation – via a yes/no question Well-being and depressive symptoms – via 12 items related to well-being and depressive symptoms The scale featured two subscales created by adapting the Positive and Negative Affect Schedule Expanded Form (labelled "well-being") and the Kessler 6 (labelled "depressive symptoms") |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **4) Chandra *et al.* [9]** | USA | Cross sectional | 1507 | Families selected from the National Military Family Association 2008 Operation Purple Camp | 3 months | 89% (child and care giver) | Active duty: Yes Service Arm: Army, Navy, Marines, and Air Force active and Guard/Reserve service members<br><br>38.3% on current deployment, 5.2% no deployments, 38.6% 1 deployment, 29.1% 2 deployments, 27.1% 3 or more deployments<br><br>Average 10.9 months deployed over last 3 years<br><br>27.5% officer, 6% lower enlisted, 36.3% midgrade enlisted, 30.2% senior enlisted | Child age range: 1117, mean age = 12.8<br><br>46.6% female | **Validated measure: Yes/No** 1-hour telephone interview with child and caregiver, covering:<br><br>1) Academic engagement using 6 item, 5 pt. scale **(No)**<br><br>2) Anxiety, using 5 item SCARED short form **(Yes)**<br><br>3) Behaviour problems using PBFS **(Yes)**<br><br>4) Total emotional difficulties using SDQ behavioural screening questionnaire **(Yes)**<br><br>5) Peer functioning using PedsQL inventory **(Yes)**<br><br>6) Family functioning using 4 item scales **(No)**<br><br>7) Maternal mental health using MHI-5 **(Yes)**<br><br>8) Child difficulties with deployment (during deployment) using 9 item dichotomised scale **(No)**<br><br>9) Child difficulties with re-integration (after deployment) using 6 item dichotomised scale **(No)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **5) Chartrand** *et al.* **[10]** | USA | Cross sectional | 169 | Parents and childcare providers of children enrolled in on-base childcare centres | 8 months | 73% (parents and childcare providers) | Active duty: Yes<br><br>Service arm: Marines<br><br>33% (55 children) had a parent on deployment<br><br>Average 3.9 months deployment over last 1 year<br><br>All families live on military base | Child age range: 1.5 – 5 years | **Validated measures: Yes**<br><br>Mean externalizing, internalizing, and total symptom scores on the Child Behaviour Checklist (CBCL) (1½ – 5 years) and the CBCL-Teacher Report Form (TRF) (1½ – 5 years)<br><br>Parents completed the Parenting Stress Index– Short Form (PSI-SF) and the Centre for Epidemiologic Studies– Depression screener (CES-D) |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| 6) Cozza *et al.* [11] | USA | Cross sectional | 41 | Spouses of combat-injured service members hospitalised at two tertiary care centres | June 2006 – May 2008 | Not reported | Active duty: 8% Service arm: Not reported<br><br>92% Iraq<br><br>8% Afghanistan<br><br>All deployed and combat injured parents were male<br><br>1 parent deployed | Child age range: < 1 – 16 years<br><br>Mean age = 5.3<br><br>51% male | **Validated measure: No**<br><br>Parental report of child emotional difficulty related to the injury<br><br>1) Child behaviour change post-injury<br><br>2) Pre-injury deployment related family difficulty<br><br>3) Injury severity<br><br>4) Disruption to child and family schedules<br><br>5) Impact of injury on parental discipline<br><br>6) Impact on the amount of time non-injured parent could spend with children |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **7) Flake et al. [12]** | USA | Cross Sectional | 101 | Spouses with children with a deployed parent | 15 months | 87% (parent and child) | Active duty: Yes Service arm: Army<br><br>Time with current deployed unit; up to 12 months = 38, 12 – 24 months = 38, over 24 months = 24<br><br>Current duration deployed; < 6 months = 61, 6 – 12 months = 25, > 12 months = 14 | Child age range: 5 – 12 years<br><br>52 male, 48 female | **Validated measures: Yes**<br><br>1) Paediatric Symptom Checklist (PSC)<br><br>2) Parenting Stress Index-Short Form<br><br>3) Perceived Stress Scale-4 |
| **8) Gorman et al. [13]** | USA | Retrospective cohort study | 642,397 | Children with military parent/s | 1 year | Not reported | Active duty: Yes Service arm: Army (45%), Air Force (20%), Navy (13.4%), Marines (7.4%)<br><br>32% parents deployed during study period<br><br>78.3% enlisted, 11.5% E6 or below | Child age range: 3 – 8 years, mean age = 5<br><br>50.6% male | **Validated measure: Yes**<br><br>Records of children of active-duty personnel during fiscal years 2006 and 2007 were linked with their parent's deployment records<br><br>Mental and behavioural health visits were identified by using International Classification of Diseases, Ninth Revision, codes |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **9) Barker and Berry [14]** | USA | Longitudinal | 57 | Families, with at least one child each and an active duty soldier serving at a midwestern post | Two-time data collection: 1) 3 – 4 months into deployment, 2) 4 – 6 weeks post-deployment | Not reported | Active duty: Yes Service arm: Army, National Guard<br><br>Single and multiple deployments, 5 – 7months lengths<br><br>Iraq<br><br>Average 2.4 deployments per soldier<br><br>From combat support battalion, and combat service support battalion<br><br>38 enlisted, 17 officers, 2 didn't report rank | 29 male, 28 female<br><br>Mean age in non-deployed group = 29.93 months Multiple deployment group = 23.23 months Single deployment group = 19.52 months | **Validated measures: No**<br><br>Survey 1: retrospective ratings about child Observed Behaviour Responses (OBRs) and Intense Attachment Behaviours (IABs) (pre-deployment) and current OBR ratings<br><br>OBR and IAB individual items rated on a 4-point Likert scale format ("never," "rarely," "sometimes," and "often")<br><br>Survey 2: significant events that occurred during deployment and OBRs and IABs ratings during reunion. Open ended yes/no questions used |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **10) Houston *et al.* [15]** | USA | Cross sectional | n = 24 | Children (aged 6 – 18) of National Guard troops on pre-deployment training due to deploy to Iraq in near future | Not reported | Not reported | Active duty: Yes Service arm: National guard<br><br>Iraq<br><br>All had Fathers on pre-deployment training for OIF | 50% between 6 – 9 years<br><br>33% between 10 – 13 years<br><br>17% between 14 – 7 years<br><br>63% boys (n = 15)<br><br>37% girls (n = 9) | **Validated measure: No**<br><br>Interview (with open ended questions focussed on child perspectives of parental deployment) including:<br><br>Greatest difficulties of deployment, missing the deployed parent<br><br>Greatest worries about deployment, changes since deployment<br><br>Positive aspects of deployment<br><br>Long-term changes<br><br>Learning from deployment<br><br>Other comments |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **11) Huebner *et al*. [5]** | USA | Cross sectional | 107 | Adolescents who attend camps sponsored by the National Military Family Association (NMFA) and have a current deployed parent | Not reported | Not reported | Active duty: Yes Service arm: 39% Army, 3% Navy, 10% Air Force, 4% Marines, 23% National Guard (Army and Air Force), and 13% Reserves (all branches) All had parents on deployment Majority deployed to Iraq or Afghanistan | Child age range: 12 – 18 years 46% girls, 54% boys | **Validated measure: No** In-depth semi structured focus group interview that lasted 90 min |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **12) Knobloch** *et al.* **[16]** | USA | Cross sectional | 33 | Military children who had experienced a family member's deployment attending a free 5-day military residential camp | 5 days | Not reported | Active duty: Yes Service arm: U.S. Army (n = 14), the Army National Guard (n = 15), the Navy (n = 2), the Air Force (n = 1), and the Air National Guard (n = 1)<br><br>50% participated while their family member was overseas (n = 17). Half whose family member had returned home (n = 16), most interviewed within 1 year (n = 6) or within 2 years (n = 6) of homecoming. Majority had experienced at least one cycle of deployment and reunion (n = 31), n = 2 participants were awaiting family member's return from first tour of duty | Child age range: 10 – 13 years<br><br>Mean age = 11.3years<br><br>21 boys, 12 girls | **Validated measure: No**<br><br>One-on-one, semi structured, and audiotaped interviews<br><br>First phase of the interview – demographic data and was designed to foster rapport<br><br>Second phase – participant's family life during deployment<br><br>Third phase – participant's family life during reunion |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **13) Lester** *et al*. [17] | USA | Cross sectional | 171 | Families with a currently deployed or recently returned parent from OEF/OIF in the last 12 months, with at least one child between 6 – 12 years | 9 months | 92% (families) | Active duty: Yes Service arm: Army (n = 126), Marines (n = 45)<br><br>Afghanistan or Iraq<br><br>Mean number of deployments = 2.8<br><br>Mean months deployed = 16.6<br><br>Single and multiple deployments<br><br>187 children with recently returned parent, 85 with currently deployed parent<br><br>Enlisted = 8.2%<br><br>NCO = 61.4%<br><br>Officer = 30.4%<br><br>Almost entirely children of married | Child age range: 6 – 12 years<br><br>Mean age = 8.53<br><br>45% female, 55% male | **Validated Measures: Yes**<br><br>1) Mental health – via Child Behaviour Checklist (CBCL)<br><br>2) Child Depression – via Children's Depression Index (CDI)<br><br>3) Child Anxiety – via Multidimensional Anxiety Scale for Children (MASC)<br><br>4) Parent outcomes included the Brief Symptom Inventory (BSI)<br><br>5) Posttraumatic stress was assessed using the Posttraumatic Diagnostic Scale (PDS)<br><br>6) Posttraumatic Stress Disorder Checklist-Military |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| 14) Lester *et al.* [18] | USA | Longitudinal | 280 families<br><br>505 children | Families with at least one active duty military parent and at least one dependent child age 3 or older undergoing FOCUS intervention programme | Secondary data analysis of data collected July 2008 – February 2010 | Not reported | Active duty: Yes<br>Service arm: 35.4% Navy, 65.6% Marines | Child age range: 3 – 17 years<br><br>Mean age = 7.44<br><br>44% female | **Validated Measures: Yes**<br><br>1) Child initial distress - Strengths and Difficulties (SDQ) parent report<br><br>2) Parental distress – Brief Symptom Inventory (BSI)<br><br>3) PTSD military checklist used - severity of PTSD symptoms in deployed parent in last month<br><br>4) Longitudinal assessment variables = number of visits by family |
| 15) Mansfield *et al.* [4] | USA | Retrospective cohort study | 307, 520 | Children of non-retired, active-duty US Army personnel who either (1) obtained outpatient medical care from a US military medical facility or (2) used military medical insurance at a non-military facility | 3 years – 2003 – 2006 | Not reported | Active duty: Yes<br>Service arm: All arms except Reserve and National Guard personnel<br><br>Average deployment period over study period = 11 months<br><br>OIF only (50.9%), OEF only (6.1%), or both operations (5.6%)<br><br>37.4% did not deploy for any operations | Child age range: 5 – 17 years | **Validated Measure: Yes**<br><br>A mental health diagnosis was defined as having at least 1 mental health-related International Classification of Diseases, Ninth Revision, code out of 4 possible codes for a given outpatient medical visit<br><br>Diagnoses were further classified into 1 of 17 disorder categories |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **16) Millegan** *et al.* **[19]** | USA | Retrospective cohort study | 377, 565 | Children of active service personnel who have been hospitalised for a mental or behavioural health disorder during parental deployment | 2 years – 2007 – 2009 | 95% (children) | Active duty: Yes Service arm: All arms except activated Reserve and National Guard<br><br>41% Army<br><br>24.1% Air Force<br><br>23.6% Navy<br><br>7.6% Marines<br><br>Average deployment length = 332 days<br><br>23.2% deployments lasted <180 days<br><br>On OIF and OEF<br><br>32% had parents who deployed in 2008<br><br>5% children from dual military families | Child age range: 9 – 17 years<br><br>Mean age = 12.3 years<br><br>50.8% male | **Validated Measure: Yes**<br><br>Psychiatric hospitalizations were identified using International Classification of Diseases, Ninth Revision codes on admission |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **17) Morris and Age, [20]** | USA | Cross sectional | 65 | Adolescents attending a charter school on a Naval-Air station joint reserve base with at least one parent serving in the US military | 4 weeks | 30% (parent confirming consent) | Active duty: Yes Service arm: not reported<br><br>36 deployed, 29 non-deployed (deployment over last 1 year)<br><br>17 had parent deployed once in last year 12 had parent deployed twice in last year<br><br>5 had parent deployed 3 times in last year<br><br>1 had parent deployed 4 times in last year 1 had parent deployed 6 times in last year<br><br>3 had mothers who were deployed<br><br>5 children from 2 dual military families | Child age range: 9 – 15 years<br><br>Mean age = 11.75<br><br>49% male, 51% female | **Validated Measures: Yes**<br><br>Youth self-report scales used<br><br>1) 14-item effortful control scale (attention and inhibitory control items) of the Early Adolescent Temperament Questionnaire – Revised (EATQ-R)<br><br>2) Social support of mothers and fathers separately – adaptation from Dubow and Ullman's (1989) Social Support Appraisals Scale<br><br>3) Children's Coping Strategies Checklist – Revision (CCSC-R1)<br><br>4) The conduct problems and emotional symptoms scales of the Strengths and Difficulties Questionnaire (SDQ) |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **18) Okafor** *et al.* **[21]** | USA | Cross sectional | 1036 | Adolescents that are part of an active duty, US Army family | Not reported | Not reported | Active duty: Yes Service arm: Army<br><br>72.4% enlisted 27.6% officer | Child age range: 72.4% between 11 – 18 years<br><br>27.6% between 15 – 18 years<br><br>49.7% male, 51.3% female | **Validated Measures: Yes/No**<br><br>1) Six subscales used to assess Adolescent Coping Orientation for Problem Experiences (A –COPE) **Yes**<br><br>2) Adolescent source of stress - 3 context specific stressor questions (How long has parent been deployed, how many times have they had to relocate, and what is parents rank) **No**<br><br>3) Assessing manifestation of stress: depressive symptoms - The Center for Epidemiological Studies Depression Scale for Children (CES-DC) **Yes** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **19) Rodriguez and Margolin [22]** | USA | Cross sectional | 70 | Mother-adolescent dyads from U.S. military families living in Southern California | 5 years | 56.9% (mother and adolescent) | Active duty: Yes<br>Service arm:<br>52.9% = Marines,<br>34.3% = Navy,<br>8.6% = Air Force,<br>2.9% = Army,<br>1.6% = Coastguard<br><br>53% living in military housing<br><br>25.7% = midgrade enlisted,<br>40% = senior enlisted,<br>18.6% = junior officers,<br>15.7% senior officers<br><br>Average 4 deployments | Child age range:<br>14 – 18.9 years<br><br>Mean age = 16<br><br>38 girls | **Validated Measures: Yes**<br><br>Youth completed a 26-item version of the Children's Depression Inventory (CDI), and the 47-item Revised Children's Anxiety and Depression Scale<br><br>Mothers reported anxiety symptoms via the 21-item Beck Anxiety Inventory (BAI) |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **20) Arnold *et al.* [23]** | USA | Cross sectional | 995 | Adolescents with 1 active duty military parent | Spring 2012 | 96% (adolescents) | Active duty: Yes Service arm: Army<br><br>One family in active duty | Children between 11 – 18years; Mean age = 13.4years<br><br>49.7% male, 50.3% female | **Validated measures: Yes**<br><br>1) Child and Adolescent Social Support Scale<br><br>2) Solving Family Problems subscale of the Adolescent Coping Scale<br><br>3) Initiative subscale of the General Self-Efficacy Scale<br><br>4) Depression Scale for Children<br><br>5) Academic performance using 5-point scale for grades A-F |
| **21) Aronson *et al.* [24]** | USA | Cross sectional | 160 | Exceptional Family Member Program (EFMP) members – children with special health or educational needs | 5 weeks | 52.5% (programme providers) | Active duty: Yes<br><br>Service arm: Army, Air Force, Marine Corps, Navy | Child age range: Birth - 21 years | **Validated measure: No**<br><br>15 – 20 min web based survey of multiple choice, open-ended and Likert-type scale questions |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **22) Cozza et al. [25]** | USA | Retrospective Cohort | 15,938 deceased service members 12,641 children | Dependent family members of deceased U.S Military service members who died during 01/09/2001 and 01/09/2011 | 10 years | Not reported | Active duty: 81%, National guard (10%), Reserve (9%) Service arm: Army (55.7%), Air Force (11.9%), Navy (15%), Marine Corps (17.4%) | Child age range: 30% < 5 years 25% between 6 – 10 years 20% between 11 – 15 years 9% between 16 – 18 years 7% between 19 – 21 years 7% between 22 – 26 years 2% > 27 years | **Validated measures: N/A** Characteristics of DSMs (service branch, rank, and cause of death) and characteristics of spouse-with-children and spouse-only families (ages of dependents, time since loss, and distance from a military installation) were examined |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **23) DeGraff et al. [26]** | USA | Cross sectional, convenience sample | 236 | Families on an Active duty Army installation, continental USA, with 1 active duty partner, 1 civilian partner | Spring and summer 2013 | 86.4% (military families) | Active duty: Yes Service arm: Army<br><br>1 parent active duty Dual military and single parent families removed | Child age range: 11 – 18 years<br><br>130 males, 136 females | **Validated measures: Yes/No**<br><br>Parents:<br><br>1) Personal Well-Being Index (PWI) **(Yes)**<br><br>2) 10 item questionnaire (4-point scale) on family support **(No)**<br><br>3) 9 item questionnaire (4-point scale) on military life satisfaction **(No)**<br><br>Adolescents:<br><br>1) Centre for Epidemiological Studies Depression Scale for Children (CES-DC) **(Yes)**<br><br>2) General Self-Efficacy Scale **(Yes)**<br><br>3) Personal Well-Being Index for School Children (PWI-SC) **(Yes)**<br><br>4) academic performance via grades **(Yes)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **24) Foran** *et al.* **[27]** | USA | Cross sectional | 974 | Active duty soldiers from a brigade combat team (17.4% having at least 1 child) | 2months following a 15 months combat deployment to Afghanistan | 91% (parents) | Active duty: Yes<br><br>Service arm: not reported<br><br>Jr. enlisted (29.2%), NCO officer (61.9%), officer/warrant officer (8.9%) | Child age range: 3 – 17 years | **Validated measures: Yes/No**<br><br>1) Parent PTSD symptoms: 17-item Posttraumatic Stress Disorder Checklist **(Yes)**<br><br>2) Child mental health symptoms: Strengths and Difficulties Questionnaire **(No)**<br><br>3) Marital distress: 3 dichotomous questions **(No)**<br><br>4) General aggression: 8 items developed by the Walter Reed Army Institute of Research based on longer anger and aggression scales **(No)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **25) Friedman et al. [28]** | USA | Cross sectional | 75 adolescents  75 parents of adolescents | At home care givers and adolescents of active duty service members | September 2013 – April 2014 | Not reported | Active duty: Yes  Service arm: Air Force (22.5%) Army (49.3%) Marine ( 4.2%) Navy (23.9%)  Adolescents experienced average 4.6 parental deployments. Deployment length average = 4.6 months | Child age range: 11 – 18 years  Mean = 13.2  57.3% male | **Validated measures: Yes/No**  Caregivers: 1) Perceived Stress Scale **(Yes)**  2) Reduced set of items from Child Behaviour Checklist **(No)**  Adolescents: 3) online survey on quantity and quality of communication with deployed parent **(No)**  4) Positive and Negative Emotions Scales **(No)**  5) KIDSCREEN-10 Index **(Yes)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **26) Kehra et al. [29]** | UK | Cross sectional | 610 | Male serving and ex-serving personnel with children | July 2010 – July 2012 | 66.7% (fathers) 77.1% (mothers that also took part) | Active duty: Service and veteran<br><br>Service arm:<br>Navy (12.2%),<br>Marines (5/6%),<br>Army (62.7%),<br>RAF (19.6%)<br><br>Officer (26.2%),<br>Non-commissioned officer (62.4%),<br>"Other rank" (11.4%) | Child age range:<br>3 – 16<br><br>52.1% male | **Validated measure: No**<br><br>Prevalence rates of illnesses as reported by parents in online questionnaire |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **27) Knobloch *et al.* [30]** | USA | Longitudinal | 118 couples | Online survey data from U.S. service members and their partners, meeting 3 eligibility criteria: (a) one or both partners had returned home from deployment within the previous 30 days, (b) partners were custodial parents of one or more children, (c) partners had separate e-mail accounts | 3 waves; each wave 7 days long starting on day 1, day 31 and day 61 | 83.1% (service member and partner) | Active duty: Yes Service arm: Army (57%), Army National Guard (21%), Air National Guard (13%), Air Force (6%), Marines (3%)  Average length of deployment = 9.67months 81% primary mission = combat 68% completed multiple deployments | Child age range: 6 months – 20 years  Mean age: 8.10 years  65 boys, 51 girls  Parents reported on well-being of eldest child | **Validated measures: Yes/No**  1) 3-item Mental Health Inventory **(Yes)**  2) Short forms of Knobloch and Solomon's (1999) measures to assess the three sources of relational uncertainty **(No)**  3) Knobloch and Solomon's (2004) 6-item scale measured *interference from a partner* **(No)**  4) Chandra *et al.*'s (2011) 6-item scale solicited parents' reports of their oldest child's difficulty with reintegration **(No)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **28) Snyder** *et al.* **[31]** | USA | Cross sectional | 183 | Deployed fathers and non-deployed mothers and their children | Not reported | Not reported | Active duty: Yes Service arm: National Guard and Reserve Service members<br><br>Mean number of deployments = 2 (SD ¼ 1.1, range ¼ 1 – 8)<br><br>Total months of deployment = 24 months (SD ¼ 11 months)<br><br>Military rank: 75.8% enlisted men or warrant officers, remaining held ranks of second lieutenant or above | Child age range: 4 – 13 years<br><br>Mean age 8.3 years<br><br>53.3% female | **Validated measures: Yes/No**<br><br>Parents:<br><br>1) Deployment Risk and resilience Inventory (DRRI) **(Yes)**<br><br>2) Acceptance and Action Questionnaire- Second Edition (AAQ-II) **(Yes)**<br><br>3) Difficulties in Emotion Regulation Scale (DERS) **(Yes)**<br><br>4) Post traumatic Stress Disorder Checklist Military/Civilian (PCL-M and PCL-C) **(Yes)**<br><br>Children:<br><br>5) Affective Intensity scale **(No)**<br><br>6) Child externalising and internalising symptoms using Behavioural Assessment for Children (BASC-2) **(Yes)**<br><br>7) Parent's behaviour during family interaction (MFICS, RACS) **(Yes)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **29) Jain *et al.* [2]** | UK | Cross sectional | N = 171 | Adolescents of Father's that were part of an existing cohort founded by KCMHR | July 2010 – October 2012 | 70% (adolescents) | Active duty: Yes<br><br>Service arm: not reported | Child age range: 11 – 16 years<br><br>Mean age 13 years<br><br>85 girls, 86 boys | **Validated measure: No**<br><br>Free text responses to a self-report online questionnaire<br><br>Questions included what is the best/worst thing about having a Father in the UK Armed Forces?' |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **30) Lester *et al.* [32]** | USA | Cross sectional | Telephone interviews: Primary caregivers (n = 680) Military parents (n = 310) Web surveys: Primary caregivers (n = 301) Military parents (n = 150) | Families living in the US, one parent currently serving in the military with a pay grade equal to or less than O-6 (the highest rank below General or Admiral), and to have no parent currently deployed | October 2012 – March 2013 | 41.2% (primary caregiving parent) 50% (military parent) | Active duty: Yes Service arm: Army (48%), Navy (18%) Officers were substantially overrepresented across all samples, particularly on the web-based survey. Among all respondents, 71 % of military families had experienced two or more deployments Relative to the target population, families with a female primary military parent were underrepresented | Child age range: 0 – 10 years (focal child = most recent birthday) | **Validated measures: Yes** 1) Ages and Stages Questionnaire: Social-Emotional (ASQ-SE) 2) Spence Preschool Anxiety Scale (PAS) 3) Strengths and Difficulties Questionnaire (SDQ) 4) Patient Health Questionnaire (PHQ-8) 5) PTSD Checklist Military Version (PCL-M) 6) PTSD Checklist Civilian Version (PCL-C) 7) Alcohol Use Disorders Identification Test (AUDIT-C) 8) Parental Behaviour with Pre-schooler Q-Sort 9) Family Assessment Device (FAD) 10) Marital Instability Index |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
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| **31) Lipari** *et al.* **[33]** | USA | Cross sectional | Veteran father-child pairs (n = 2,100) <br> Nonveteran father-child pairs (n = 12,700) | Secondary data analysis from the 2004 – 2013 National Surveys on Drug Use and Health (NSDUHs) | 2004 – 2013 | 68.2% (veteran) <br> 70.2% (Nonveteran) | Active duty: No <br> Service arm: not reported | Child age range: 12 – 17 years | **Validated measures:** No <br> Questionnaires on adolescent substance use, father-child communication about substance use, parental beliefs about substance use, parental involvement |
| **32) Lucier-Greer** *et al.* **[34]** | USA | Cross sectional | 1036 | Families living in 4 active duty US Army installations – 1 in Europe with one parent being on active duty | 2012 | Not reported | Active duty: Yes Service arm: Army <br> Enlisted 72.4% <br> 8.1% dual military families, 92.3% of homes serving family member was male, 12.6% single parent family | Child age range: 11 – 18 years <br> Age dichotomized: (early adolescents [11 – 14] vs. late adolescents [15 – 18]) <br> Mean age = 13.4 years <br> 49.7% male, 51.3% female | **Validated measures: Yes** <br> 1) Centre for Epidemiological Studies Depression Scale for children <br> 2) Subscales from the Social Provisions measure: <br> - Affectional Ties measure <br> - Guidance measure, <br> 3) Scales from the Adolescent Coping Orientation for Problem Experiences |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **33) Nicosia *et al*. [35]** | USA | Cross sectional | 1188 | Data collected from the Military Teenagers' Environments, Exercise, and Nutrition Study (M-TEENS) which surveyed military families located at 12 US Army installations | April 2013 – January 2014 | 66% (families) | Active duty: Yes<br><br>Service arm: Army<br><br>21.8% not deployed in last 3 years<br><br>12.1% deployed for 1 – 180 days, 61.2% deployed for >180 days<br><br>63.8% not deployed within last 3 years. 36% deployed within last 12months<br><br>52.6% responding father in military, 47.4% living on military installation | Child age range: 12 – 13 years<br><br>47.9% girls, 52.1% boys | **Validated measures: Yes/No**<br><br>2008 Defence Manpower Data Centre's Survey of Active-Duty Spouses **(Yes)**<br><br>12-item version of the Centre for Epidemiologic Studies Depression Scale **(Yes)**<br><br>Length and Recency of deployment using questions from the parent survey **(No)** |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| 34) O'Toole *et al.* [36] | Australia | Cohort | n = 352 (veterans)<br><br>n = 293 (children of veterans) | Veterans posted in the Army to Vietnam in the period of Australian involvement (1962 – 1972) | Veterans interviewed twice, (1992 – 1994 and 2005 – 2006) partners were interviewed in 2006 – 2007, and their offspring in 2012 – 2014 | Not reported | Active duty: No<br><br>Service arm: Army | Child age range: 20 – 60<br><br>125 males, 168 females | **Validated measures: Yes**<br><br>1) 21-item combat index to assess combat related PTSD<br><br>2) Structured Clinical Interview for DSM-III<br><br>3) Clinician-administered PTSD Scale<br><br>4) Mississippi Scale for Combat-Related PTSD<br><br>5) Diagnostic Interview Schedule (DIS) for DSM-III<br><br>6) Composite International Diagnostic Interview (CIDI) for DSM-IV |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **35) Skomorovsky and Bullock [37]** | Canada | Cross sectional | 85 | Children from Regular Force CAF families | Winter 2012 | Not reported | Active duty: Yes<br><br>Service arm: not reported<br><br>(n = 60) experienced 1 – 5 deployments; the rest experienced more than 5 parental deployments (n = 14) or none (n ¼ 10)<br><br>(n = 55), the father was in the military; for the rest, both father and mother (n = 24) or the mother (n ¼ 7) was in the military | Child age range: 8 – 13 years<br><br>38 boys, 42 girls, 5 did not indicate | **Validated measure: No**<br><br>60 – 90 min focus groups with 6 same sex participants in each<br><br>Structured interview technique with probes and 'graffiti wall' technique |

| Study | Country | Study Design | Sample Size (N) | Population Studied | Data Collection Period | No. of Respondents/Response Rate (%) and Responder (Child/Parent or Both) | Military and Deployment Information Provided (e.g., Active Duty, Service Arm, Location, Number, Rank, Role) | Child's Age and Gender | Assessment Method of Child Well-Being Validated Measure (Yes/No) |
|---|---|---|---|---|---|---|---|---|---|
| **36) Rowe** *et al.* **[1]** | UK | Cross-sectional | n = 3198 | Data taken from large UK cohort study<br><br>Military personnel who had children and were still serving at time of questionnaire completion | Phase 1: 2004 – 2006<br>Phase 2: 2007 – 2009 | Phase 1: 59%<br>Phase 2: 56%<br>(military personnel) | Active duty: Yes<br><br>Service arm: 66%= Army service, 18% = RAF<br><br>16% = Naval services<br><br>UK service personnel deployed to Iraq between January – April 2003 and personnel who were not deployed to Iraq at this time, as well as personnel who were and were not deployed to Afghanistan<br><br>Mean number of children = 1.7<br><br>Reservists were over sampled by 2:1<br><br>93% = regulars<br><br>68% = NCOs | < 18 | **Validated measures: No**<br><br>1) Three point-scale measuring parents perceived impact of military career on children (positive, negative or no impact)<br><br>2) Childhood adversity measured via 2 measures adapted from the Adverse Childhood Experience study scale<br><br>– first assessed childhood family relationship adversity using four positive items<br><br>– second measure assessed childhood antisocial behaviour |

Cross sectional study design papers [1], [2], [5], [6], [8], [9], [10], [11], [12], [15], [17], [20], [21], [22], [23], [24], [26], [27], [28], [29], [30], [31], [32], [33], [34], [35], [37] compared children on variety of measured outcomes designed to assess child well-being (e.g., questionnaires, Child Behaviour Checklist (CBCL), Psychosocial resources scale, physiological measurements (heart rate, blood pressure) across participant groups (military with currently deployed parent, military with non-deployed parent and non-military) or within the same group.

Four longitudinal studies [7], [14], [18], [30] compared data collected from children at different time points in the deployment cycle, e.g., pre-deployment, during deployment and post-deployment. Lester *et al.* [18] compared outcomes of child well-being at different points during an intervention programme designed to enhance family adjustment and reduce child distress.

Five papers [4], [13], [19], [25], [36] performed retrospective cohort analyses of data collected from children of active duty personnel who received a diagnosis of a mental or behavioural disorder during parental deployment, were hospitalised, obtained outpatient medical care or used military medical insurance.

### 3.3.2    Key Results of Reviewed Studies – Military Specific Factors Associated with Child Well-Being

1) Dose-response effect of cumulative deployment months (this includes both length of deployments and number of deployments) on child attachment behaviours, depression in military children, psychiatric hospitalisation in military children, decreased adolescent academic performance and mental health diagnoses in military children [4], [9], [10], [14], [17], [19], [22], [35].

   a) Shorter deployment lengths, reserve service [1], and increased communication with the deployed parent during periods of absence [22] can act as a buffer from the negative effects of absence. According to the adolescents' survey responses, the quality of communication with their parent is more important than the quantity [28].

2) Biggest changes in children's lives during parental deployment are: lack of contact with deployed parent, increases in household responsibilities, increased emotional intensity, missing family traditions, missing the deployed family member and anxiety over their safety [2], [15].

3) The reintegration period is the most challenging time for both children and their caregivers [9], [18], [30].

4) Deployed fathers' trauma exposure is positively associated with child internalizing symptoms [31].

5) Additional risk to grief outcomes in children of Deceased Service Members (DSMs) is dependent on ages, types of sustained deaths, and geographical distance from military installations [25].

6) There are also positive aspects of being a military child-increased resilience, cultivating independence, increased family cohesion, financial benefits, sense of pride, learning new things, military community, happiness of the serving parent and feeling safe [2] ,[15], [16].

See Table 3-2 for key results of reviewed studies.

**Table 3-2: Summary of Key Military Specific Factors Within Results.**

| Study Reference | Key Results |
|---|---|
| **1) Acion *et al.*[6]** | 1. The rates of alcohol use [Risk Difference (RD) = 7.85, 99.91% Confidence Interval (CI) = 4.44 – 11.26], binge drinking (RD = 8.02, 99.91% CI = 4.91 – 11.13), marijuana use (RD = 5.30, 99.91% CI = 2.83 – 7.77), other illegal drug use (RD = 7.10, 99.91% CI = 4.63 – 9.56) and prescription drug misuse (RD = 8.58, 99.91% CI = 5.64 – 11.51) are greater for children of currently or recently deployed parents than for children of parents who are not in the military.<br><br>2. The magnitude of the effects is consistent across 6th, 8th and 11th grades.<br><br>3. Disrupted living arrangements further accentuate increased substance use, with the largest effect seen in children with a deployed parent who was not living with a parent or relative. |
| **2) Barnes *et al.* [7]** | 1. At both the onset and end of hostilities, military dependents, particularly those with a deployed family member, had statistically significantly higher levels of PTSD and heart rate measures than their civilian peers (p < 0.04).<br><br>2. The military deployed group had a significantly higher BMI (p < 0.05) than the civilian and military non-deployed groups. |
| **3) Cederbaum *et al.* [8]** | 1. 21% decrease (OR 0.79, CI 6.7 – 9.4) in the odds of positive well-being amongst adolescents from military families who had experienced deployment, compared with those who had experienced no parental deployment.<br><br>2. Compared with those who had experienced no deployments, there was an increased likelihood of feeling sad of hopeless for those experiencing one deployment of a family member (OR, 1.40; CI, 1.24 – 1.59) and two or more deployments of a family member (OR, 1.56; CI, 1.34 – 1.83).<br><br>3. Increased likelihood of depressive symptoms among adolescents who reported one family member deployment (OR, 1.15; CI, 1.00 – 1.33) and two or more family member deployments (OR, 1.41; CI, 1.26 – 1.58) compared with those who reported experiencing no deployments.<br><br>4. Among 9th and 11th graders, reporting two or more family member deployments was associated with a 34% increase in the odds of suicidal ideation (OR, 1.34; 95% CI, 1.12 – 1.60) compared with those with no deployment experience. |

| Study Reference | Key Results |
|---|---|
| **4) Chandra et al (2010) [9]** | 1. Children from military families reported emotional difficulties at higher levels than in general population.<br><br>2. Children from military families are at greater risk for emotional and/or behavioural problems – exacerbated by family stress and mental health of stay-at-home caregiver.<br><br>3. Positive association between deployment months and child difficulties.<br><br>4. Girls have more problems with reintegration period.<br><br>5. Middle-late adolescents have more problems with parental deployment and reintegration than younger counterparts.<br><br>6. Living on base related to fewer deployment challenges.<br><br>7. Guard and reserve parents report less support for families, and therefore worse mental health than those in active component. |
| **5) Chartrand et al. [10]** | 1. Children aged 3 years or older with a deployed parent had significantly higher Child Behaviour Checklist List externalizing behavior (attention difficulties and aggression) and total symptom scores (externalizing behavior symptoms; 48.50 vs 43.31, $P < .05$; total symptom score; 47.71 vs 42.68, $P < .05$) and externalizing and total Teacher Report Form scores (externalizing behavior symptoms; 50.21 vs 45.62, $P < .05$; total symptom score; 48.54 vs 43.73, $P < .05$) compared with same-aged peers without a deployed parent. |
| **6) Cozza et al. [11]** | 1. Families with high pre-injury deployment related family distress and high family disruption post-injury most likely to report high child distress.<br><br>2. Spouse reported injury severity was unrelated to child distress. |
| **7) Flake et al. [12]** | 1. Parental stress significantly predicted an increase in child psychosocial morbidity (OR 7.41, CI 2.9 – 19.0, p < 0.01).<br><br>2. Parents utilising military support reported less child psychosocial morbidity (OR 0.32, CI 0.13-.0.77, p < 0.01).<br><br>3. Parents reporting high levels of stress more likely to report children as having psychosocial morbidities. |
| **8) Gorman et al. [13]** | 1. Mental and behavioural health visits by children increased by 11% when a family member was deployed.<br><br>2. Behavioural disorder prevalence increased by 19%.<br><br>3. Stress disorder prevalence increased by 18%.<br><br>4. Military support and community support were associated with lower levels of children's psychosocial symptoms and parental stress.<br><br>5. Rates especially increased in older children, and in children of married and male military parents. |

| Study Reference | Key Results |
|---|---|
| **9) Barker and Berry [14]** | 1. Child behaviour problems related to many individual child and family characteristics e.g., child age and temperament, length of deployment, total time deployed parent was absent, number of moves and number of stressors reported by parent. |
| | 2. Child attachment behaviours were related to the length of deployment and the number of stressors faced by the parent, and were more commonly seen in boys with a deployed parent. |
| | 3.Soldiers and spouses of soldiers who chose not to re-enlist, more often described themselves as depressed, and had children with many more behaviour problems at reunion. |
| | 4. Older children had more attachment issues than infants. |
| **10) Houston *et al.* [15]** | 1. Children of a deployed parent exhibit a 'sense of loss' of an important person who provides security and assistance. |
| | 2. Biggest change in children's life an increase in household responsibilities. |
| | 3. Having a sense of meaning related to deployment experience may be beneficial for children. |
| | 4. Children benefit from being able to discussion their situation with peers also experiencing parental deployment. |
| **11) Huebner *et al.* [5]** | 1. 34 participants made statements reflecting changes in mental health. |
| | 2. 35 participants gave examples of increased emotional intensity in the home. |
| | 3. 27 participants said they tended to 'lash out' at others for things that would not normally upset them. |
| | 4. 42 participants mentioned the difficulties of reintegrating the deployed parent back into family. |
| **12) Knobloch *et al.* [16]** | 1. Changes to family life: more responsibilities for youth and at home parent, changes to everyday activities, missing family traditions, emotional upheaval, family feels incomplete. |
| | 2. Challenge of deployment: disruptions to daily routine, emotional difficulties, missing the deployed family member, increase family conflict, expanded responsibilities. |
| | 3. Opportunities of deployment: increased family cohesion, cultivating independence, new or unique experiences as part of a military family, being prepared for future deployments. |

| Study Reference | Key Results |
|---|---|
| **13) Lester et al. [17]** | Predictors of increased depression and externalising behaviours in children:<br><br>1. Cumulative months spent on deployment.<br><br>2. Mental health and distress of stay at home parent.<br><br>3. Girls with a deployed parent had higher externalizing symptoms relative to population norms.<br><br>4. Overall, children did not show elevations in CDI depression or CBCL internalizing or externalizing symptoms relative to community norms, either as a percentage above clinical cut-offs (prevalence) or as severity of symptoms. |
| **14) Lester et al. [18]** | 1. Distress significantly related among deployed parent, civilian parent and children.<br><br>2. Improved family adjustment predicted reduced distress among military children (r = 0.41, 17% of variance explained).<br><br>3. FOCUS programme improved family functioning which significantly reduced child distress at follow up.<br><br>4. Intervention dosage associated with reductions in distress. |
| **15) Mansfield et al. [4]** | 1. A dose- response pattern between deployment of a parent for OIF/OEF and increased mental health diagnoses was observed in military children of all ages.<br><br>2. Mental health diagnoses of acute stress reaction, adjustment disorders, depressive disorders and paediatric behavioural disorders.<br><br>3. Children with parents on long and/or multiple deployments fared worse.<br><br>4. Boys and girls showed similar patterns within categories, with more diagnoses observed in older children within sex groups and in boys relative to girls within age groups. |
| **16) Millegan et al. [19]** | 1. Psychiatric hospitalisation increased by 10% among children aged 9 – 17 years when a military parent was recently deployed.<br><br>2. The odds of hospitalisation increased with increasing length of parent's deployment. |
| **17) Morris and Age [20]** | 1. Youth residing in military families report elevated levels of conduct problems according to established clinical norms.<br><br>2. Effortful control and maternal support act as protective factors against the development of conduct problems and emotional symptoms.<br><br>3. Avoidance coping is associated with greater emotional symptoms.<br><br>4. No significant difference between youth of recently deployed vs non-deployed parents. |
| **18) Okafor et al. [21]** | 1. No relationship was found between military specific stressors (parental separations, frequent relocations and parental rank) and coping profile membership (Disengaged Copers, Troubled Copers, Humour-intensive Copers, and Active Copers). |

| Study Reference | Key Results |
|---|---|
| **19) Rodriguez and Margolin [22]** | 1. Number of important family events missed by service member was linked to elevated youth symptoms of depression, even when accounting for the number of deployments and the cumulative duration of deployed parent's absence. |
| | 2. Youth who reported more frequent contact during absences were buffered from the effects of extensive absence. |
| **20) Arnold *et al*. [23]** | 1. While family structure, particularly being part of a stepfamily or single-parent family, was related to greater depressive symptoms and poorer academic performance, family processes (family support and parent – adolescent connection) and personal resources (initiative) also accounted for depressive symptomology and academic performance. Importantly, when modelling family processes, no differences were found across family structures. Military youth thrive in diverse family forms in the presence of healthy family processes. |
| **21) Aronson *et al*. [24]** | 1. Most common diagnoses: autism (94%), ADHD (93%). |
| | 2. Challenges are relocations of families in Exceptional Family Member Program (EFMP) – process should be streamlined to provide continuity of care. |
| **22) Cozza *et al*. [25]** | 1. Their young ages, types of sustained deaths, and geographic distance from military installations likely place additional risk to grief outcomes. |
| | 2. Most surviving spouses and children were young, corresponding to the young age of Deceased U.S Military Service Members (DSMs). The young age of bereaved military spouses and children (mean age = 32.8, 10.3; SD = 9.3, 7.3 years, respectively) may add additional risk for greater distress, clinically impairing grief, depression, or anxiety following bereavement. |
| | 3. In this sample, children whose DSM experienced a sudden and violent death were younger than those of DSMs who died from illness. In fact, one quarter of all bereaved children in the study were under the age of 6 years and had a DSM parent who died from combat, accident, or suicide. 4. Although only a small minority of bereaved children are likely to develop a psychiatric disorder,31 for young children, in particular, such a loss is distressing and can lead to anxiety, depression, and post-traumatic stress symptoms. The death of a parent may also lead to disruptions in a child's care because the grief of surviving adult caregivers may make it more taxing to attend to the child's needs. |
| | 5. In contrast, a sense of meaning associated with combat related deaths, military pride, or patriotism, and greater instrumental support suggest protective factors for military families. |
| | 6. A preliminary report of bereaved military children found that pride in a parent's military service was associated with adaptive grief responses in those affected by combat death compared to other violent deaths. |

| Study Reference | Key Results |
|---|---|
| **23) DeGraff et al. [26]** | 1. AD and civilian partners perceived that military leaders and fellow soldiers were ''sometimes'' supportive of their family, and civilian partners were generally ''satisfied'' with military life. |
| | 2. Adolescents' well-being was positive. For instance, adolescents typically experienced depressive symptoms ''a little'' (M = 1.722, SD = .559), and just under half of the adolescents earned A's and B's on their last report card (n = 129, 48.5 %). |
| | 3. Adolescents experienced more positive mental health (reflected in internalizing symptoms), better grades, and greater self-efficacy when their civilian parent reported higher levels of personal life satisfaction (b = -.078, .253, and .082, respectively). |
| | 4. Military rank: youth of higher ranking parents reporting greater self-efficacy and earning higher grades (b = .064 and .209, respectively). |
| | 5. Adolescents with higher grades had civilian parents who perceived high levels of family support from the military. |
| | 6. Adolescent females generally have poorer mental health than adolescent males (b = .124, p\.05), whereas males experienced less self-efficacy and reported lower academic grades than females (b = -.112, p\.05 and b = -.374, p\.01, respectively). |
| | 7. Only one adolescent outcome varied by age, with younger adolescents reporting greater life satisfaction than older youth (b = -.034, p\.05). |
| **24) Foran et al. [27]** | 1. The study documented a moderate association between parental PTSD symptoms and child mental health symptoms during the post deployment reintegration period. This association was significant even after accounting for marital distress. |
| | 2. Second, the study demonstrated that the impact of PTSD symptoms on child mental health symptoms may be explained by parental general aggression such that aggression mediated the PTSD symptoms–child mental health association. |
| | PTSD symptoms → latent child MH .14 [−0.23, 0.52] Marital quality → latent child MH .43 [−0.30, 1.15]. |
| | Indirect effects PTSD symptoms → aggression → latent child MH .26 [0.04, 0.49] Marital quality → aggression → latent child MH. |
| **25) Friedman et al. [28]** | 1. While the quantity of communication was not associated with adolescent functioning, the quality of the communication was. More positive communication was associated with more adolescent-reported positive and negative emotions following communication ($B = .10, p = .001$; $B = .07, p = .02$) and with greater health-related quality of life as measured by KIDSCREEN and as reported by the adolescents and the at-home caregivers ($B = .30, p = .01$; $B = .62, p < .001$, respectively). |
| | 2. Positive communication was also associated with fewer at-home caregiver-reported adolescents internalizing problems ($B = −.10, p = .01$). |
| | 3. More controlling communication was associated with more at-home caregiver-reported adolescent positive emotions following communication ($B = .23, p = .02$). |
| | 4. More controlling communication was also associated with lower levels of adolescent-reported health-related quality of life ($B = −1.18, p = .01$). |

| Study Reference | Key Results |
|---|---|
| **26) Kehra *et al.* [29]** | 1. The levels of parental reports of serious illness or disability in children of military fathers are low and similar to general population rates.<br><br>2. A moderate agreement was found in mothers' and fathers' reports of the presence of health concerns in their child or children, although differences are noticeable in the types of illnesses reported overall. This disparity suggests parents may not have equal levels of awareness and understanding of their child's illness, indicating both parents should be involved in all care decisions. Depending on which parent accompanies them to an appointment, different concerns may, or may not, be reported. |
| **27) Knobloch *et al.* [30]** | 1. Results of dyadic growth curve models indicated that the mean levels of parents' depressive symptoms (H1), relationship uncertainty (H2), and interference from a partner (H3) were positively associated with parents' reports of military children's reintegration difficulty. First, with respect to the timing of intervention, clinicians should offer support services very early upon reunion because military children's reintegration difficulty appears to be quite stable and enduring across the 3 months after homecoming.<br><br>2. Second, children's age emerged as a risk factor, with fathers reporting that older children fared worse than younger children.<br><br>3. Results for H1 cohere with work showing that the well-being of military parents is a key predictor of outcomes for military children across the deployment cycle. They also underscore the vital need for mental health services for military families, given that both returning service members and at-home partners are vulnerable to depressive symptoms during the post deployment transition. |
| **28) Snyder *et al.* [31]** | 1. Younger children displayed more externalizing and fewer internalizing symptoms.<br><br>2. Boys displayed more externalizing and girls more internalizing symptoms.<br><br>3. Deployed fathers' trauma exposure was positively associated with child internalizing symptoms at baseline.<br><br>4. Fathers' PTSD symptoms at 12 months predicted child internalizing symptoms at 24 months. The reciprocal linkage of parent PTSD symptoms and child externalizing and internalizing symptoms may be the result of both shared and distinct social and individual emotion regulatory processes.<br><br>5. For both father–child and mother–child models, parent PTSD symptoms were associated with less parent positive engagement, and parent positive engagement was associated with fewer child internalizing symptoms. |
| **29) Jain *et al.* [2]** | 1. Positive outcomes: financial benefits (25%), sense of pride (25%), relocating regularly (21%), learning new things (12%), military community (7%), Father's happiness (4%), feeling safe (1%).<br><br>7% said 'nothing good about it'.<br><br>2. Negatives: lack of contact (61%), relocating regularly (16%), fear for safety of Father (3%), long term impact on Father (3%).<br><br>17% said 'nothing negative about it'. |

| Study Reference | Key Results |
|---|---|
| **30) Lester *et al*. [32]** | 1. Deployment exposure was significantly associated with family adjustment. Greater deployment exposure predicted greater dysfunction in affective involvement, family communication, problem solving, and general family functioning as measured by the corresponding FAD subscales. |
| | 2. Deployment exposure was also associated with greater levels of marital instability. |
| | 3. Primary caregiving parental depression and sensitivity were identified as significant predictors of general anxiety and total anxiety among children ages 3 – 5. |
| | 4. Levels of child general anxiety and total anxiety increased with increased parental depression and decreased with greater parental sensitivity. |
| | 5. Older age among children was a predictor of increased general anxiety, and higher percentage deployment was associated with increased social anxiety. |
| | 6. Parental depression was a significant predictor of separation anxiety with higher levels of primary caregiving parental depression associated with higher separation anxiety among young children. |
| | 7. Among children ages 6 – 10, increased primary caregiving parental depression and decreased sensitivity were significantly associated with increased levels of child emotional and behavioural problems. |
| | 8. Primary caregiving parental PTSD and parental sensitivity were significant predictors of general anxiety among children ages 3 – 5. |
| | 9. Levels of child general anxiety increased with increased parental posttraumatic stress symptom severity and decreased with greater parental sensitivity. |
| | 10. Parental PTSD was also a significant predictor of total anxiety with more severe primary caregiving parental PTSD symptoms associated with higher total anxiety among young children. |
| | 11. Male children experience greater total difficulties than female children. |
| **31) Lipari *et al*. [33]** | 1. Compared with nonveteran fathers, veteran fathers were less likely to have talked with their children about the dangers of substance use, were more likely to believe that their children used substances, and were just as likely to be parentally involved. |
| | 2. Higher percentages of adolescent children of veterans than those of nonveterans engaged in tobacco use and nonmedical use of psychotherapeutic drugs. |
| | 3. Parental involvement and father-child communication about the dangers of substance use did not explain differences in substance use among adolescents with veteran versus nonveteran fathers. |
| | 4. Adolescent children of veterans appear to be a group in particular need of substance use prevention services. Parental involvement and father-child communication may be appropriate protective factors to address in prevention efforts. |

| Study Reference | Key Results |
|---|---|
| **32) Lucier-Greer** *et al.* **[34]** | 1. Late adolescents had higher levels of depressive symptoms and higher levels of self-reliance/optimism than early adolescents. |
| | 2. Males had lower levels of depressive symptoms, affectional ties and guidance than females. |
| | 3. Depressive symptoms were higher for those with an enlisted (lower paygrade) parent. |
| | 4. Affectional ties were lower for those with an enlisted parent and higher for those who participated in military-sponsored activities. |
| | 5. Guidance was lower for those with multiple school changes and an enlisted parent, but higher for those who participated in military-sponsored activities. |
| | 6. Family connections were stronger among adolescents residing outside the USA and those who participated in military-sponsored activities. |
| | 7. Late adolescents who changed school's multiple times had fewer affectional ties; no difference was found for early adolescents. |
| | 8. Living in one's neighbourhood less than 2 years was associated with less guidance for early adolescents, and having an enlisted parent was associated with less guidance for late adolescents and participating in military-sponsored activities was related to more guidance for early and late adolescents. |
| | 9. Residing outside the USA was related to lower levels of self-reliance/optimism for early adolescents, but higher levels of self-reliance and depressive symptoms for older adolescents. |
| | 10. Participating in military-sponsored activities was related to higher levels of self-reliance/optimism for early adolescents, and fewer depressive symptoms for late adolescents. |
| **33) Nicosia** *et al.* **[35]** | 1. Compared with no deployment or a short deployment, a long deployment was associated with significantly higher odds of a decrease in adolescent academic performance (adjusted odds ratio [AOR] ¼ 1.54; 95% confidence interval [CI], 1.09 – 2.17), independence (AOR ¼ 2.04; 95% CI, 1.01 – 4.13), and being responsible (AOR ¼ 1.95; 95% CI, 1.15 – 3.32). |
| | 2. Compared with no deployment in the past 12 months, a recent deployment was associated with significantly lower odds of a decrease in adolescent independence (AOR ¼ 0.42; 95% CI, 0.21 – 0.84) and fear or anxiety (AOR ¼ 0.72; 95% CI, 0.53 – 0.98) but not with higher odds of other maladjustments. |
| | 3. Compared with boys who did not experience a long deployment, boys who experienced a long deployment were significantly more likely to show a decrease in academic performance (AOR ¼ 1.69; 95% CI, 1.08 – 2.65), independence (AOR ¼ 2.70; 95% CI, 1.03 – 7.05), being responsible (AOR ¼ 2.51; 95% CI, 1.17 – 5.41), and closeness to friends (AOR ¼ 2.61; 95% CI, 1.01 – 6.74). However, long deployment was not significantly associated with adolescent maladjustment among girls. |
| | 4. Compared with no long deployment, long deployment was associated with higher odds of a decrease in being responsible when the responding parent was a civilian (AOR ¼ 4.76; 95% CI, 1.20 – 18.86) and with higher odds of a decrease in academic performance when the responding parent was in the military (AOR ¼ 1.60; 95% CI, 1.06 – 2.42). |

| Study Reference | Key Results |
|---|---|
| **34) O'Toole et al. [36]** | 1. Veteran PTSD increased the risk of PTSD and no other disorder in both sons and daughters; partner PTSD did not. |
| | 2. Veteran depression was also a risk factor for sons' PTSD, and alcohol disorder was linked to alcohol dependence in sons and PTSD in daughters, but not when controlling for veteran PTSD. Conclude that PTSD in a Vietnam veteran father increases the risk specifically for PTSD in his sons and daughters. |
| | 3. Evidence overall concludes that there is a significant effect of fathers' war-related PTSD on the vulnerability to the disorder among their sons and daughters, which is also specific to PTSD rather than other mental health disorders. It also suggests that vulnerability to a range of mental health outcomes other than PTSD is influenced more by veteran alcohol disorders than either PTSD or depression and that, in comparison, mothers' mental health status is less influential than that of the veteran in this particular sample. The possibility of intergenerational transmission that is specific for PTSD and is not accounted for by an increase in exposure to traumatic events for the offspring raises the important possibility that mechanisms of transmission can be identified that are amenable to early intervention. |
| **35) Skomorovsky and Bullock [37]** | 1. Most children described deployment as the most or as one of the most stressful experiences they have had. |
| | 2. One of the stressors reported was that children felt they received less support and reduced interaction with the deployed parent. |
| | 3. Concern over the safety of the deployed parent was a major stressor - most children indicated that fear that something could happen to the parent without them knowing about it made the deployment experience stressful. |
| | 4. The majority of children reported that deployment negatively influenced their emotions, physical health, and school functioning. Some children's problems manifested physically, affecting their sleep, appetite, and eating habits. |
| | 6. Children reported changes in their roles and responsibilities when their parent was deployed. Older children with younger siblings reported increased responsibilities around the house, including taking care of their siblings. |
| | 7. The majority of children reported fighting less with their siblings and instead being more supportive of each other. |
| **36) Rowe et al. [1]** | 1. 51% of Service personnel perceived their military career as having a negative impact on their children. |
| | 2. Not being in a relationship (OR 2.65, 95% CI 1.81 – 3.88), deployment for 13 months or more (OR 1.85, 95% CI 1.31 – 2.62), symptoms of common mental health disorder (OR 2.21, CI 1.65 – 2.96) and probably PTSD (OR 3.26, CI 1.39 – 7.66) were associated with perceiving career as affecting children negatively. |
| | 3. Reserves were less likely than regulars (OR 0.37, CI 0.27 – 0.51) and other ranks were less likely than NCOs (OR 0.67, CI 0.46 – 0.89) to report negative effects of their military career on their children. |

## 3.4 DISCUSSION

This review evaluates the literature regarding the association between parental military related factors and child well-being. The review identified 36 studies, which mainly were US-based and of a cross-sectional design. Collectively, the studies show that children from military families exhibit psychological, emotional and behavioural problems that are associated with parental military factors.

### 3.4.1 Conclusion and Implications

In summary, key military specific factors that contribute to a decrease in child well-being are parental deployment (with this factor being exacerbated by increasing deployment length, and multiple deployments) [4], [9], [10], [14], [17], [19], [22], [35], which is associated with expanded household responsibilities. These factors can be buffered by decreased deployment lengths and increased time at home between deployments, increased communications whilst parent is on deployment and peer support amongst children with parents deployed [1], [22], [28]. Non-deployment related factors such as frequent relocations, academic disruptions, and interruptions to relationships and social networks are also factors specific to the military community that affect child well-being [5].

The finding of a correlation between cumulative deployment months and negative child well-being outcomes supports the UK MoD Harmony Guidelines, a policy established in 2005 which states UK military deployments should last no longer than six months, and personnel should not be deployed again within 24 months [1]. In 2011, the US Army established a '2-year dwell time' in between deployments. 43% of US personnel deploy multiple times, and average deployment length is 7.7 months with an average of 21 months at home between deployments (16 months average for Marines, 22 months for Army and Navy personnel) (Committee on the Assessment of the Readjustment Needs of Military Personnel, Veterans, and Their Families; Board on the Health of Select Populations [38]). This review supports previous research that provides evidence for the importance of such guidelines, the need to ensure they are adhered to in practise and indicates to policymakers the need to consider children and families in deployment policy.

Families of deceased service members have worse well-being outcomes when geographically estranged from military installations [25].

### 3.4.2 Limitations

Almost all studies had a cross sectional study design which means that it is difficult to infer causality and to discern if the child well-being outcomes were deployment related. In addition, due to the varying study samples, results were inconsistent across the included papers. Due to the cross-sectional methodological design of the majority of the studies it is difficult to ascertain if these military factors had either a direct or indirect (mediated/moderated effect) on child well-being.

This review also included papers with small non-representative samples (for example, eight cross-sectional studies had under 100 participants). Small samples can be subject to selection and response bias leading to greater variability around the resulting point estimates.

Several papers used convenience sampling, which could lead to bias in the sample and limits the generalisability of findings. Data was often self–reported and retrospective, and therefore subject to recall bias. Many papers were reliant on information reported by stay-at-home caregivers, whose recall may be biased by their own difficulties coping. Measures of child well-being often did not have clinical cut off points and were reliant on codes for mental health diagnoses not standardized clinical definitions, leading to the specificity of measurement being compromised, and no information on subclinical conditions.

The methodological approach used here (for example, the search strategy used) may not have identified all relevant studies, and as this is a field currently receiving much interest it will be essential to revisit this review in due course. The review focused on quantitative papers to understand the complete picture any future reviews should consider the inclusion of qualitative papers.

See Table 3-3 for a summary of study limitations.

### 3.4.3    Indications for Future Research

Alongside longitudinal study designs, the research into the well-being of military children would benefit from widening the geographical field. In this review, 31 papers (out of 36) came from the US. Although the inclusion criteria states papers must be from NATO and PfP countries, the bias of papers from the US could lead some children being underrepresented and key issues being missed. Future research from other NATO countries, especially those in Europe is needed.

A key area for further research is children from dual military families. Only two papers included children with both parents in military service [19], [20]. Given the evidence to support the fundamental role the at home living situation has in military child well-being, how this varies with deployment status, and the buffer it can provide to negative child outcomes, having both parents in service will alter the dynamics of parental support and could exacerbate the stressors experienced by the children.

Only four longitudinal studies were identified. Future research using a longitudinal design is needed, considering the changing nature of war and number of service men returning with 'hidden wounds' [39]. Military personnel returning home with PTSD and psychological trauma are at an increased risk of disrupted communication, bonding and parenting [39], [40]. A longitudinal study design will allow information regarding the long-term well-being of military children and impact of military parental factors to be identified, and an increasing ability to infer cause and effect. Data from longitudinal studies will be helpful in the development of early intervention and support programmes.

**Table 3-3: Summary of Study Limitations.**

| Study Reference | Limitations |
|---|---|
| **1) Acion *et al*. [1]** | 1. Cross sectional study design<br><br>2. No information on deployment aspects – deployment length, number of deployments<br><br>3. Non-validated measure used to assess alcohol and drug consumption |
| **2) Barnes *et al*. [7]** | 1. Cross sectional study design<br><br>2. Convenience sample<br><br>3. No intermediate variables assessed such as media exposure, or intervention programs: cannot confirm effects from parental deployment, not other factors |
| **3) Cederbaum *et al*. [8]** | 1. Cross sectional design<br><br>2. Self-reported symptoms<br><br>3. Did not examine deployment length, location, cumulative time or type |
| **4) Chandra *et al*. [9]** | 1. Cross sectional study design<br><br>2. Convenience sample<br><br>3. Children sampled from military camp pool – families needing this service may be more in need – bias in sample<br><br>4. Sample not representative of national deployment demographics (service and component) |
| **5) Chartrand *et al*. [10]** | 1. Cross sectional study design<br><br>2. Convenience sample<br><br>3. All respondents living in military accommodation, with access to support from military community, and all children in child-care; bias in sample<br><br>4. Data from parental reports<br><br>5. Deployment periods brief – not representative of average US deployment length |
| **6) Cozza *et al*. [25]** | 1. Data obtained from spouse reporting<br><br>2. Small sample size means large confidence intervals around calculated odds ratios<br><br>3. Data derived from a clinical interview that has not been psychometrically validated |

| Study Reference | Limitations |
|---|---|
| **7) Flake *et al*. [12]** | 1. Cross-sectional study design<br><br>2. Convenience sample<br><br>3. Number of non-participants not available<br><br>4. Only Army – not representative of other military units<br><br>5. No data from children, only parental reports |
| **8) Gorman *et al*. [13]** | 1. Reliance on clinical diagnosis and provider coding for identification of mental and behavioural health diagnoses and not on standardized clinical definitions<br><br>2. Could not identify dual military families<br><br>3. Did not subcategorize military deployments into pre/post and during deployment phases |
| **9) Barker and Berry [14]** | 1. Recall bias as a result of retrospective collection of information regarding child's behavior<br><br>2. Small sample size<br><br>3. Non-standardized behaviour scales used to measure child's behavior<br><br>4. Non-random sampling – selection bias |
| **10) Houston *et al*. [15]** | 1. Cross sectional sample design<br><br>2. Population studied from one National Guard unit from one state<br><br>3. Small sample size<br><br>4. Only studied paternal deployment<br><br>5. Only studied one phase of deployment |
| **11) Huebner *et al*. [5]** | 1. Cross sectional sample design<br><br>2. Small sample size<br><br>3. Population limited to adolescents attending summer camps |

| Study Reference | Limitations |
|---|---|
| **12) Knoblock *et al.* [16]** | 1. Cross-sectional design<br><br>2. Children recruited from one summer camp – may not reflect perspectives of families unable or unwilling to send children to camp<br><br>3. 88% of children from Army/Army National Guard families – may not depict experiences from other services<br><br>4. Data subject to constraints of retrospective recall |
| **13) Lester *et al.* [17]** | 1. Convenience sample<br><br>2. Small sample size<br><br>3. Sociodemographic bias – more officers than reported officer: enlisted ratios of Army and Marines<br><br>4. Cross sectional analysis of families currently deployed and recently returned |
| **14) Lester *et al.* [18]** | 1.Response bias in reporting of military children's distress – child scores based on civilian parent's report<br><br>2.Not a controlled study design, evaluation of a service program – need intervention control group |
| **15) Mansfield *et al.* [4]** | 1. Diagnostic codes used to ascertain mental health status – not specific diagnoses<br><br>2. Medical professionals might be reluctant to assign mental health diagnoses to children resulting in under reporting of outcomes<br><br>3. No knowledge of subclinical conditions<br><br>4. Low prevalence of certain conditions prevented a detailed analysis of deployment related effects<br><br>5. No information provided on injury status of deployed parent, or mental health of stay-at-home parent which could greatly affect child's mental health |
| **16) Millegan *et al.* [19]** | 1. Type 2 error – study design increases the confidence that the observed association between deployment and child psychiatric hospitalisations is likely to be a true positive association<br><br>2. Doesn't address children from dual deployed military families, and children of reserve component families<br><br>3. Doesn't address multiple deployments |

| Study Reference | Limitations |
|---|---|
| **17) Morris and Age [20]** | 1. Small sample size and convenience sample<br><br>2. Cross sectional study design<br><br>3. Low response rate<br><br>4. Youth self-report of symptoms<br><br>5. Sample contained only 2 children with currently deployed parents (however 36 children had experienced parental deployment within the last year) |
| **18) Okafor *et al.* [21]** | 1. Cross sectional study design<br><br>2. Many participants lived in military community and had proximal access to adolescent support programmes – limited generalizability to other military adolescents<br><br>3. Context-specific stressors were assessed via single items, which limits the ability to provide a detailed portrayal of the stressor |
| **19) Rodriguez and Margolin [22]** | 1. Sample skewed to higher military ranks<br><br>2. Sample included only mid-late adolescents, results may not be generalizable to younger children<br><br>3. Few children experiencing current parental deployment; results may be indicative of potential risk factors during post-deployment/re-integration phase, rather than risks of deployment |
| **20) Arnold *et al.* [23]** | 1. Cross-sectional design<br><br>2. Data was from self-report questionnaires completed by adolescents<br><br>3. Other mediators and potential confounders between family processes and youth outcomes were not studied |
| **21) Aronson *et al.* [24]** | 1. Cross-sectional design<br><br>2. Study did not examine whether dependents were adults or children with medical and/or educational needs<br><br>3. Information gathered was from family support providers, rather than directly from families. Perspectives and information given by FS providers may differ from actual family members |
| **22) Cozza *et al.* [25]** | 1. Limited sociodemographic information about family members<br><br>2. Intimate partners who were not married to DSMs, dependent children who lived with other relatives and partners that remarried are excluded and not represented in study sample<br><br>3. Deployment details and type of illness as a cause of death not included |

| Study Reference | Limitations |
|---|---|
| **23) DeGraff *et al*. [26]** | 1. Cross-sectional design<br><br>2. Convenience sample<br><br>3. Single parents, dual-military partnerships, LGBT couples, veteran families and families with younger/older children populations are not included and not represented in the sample<br><br>4. Non-standardised and unreliable measure of adolescent academic performance |
| **24) Foran *et al*. [27]** | 1. Cross sectional design<br><br>2. Perspective of deployed spouse on child outcomes may differ significantly from nondeployed spouse<br><br>3. Broad assessment used to measure aggression<br><br>4. No information on rank or deployment |
| **25) Friedman *et al*. [28]** | 1. Cross-sectional design<br><br>2. Small sample size<br><br>3. Volunteer sample<br><br>4. Non-standardised measures |
| **26) Kehra *et al*. [29]** | 1. Cross-sectional design<br><br>2. Information on child-illness is taken from parental reports<br><br>3. Lack of clinical health data |
| **27) Knobloch *et al*. [30]** | 1. Volunteer sample<br><br>2. Short observation period (3 months) and lack of potentially impactful data on before and during employment periods<br><br>3. Child reintegration outcome reported by parents – reporter bias<br><br>4. Sample only included those that were in the army and army national guards, not representative of other military units |

| Study Reference | Limitations |
|---|---|
| **28) Snyder et al. [31]** | 1. Cross-sectional design<br><br>2. Small sample size<br><br>3. Volunteer sample<br><br>4. Infrequent assessment points (3 annual assessments) |
| **29) Jain et al. [2]** | 1. Cross sectional design<br><br>2. Small sample size<br><br>3. Convenience sample<br><br>4. Lack of information surrounding deployment details<br><br>5. Free text response method – subjective analysis<br><br>6. Coding system carried out by one researcher only – subjective analysis<br><br>7. Uncertainty around whether adolescent completed survey alone or with help as a result of online method, possibility of bias responses |
| **30) Lester et al. [32]** | 1. Cross-sectional design<br><br>2. Use of retrospective parent-report assessments<br><br>3. Officers were overrepresented across samples |
| **31) Lipari et al. [33]** | 1. Cross-sectional design<br><br>2. Only had access to information on one parent<br><br>3. Parent substance use was not measured<br><br>4. Communication and parental involvement measures were not extensive and measured with same single items<br><br>5. Non-standardised scales used<br><br>6. Secondary data analysis – limited available measures |
| **32) Lucier-Greer et al. [34]** | 1. Cross-sectional design<br><br>2. Volunteer and convenience sample |

| Study Reference | Limitations |
|---|---|
| **33) Nicosia *et al*. [35]** | 1. Cross-sectional design<br><br>2. Low response rate (25%)<br><br>3. Population only included active army personnel<br><br>4. Unable to determine if deployment was ongoing, involved combat or involved single or multiple episodes<br><br>5. Adolescent outcomes reported by parents<br><br>6. Actively deployed military parents may not have been able to respond accurately to adolescent behaviour surveys |
| **34) O'Toole *et al*. [36]** | 1. Low response rates for sons<br><br>2. Lack of information about deployment details and rank<br><br>3. Retrospective recall bias |
| **35) Skomorovsky and Bullock [37]** | 1. Cross sectional design<br><br>2. Does not address children from reserve families<br><br>3. Small sample<br><br>4. Use of focus groups – potential for response bias and subjective analysis of responses |
| **36) Rowe *et al*. [1]** | 1. Cross sectional study design<br><br>2. Data from self-report questionnaires<br><br>3. Results concern the perspective of the military personnel only, not those of spouses or children |

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# Chapter 4 – DEVELOPMENT OF A MODEL OF WELL-BEING FOR CHILDREN FROM MILITARY FAMILIES IN NATO COUNTRIES

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## *ABSTRACT*

*This chapter describes and presents the development of a model of well-being for children from military families in NATO countries. The development comprised seven phases:*

1) *A review of the participating NATO countries literature (current theory and research);*

2) *Outline of the key elements of a model of child well-being;*

3) *Identification of potential indicators of child well-being;*

4) *Identification of the components and dimensions of child well-being;*

5) *Review and the refinement of the model;*

6) *Inclusion of the military factors which influence child well-being; and*

7) *The development of a definition for child well-being.*

*Thematic analysis was used to identify the well-being indicators, dimensions, and components. The process was informed by the subject matter expertise of the NATO group, the civilian literature and military factors associated with child well-being (Chapters 2 and 3). Central to the developed child well-being model are five dimensions of child well-being – Health, Education, Legal, Material and Social (HELMS). This model closely aligned with well-established models and measures of well-being – Bronfenbrenner's bio-ecological model of human development, Minkkinen's structural model of child well-being and the Organisation for Economic Cooperation and Development's (OCED) measures of child-well-being. The proposed final model takes into consideration relevant military factors that influence the well-being of children in military families.*

## 4.1 BACKGROUND

During meetings between the members of the NATO group, it became clear from discussions that different countries, and different militaries, had a different understanding of the concept of child well-being. This resulted in not only different definitions (see Chapter 2), but also different interpretations of that definition through measurement and intervention. This was further complicated by differences in the culture and ethos of each nations' military, which dictated how the well-being or welfare of service personnel and their families was managed (see Chapter 5).

To enable the nations to work collaboratively, it was vital that the group developed a shared understanding of the concept of child well-being, which accounted for and gave equal weight to each of the different nation's definitions. Without this, any output produced from the research could be more useful or relevant to certain nations, limiting its utility and exploitation at an international level.

A search of the literature from the participating NATO countries (described in more detail later on in this chapter), found that whilst several international models of child well-being existed (e.g., UNICEF), no model

existed that accounted for the factors which may be unique to children from military families. The existing models contained both similarities and unique components. Therefore, the aim was to produce a model of well-being in children that incorporated and built on the existing models and literature, drawing together both the unique and the similar components, which accounted for the factors relevant only to children from military families. The development of this model will provide a shared understanding of what is meant by child well-being in military families, and also a way of addressing well-being issues.

The development of this model comprised seven phases, which will be detailed in this chapter. In brief, the seven phases were:

1) **A review of the participating NATO countries literature** (current theory and research) – each country conducted an independent search and review of the literature published in their nation and internationally.

2) **Outline of the key elements of a model of child well-being** – based on the findings from the literature review, the group agreed on the guidelines for the model development.

3) **Identification of potential indicators of child well-being** – any factor contained in the literature that referred to a measurable aspect of child well-being was extracted as an indicator.

4) **Identification of the components and dimensions of child well-being** – the extracted factors identified in phase three were grouped thematically, to create components. Components containing similar or related indicators were grouped into dimensions.

5) **Review and refinement of the model** – the new model was compared against other well-established models to assess content validity and ensure it was comprehensive.

6) **Inclusion of the military factors which influence child well-being** – the new child well-being model was further developed to account for military factors.

7) **Development of a definition of child well-being** – the construction of the model allowed for a definition of child well-being to be developed.

Each phase of the model will now be described in detail.

## 4.2 PHASE 1 – A REVIEW OF THE PARTICIPATING NATO COUNTRIES' LITERATURE

Each nation completed a search of literature, both academic and practical, that they could identify as being relevant to, firstly, well-being, secondly, child well-being, and, thirdly, military child well-being. The literature search began with broad search terms in order to gain an understanding of the different nations' breadth and depth of research on this concept, then narrowed in focus. As the NATO group comprised of different disciplines (sociologists, psychologists, anthropologists) literature was collected from different perspectives.

The search found that some nations were more active than others in conducting and publishing both academic research and practical publications, but overall there was very little research on well-being of children from military families, in some cases little research on military personnel and their families. It is, therefore, important to note that most of the members' literature reviews did not contain literature conducted and published in their own country.

### 4.2.1 International Models

Most members included international measures of child well-being, such as the five-dimensional model used by the United Nations Children's Fund (UNICEF) [1]. (The five dimensions are: 1) material well-being; 2) health and safety; 3) education; 4) behaviours and risk; and 5) housing.) UNICEF collected data on

well-being from 29 developed countries, including the member nations such as Sweden, Norway and the UK, providing an overview of child well-being in the world's most advanced economies. Other frequently referenced international models included the Organisation for Economic Co-operation and Development (OECD) framework of well-being [2] (not specific to children) and the UK Office for National Statistics (ONS) Measuring National Well-being (MNW) programme which set out to establish measures that would help people to understand national well-being and also help monitor it.

## 4.2.2    Defining Well-Being

When reviewing the output from each member, it quickly became apparent that there are many different ways to define the concept of child well-being. The term well-being was seen as similar to other concepts; for example, the majority of the Romanian research reports that the term is synonymous with welfare, which relates it to material (such as financial prosperity), physical (such as health) and psychological (such as happiness) aspects [3]. This can also be seen in the Danish/Nordic literature, where welfare and well-being are seen from the perspective of the realisation of children's rights and the possibility of the individual child to be all that he or she has the potential to be [4]. The Danish literature maintains that welfare refers to the economic and political sphere, whilst well-being denotes the social and psychological spheres [4], with research defining well-being as more of a legal and political one than psychological. Research from Slovenia [5] contends that the term quality of life is often used interchangeably with well-being.

The majority of Romanian psychological research in the field focuses on the adult perspective of well-being rather than that of the child, since it can be difficult to identify children's views on the concept [6]. Although most of the partner countries' literature recognises that child well-being should be defined as a multi-dimensional construct [7], the research tends to focus on the dimensions of well-being rather than the definition.

Literature identified by Norway suggests that the definition of well-being should focus on a state of equilibrium where individuals have the psychological, social and physical resources they need to meet a particular psychological, social or physical challenge [8]. When individuals have more challenges than resources, this has a negative impact on well-being [9]. Literature from Slovenia argues that the analysis of well-being should consider the whole family structure and not merely individual family members. Well-being is measured with objective and subjective dimensions and is a result of long term socialisation, personal development processes and environmental factors [5].

## 4.2.3    Military Literature

Whilst not specifically referring to the construct of well-being, research from Slovenia has looked at the relationship between families and the military, looking at issues such as work-life conflict during deployment [10]. A survey on high risk deployment [11] measured the psychological and emotional well-being of children from military families during deployment, revealing the importance of the subjective perception of wellbeing. The research suggests that the spouses' perception has often been quite different to the Service members'. Research in Sweden argues that a framework for the well-being of children from military families should be no different to the children of civilian families [12].

## 4.2.4    Summary

Several key conclusions were drawn from the literature. Firstly, child well-being as a concept is hard to define, and there does not appear to be a common or shared definition that is widely recognised. This makes it hard to measure, and therefore difficult to make comparisons between different populations or groups of people. Child well-being can be measured both objectively (e.g., through factual data such as birth weight) and subjectively (e.g., through attitudinal measures such as life satisfaction surveys). Most of the literature

suggests that when measuring child well-being, both subjective and objective data should be used, and that these measures should include the perspective of the child and not just the parent. Most of the literature focused on context-based well-being, rather than looking at well-being holistically or systematically. Whilst this allows the model to take account of personal characteristics, it does not account for other factors that may interplay. There was very little research on military well-being, particularly in children.

## 4.3   PHASE 2 – OUTLINE OF THE KEY ELEMENT OF THE MODEL

Taking into consideration the literature review, the NATO Subject Matter Experts (SMEs), proposed that the fundamental elements of a model should include the following:

- Child well-being as a multidimensional construct.

- Potential indicators which measure the dimensions of child well-being.

- The indicators should be grouped into components to simplify the model to be of use to practitioners and researchers.

- There are key recurring military factors which influence well-being of children from military families (outlined in Chapter 3; examples include separation, mental health of stay-at-home care giver). These do not constitute a dimension or a component but provides the context or lens which may influence child well-being.

## 4.4   PHASE 3 – IDENTIFICATION OF POTENTIAL INDICATORS OF CHILD WELL-BEING

To produce a model of well-being that was practical as well as theoretical, it was important that the model not only allowed a shared understanding of well-being, but also potentially its measurement. This would allow the model to be used to address and measure the well-being of children from military families, but also those from civilian families, and make comparisons. A review of the literature found by each country was conducted, with a particular focus on identifying any aspect of child well-being that could be practically measured; measurement could be though various means, such as psychological questionnaires (e.g., child satisfaction with their school), medical and health data (e.g., weight, medical conditions), nationally-held data (e.g., crime rates, average house prices). Each aspect was extracted and recorded by country. In total, 92 aspects, referred to as potential indicators, were initially identified. The indicators were termed 'potential indicators of child well-being. This terminology was important as some indicators may be associated with factors other than child well-being. Where those indicators were extracted more than once from literature from different countries, this was also recorded. Whilst some indicators were quite common, occurring in the literature from up to seven different countries, some countries had totally unique indicators. For the model to be as comprehensive as possible, and to utilise all the existing evidence, every indicator was considered. The 92 potential indicators were by no means exhaustive, and only reflected the literature reviewed by members.

A model containing 92 indicators would be overly complex and difficult to use. Therefore, the group conducted an exercise to remove the indicators that were replicated. This finally resulted in 42 potential indicators.

## 4.5   PHASE 4 – IDENTIFICATION OF THE COMPONENTS AND DIMENSIONS OF CHILD WELL-BEING

Thematic analysis utilising a card sorting technique was used to theme the indicators into components, and then group the components into dimensions. Each of the 42 indicators were printed onto individual cards and the working group members were split into four groups of between two to five people. Each group was given

a set of indicators and asked to group cards together that measured similar aspects of child well-being. These different groups of cards became components, and each component was given an appropriate name. To attain inter-rater reliability, each group then reviewed the sorting of the other groups to see where there were similarities and differences. Any differences in how the cards had been sorted into components were discussed, and a consensus achieved regarding which component the indicator best fitted. The group as a collective, were then able to produce a list of 22 components with relevant indicators.

The group conducted further thematic analysis to group the 22 components into higher level themes; these groups of components were labelled dimensions. Five dimensions were identified and named: Health, Education, Legal, Material and Social. The dimensions were ordered to provide a helpful mnemonic (memorable word) rather than to reflect importance, and the model was titled HELMS. A summary of the model is below and in Figure 4-1.

- **Health dimension:** 3 components composed of 10 potential indicators.
- **Educational dimension:** 7 components composed of 7 potential indicators.
- **Legal dimension:** 5 components composed of 5 potential indicators.
- **Material dimension:** 3 components composed 3 potential indicators.
- **Social dimension:** 4 components composed of 17 potential indictors.

The dimensions are defined in phase five, in the review and refinement of the model.
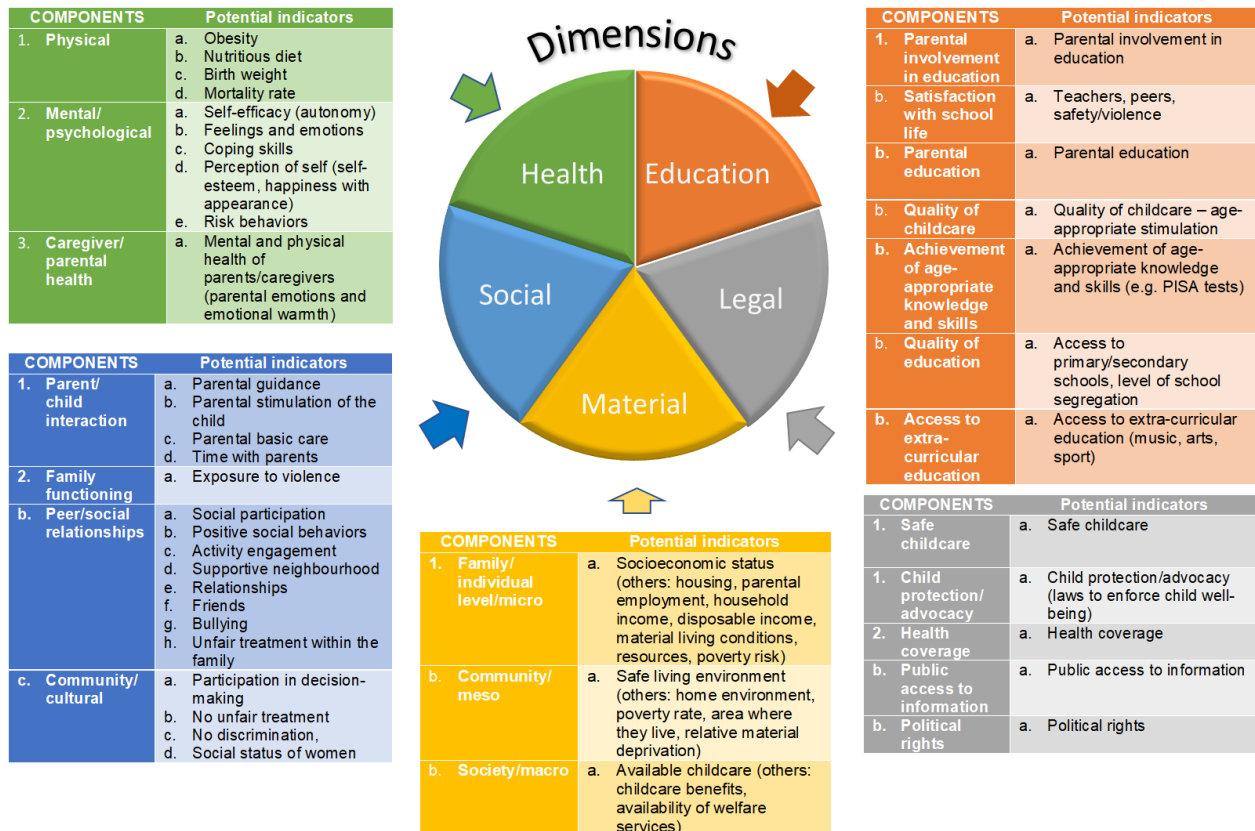


**Figure 4-1: The 5 HELMS Dimensions, 22 Components and 42 Potential Indicators.**

## 4.6   PHASE 5 – REVIEW AND REFINEMENT OF THE MODEL

The HELMS model was reviewed against the wider civilian literature and available child well-being models. However, the review and generalisations were cautiously applied owing to the lack of empirically tested models and the predominately US-based literature (Chapter 2). To help refine the HELMS model as well as assess the content validity of the model, it was compared to well-established models (discussed in Chapter 2) and measures - Bronfenbrenner's bioecological model of human development [13] Minkkinen's structural model of child well-being [14] and the OCED measures of child well-being [2]. Segal *et al*,'s [15] well-being model which considered the effects of military life was reviewed. However, Segal *et al*.'s model was not considered comparable as it encompassed the whole family system (Service member, spouses and child) and life course events rather than maintaining focus on the child.

The HELMS dimensions, components and indicators aligned with the ecological systems from Bronfenbrenner's model. However, Bronfenbrenner's model explicitly placed the child at the centre of the model. The concentric circles of the ecological systems from Bronfenbrenner's model could be superimposed onto the HELMS (Figure 4-2). Chapter 2 provides further detail on the ecological systems: the microsystem is the environment in which the child functions and has direct contact (e.g., home and school) and relates to the child's roles and interpersonal relations; the mesosystem comprises of multiple microsystems which interact; exosystems are formal or informal structures that indirectly affect a child (e.g., government structures and community); and macrosystems refer to the broader cultural/social context which influences the other systems.
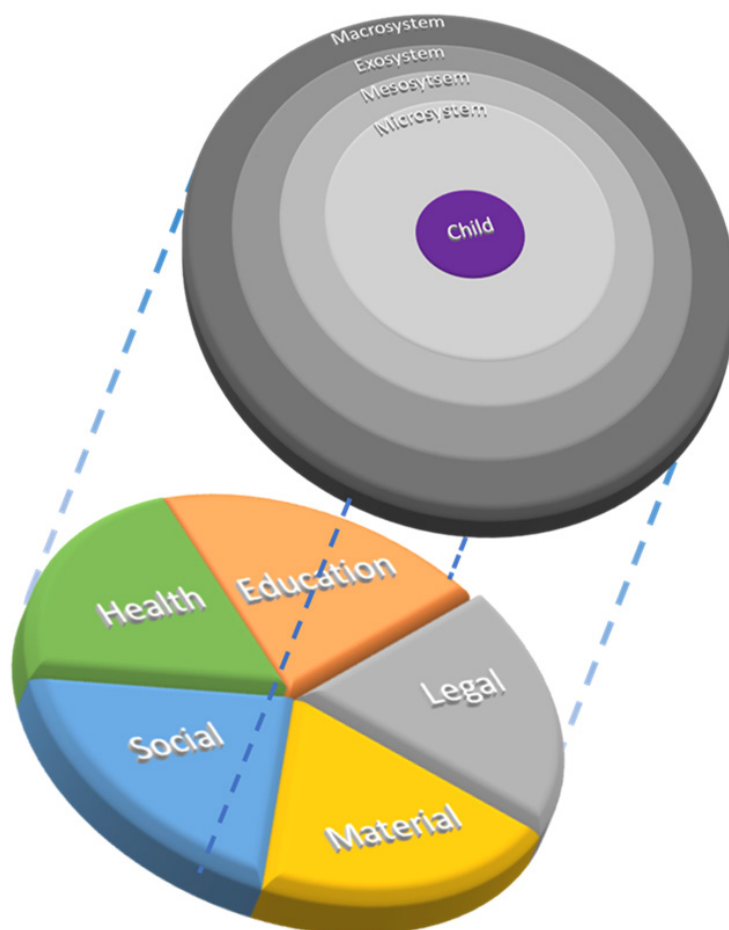


**Figure 4-2: Bronfenbrenner's Ecological System is Superimposed onto the HELMS Model.**

The superimposition of Bronfenbrenner's ecological systems onto the HELMS would not have provided a coherent model; as the dimensions/components could not be compartmentalized to a single ecological system. Thus, to enrich the HELMS model, it was refined to explicitly place the child at the centre, and the components were closely categorised with the Bronfenbrenner's ecological systems (Figure 4-3).
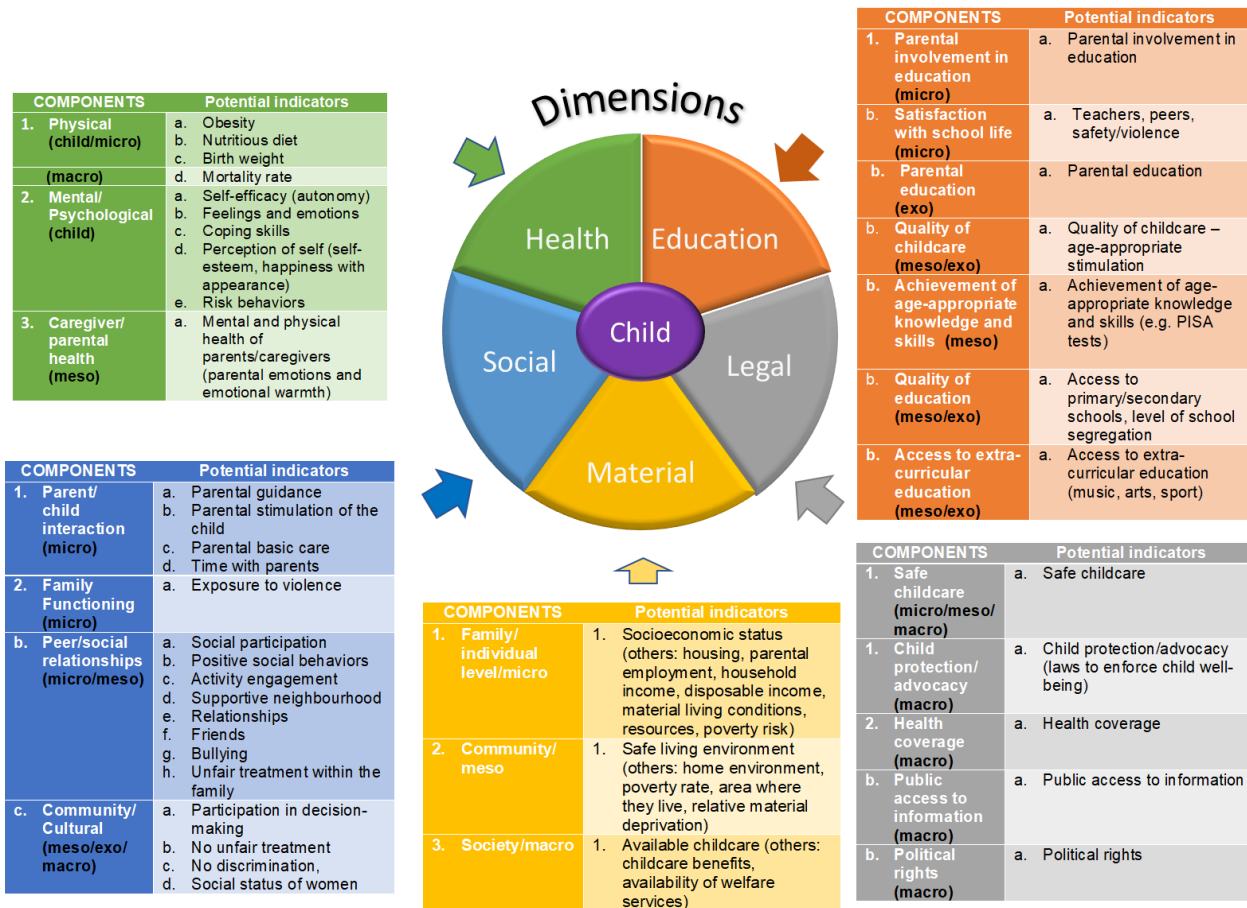


**Figure 4-3: The Refined HELMS Model. Bronfenbrenner's ecological
systems are in parentheses under each of the components.**

The HELMS dimensions demonstrated some alignment with Minkkinen's structural model of child well-being and the OCED measures of child well-being. These models helped to inform the description of the HELMS dimensions. However, the military HELMS model provides a holistic view of child well-being and specifically takes into account the well-being indicators and components from the thematic analysis of the literature identified by the NATO countries.

Hence, the dimensions were described as follows:

- **Health dimension** – pertains to the physical and psychological health of the child and their parent/caregiver.

- **Social dimension** – refers to the social relationship in the child-parent dyad and extends to their peer/social groups. Wider community and cultural factors are also considered as this may influence immediate (micro/mesosystem) relationships.

- **Material dimension** – Minkkinen provides a useful description which aligns with the Material components. Thus, the Material dimension refers to *"...having sufficient nourishment, housing and*

*other material items that are normally elements in the standard of living in the society and culture surrounding the child"* (p. 5).

- **Education dimension** – describes satisfaction and access to childcare and education which seek to develop the full potential of a child. Parental education (exosystem factor) is also considered as influential.

- **Legal dimension** – refers to the statutory and governmental directives which seek to ensure a safe and healthy environment for children as well as providing measures for social programmes and educational rights.

In summary, the close alignment of the HELMS model with the well-established Bronfenbrenner's bioecological model, Minkkinen's structural model and the OCED measures of child well-being demonstrated a degree of content validity. Where there was a particular gap (i.e., child placed explicitly at the centre of the model) or an area where the model could be enriched (i.e., categorisation of the HELMS components with Bronfenbrenner's ecological systems), the HELMS model was accordingly refined. However, the final description of the HELMS dimensions reflected the well-being indicators and components from the thematic analysis of the literature identified by the NATO countries.

## 4.7 PHASE 6 – INCLUSION OF THE MILITARY FACTORS WHICH INFLUENCE CHILD WELL-BEING

The penultimate phase of the model development sought to include the military factors which influence child well-being. A review of the military literature (as presented in Chapter 3) suggests that the military factors and context may moderate or mediate other factors, or have a direct positive or negative effect on the well-being dimensions and components. The military factors and context may be construed as a lens which influence the HELMS dimensions and components (Figure 4-4). Please refer to Chapter 3 for the detailed description of the factors related to military life that have been found to impact the well-being of children.
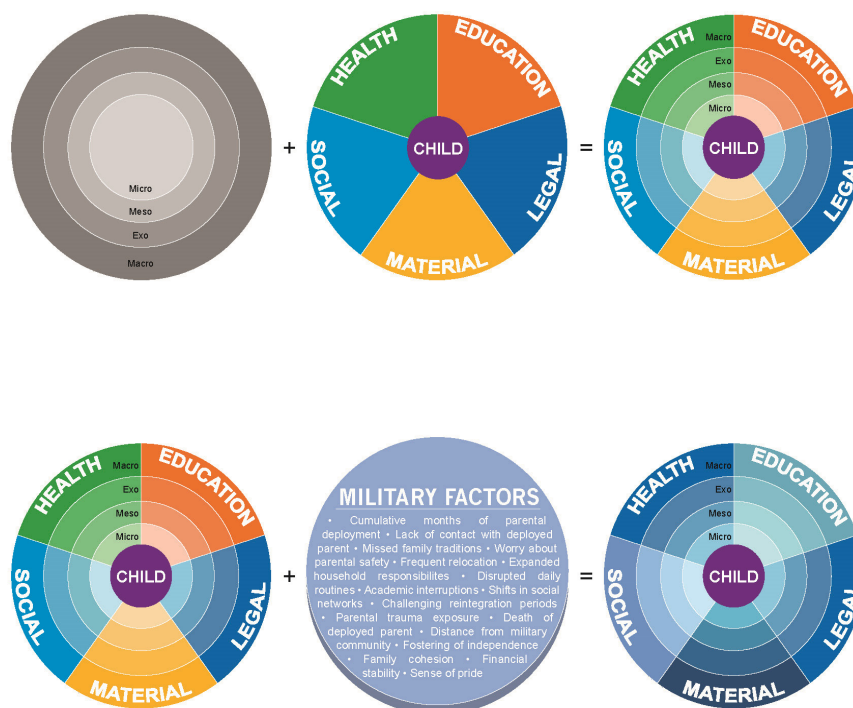


**Figure 4-4: The Military HELMS Model of Child Well-Being.**

The resulting model was named the military HELMS model of child well-being. Future work will be to identify the military factors and integrate them into the HELMS model as a lens or even indicators under a sixth specific military dimension.

## 4.8   PHASE 7 – DEVELOPMENT OF A DEFINITION OF CHILD WELL-BEING

It was important to develop a common understanding with a definition of child well-being to ensure consistency and relevancy for any work in this area. For the model development purposes, Minkkinen's definition of child well-being was revised to include the military factors identified in Chapter 4. Therefore, the working definition for the purposes of development of Military HELMS model of child well-being was as follows:

The well-being of children from military families is made up of multiple factors, some of which are unique to those children who have a parent/s in the military while others are pertinent to the well-being of all children. These factors relate to:

1) The physical and psychological health of the child;

2) The education of the child;

3) The legal framework which provides a safe and healthy environment;

4) Their material standard of living; and

5) The relationships a child has with both individuals and the society in which they live.

## 4.9   CONCLUSION

The objective of the chapter was to develop a model of child well-being which could take into account military factors, as well as well-being factors identified by NATO countries. Thus, the model developed by the NATO group included: child well-being as a multidimensional construct, potential indicators which could measure the dimensions of child well-being, components which grouped together the indicators, and the application of a military lens. Forty-two potential indicators were identified from the NATO members' literature. The term *potential indicators* was used as some indicators may have been associated with factors other than child well-being. The reliability and quality of the indicators was also a concern. However, these potential indicators provided a basis for the development of a model of child well-being to identify components of child well-being. Twenty-two components were identified using thematic analysis. These components were grouped into five dimensions of child well-being – Health, Education, Legal, Material and Social (HELMS); hence, this led to the HELMS model of child well-being.

The HELMS model was reviewed against the wider literature and well-being models and measures to help refine as well as assess content validity. The close alignment of the HELMS model with the well-established Bronfenbrenner's bioecological model, Minkkinen's structural model and the OCED measures of child well-being demonstrated a degree of content validity. Where there was a particular gap (i.e., child placed explicitly at the centre of the model) or an area where the model could be enriched (i.e., categorisation of the HELMS components with Bronfenbrenner's ecological systems), the HELMS model was refined. The HELMS dimensions demonstrated some alignment with Minkkinen's Structural Model of Child Well-being and the OCED measures of child well-being. These models helped to inform the description of the HELMS dimensions. However, the final description of the military HELMS dimensions reflected the well-being indicators and components from the thematic analysis of the literature identified by the NATO countries. The penultimate phase of the model development was the inclusion of the military factors which influence child well-being. The review of the military literature (Chapter 3) indicated that military factors may mediate/moderate other factors, or have a direct positive or negative impact on the well-being dimensions

and components. Hence, the military HELMS model could be viewed using a military lens to explore the well-being of children from military families; thus, resulting in the military HELMS model of child well-being. The development of a common understanding with a definition of child well-being was the final stage in the development of the model to ensure consistency and relevancy for any future work in this area.

## 4.10   REFERENCES

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# Chapter 5 – A SYSTEMIC PERSPECTIVE ON CHILDREN'S WELL-BEING IN MILITARY FAMILIES IN DIFFERENT COUNTRIES

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## ABSTRACT

*Children are influenced by different environments – home, friends, school, community, society, and the existence and availability of various services – and child well-being is the outcome of the interrelationships between the child and these environments [2]. The military is one of the environments that shapes the well-being of children in military families. Further, it should be pointed out, that the environments are in the interplay with each other. Our main assumption is that the effect of military environment on child well-being may vary in different societies depending on the general social security system. We describe how the military children's well-being is embedded in military system, which in turn is embedded in welfare state. The main question is, how the well-being of children from military families varies across countries and how much this variation could be explained by the interplay between military system and different welfare regimes. First, we briefly describe the welfare state and military systems differences, next we give a short overview on children's well-being in the context of different welfare regimes (availability of public childcare, health care and access to education, extracurricular education), then we will focus on the interplay between the military and welfare regimes and finally, we show how the well-being of military children is supported across countries, which are representing different welfare regimes.*

## 5.1 INTRODUCTION

Following the theoretical model described in Chapter 4, the current chapter focuses on the structure of societies and their cultural aspects. The aim is to describe how the well-being of children from military families may differ across countries due to different cultural and social environments (e.g., laws, social and family policy and services). It explains how the military supports the well-being of children some countries while the state supports it in others. The chapter is based on country-specific information collected and provided by the members of RTG HFM-258.[1] We begin with a short overview of children's well-being in the context of different welfare regimes, and then we turn to the interplay between the military and welfare regimes and how the well-being of military children and their rights are supported in different countries. Thus, this chapter is about the external factors that influence children's well-being within Minkkinen's structural model of children's well-being [1].

In Minkkinen's model, children are embedded in and influenced by different actors and institutions in the child's environments – home, friends, school, community, society, and the existence and availability of various services (see Chapter 2, theoretical model). Thus, child well-being is the outcome of the interaction between the child and his or her environment [2]. For children in military families, the military will be one of the institutions that shape their well-being. Our main contention is that the effect of the military environment on child well-being varies in different societies depending on and in relation to the general social welfare system. Children's well-being is embedded in the military system, which is in turn embedded in the welfare

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[1] The RTG HFM-258 members filled out the questionnaire, where the following topics where covered: general childcare arrangements (public, private), military support for childcare, formal and informal education, military arrangements in providing and supporting education, healthcare, counselling; children's position in a society and children's rights.

state.[2] Hence, the question is, does military children's well-being varies across countries and how much can this variation be explained by the interplay between the military system and different welfare systems?

## 5.2   WELFARE STATE AS THE CONTEXT OF CHILDREN'S WELL-BEING

In recent decades, several studies have focused on children's well-being in the broader social context. The main conclusion is that children's well-being varies across countries and this variation could be explained by different aspects of family policies [3], [4], [5], and children's positions and rights in a given society [6]. Thus, researchers have categorized countries into different types of welfare states or welfare regime dimensions [7], [8], [9], [10], [11]. Esping-Andersen [9] distinguishes three types of welfare regimes: social democratic, liberal, and conservative Table 5-1. In addition, the Eastern European countries have been seen as a separate regime called post-communist and having characteristics from both the liberal and conservative regimes as well as some distinct features of the post-communist societies [3].

**Table 5-1: Typology of Welfare States (based on Refs. [8], [9], [11]).[3]**

|  | Social Democratic | Liberal | Conservative | Post-Communist |
|---|---|---|---|---|
| Dual-earner support regime | Denmark, Sweden, Norway. |  |  |  |
| General family oriented regime |  |  | France, Belgium, Germany. | Estonia, Slovenia, Romania, Czech Republic. |
| Market-oriented / low family support regime |  | United Kingdom, United States, Canada. |  |  |

Korpi [11] has taken a closer look at family policies and suggests three types of family regimes: dual-earner support regimes, general family support regimes, and market-oriented regimes. Engster and Stensöta [8], following Korpi's approach, suggest that the market-oriented regimes could be re-named "low family support regimes" on the grounds that they include both liberal states that have a clear market orientation (e.g., the United States and the United Kingdom) as well as Southern European countries (Greece, Spain, Portugal) that depend largely on extended family networks to care for children. Thus, on the basis of different typologies, we can state that there are three main groups of states (Table 5-1): social democratic regimes, which are characterized by the dual-earner family support model; conservative regimes, where general family support approach applies; and liberal and Mediterranean countries, which could be described as low family support regimes (see also Ref. [12]). However, the several conservative states, in particular France and Germany, are moving from traditional male-breadwinner/housewife model to a "male breadwinner / female part-time care model" or even to a "half-and half breadwinner model where both partners work part-time" ([13], p. 332).

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2 The welfare state should be understood as the state's involvement in the distribution and redistribution of welfare in a given country, taking, however, democracy and the relatively high standard of living as a basis for the welfare state. According to the concept of welfare state, the state or a well-established network of social institutions plays a key role in the protection and promotion of the economic and social well-being of citizens.

3 The types of welfare states are not related to political movements or parties.

There is little research on the association between welfare regimes and children's well-being. However, it can be assumed that the children's well-being varies across welfare regimes due to the family policy that frames the everyday lives of the families, including children. In the social democratic regimes, the family policy is rather generous. There is a low-to-medium level of cash and tax benefits available for families with children, but a high level of public support is provided for in the form of parental leave and public childcare [8]. Regarding childcare policies, Kröger points out that the best situation is in Nordic countries [14]. In conservative regimes, the situation is the opposite: Cash and tax benefits for families with children are high, with medium levels of public support for paid parental leave and childcare services, with childcare services for children under three years old being poorly supported [8], [15]. Engster and Stensöta [8] conclude that so-called low family support regimes are characterized by overall low levels of family support. It means that the family cash and tax benefits are rather low, there is low-to-medium support for parental leave, and childcare support is also rather modest. The more market-oriented countries tend to expect families to make their own care arrangements privately or through contracted labour. However, as stated by León [12] in recent years, the need to follow the EU targets has forced countries with a liberal tradition to extend provision of public childcare and regulate the private sector. Nevertheless, the personal strategies outside the reach of the state are still the main form of provision for childcare, albeit with different forms of state supervision. In the case of extended family regimes, the assumption is that the care provision is arranged through the family network.

Engster and Stensöta [8] conclude that the children's well-being varies greatly between different welfare regimes and, thus, family policy matters for child well-being. Child poverty and child mortality rates are lower in social democratic regimes where the dual-earner family policy is prevalent. Moreover, in these countries the children will stay in education system longer. The authors assume that the positive effect comes from the well-developed public childcare and paid parenting leave policies. In addition, Moller and Misra [16] point out that the incidence of child poverty is lower in countries where the mother's participation in paid work is supported through a combination of paid leave and childcare services. We assume that in social democratic regimes, public childcare as universal service for all children supports children's well-being more effectively. In the case of other regimes, the quality of childcare (market-based or family-provided) varies more widely. It also suggests that children with a different social background have different opportunities for well-being. As stated by Saraceno [17], the policy packages (length and financial coverage of maternity and parental leave, public childcare options) may have a different influence on children's well-being, depending on the family background. For instance, care allowances may increase social class differences; low-income mothers are more likely than high-income mothers to stay at home. It means that the opportunity structures vary across countries as well as across different social groups within a country.

To sum up, welfare regimes provide a different context for children's well-being – i.e., how the family copes with care obligations, who the main care provider is, and how the obligations are divided between the family and the state (day care options, leave and allowances, quality of services, etc.) and within a family (female care provider, dual-earner/dual care provider family model). It means that the well-being of military families and their children is likewise embedded in different social context and that the role of the military varies across countries. We assume that in conservative and liberal regimes, the well-being of children from military families will depend more on arrangements made by the military than it does in social democratic regimes.

## 5.3  THE MILITARY SYSTEM

As stated above, children's well-being varies across welfare regimes. The question is whether the military provides additional support for the well-being of children from military families and how it is arranged. To answer this question, we will first briefly highlight the differences in militaries across countries. The PFP countries are very diverse in their sizes and populations and their legal, social, and economic situations. The size of a country is directly related to the size of military and on defence expenditures. The latest NATO data

on defence expenditures of its members (2009 – 2016) from July 2016 shows the variability in defence expenditures and the numbers of military personnel across countries. In 2016, for example, the number of military personnel in the United States was 1,305,000 and in Canada, 65,000, compared with 6,000 in Estonia and 7,000 in Slovenia. The size of the military thus varies by a factor of more than 200 in some cases. Because of this, military expenditures are not directly comparable, but looking at the relative amount of spending compared with the gross domestic product, we see that the countries that spend more than 2% of GDP on defence are the United States, the United Kingdom, Poland, Greece, and Estonia. Available resources and needs also vary.

### 5.3.1    Type of Military Service

Military service is also heterogeneous. Smaller nations tend to have mandatory military service (conscription; see Table 5-2). Germany suspended conscription in 2011, limiting it (under Article 12a of German Basic Law) to times when its parliament declares that Germany is under attack or imminently threatened by armed forces. The United States has the Selective Service System that requires males between the ages of 18 – 25 to register with it. This creates a listing of people who can be conscripted if needed. Although Norway, Estonia, and Denmark have compulsory conscription, the actual situation differs extensively across countries. For instance, all 18-year-old Danish males are required to be conscripts, but due to a high proportion of volunteers, the actual number of conscripts called up is about 1% – 4%. In Estonia, one third of conscripts are volunteers. Thus, the common aspect is that in all countries that use conscription, the conscripts are usually in the 18 – 27 age range and many have volunteered. As a result, in the countries with mandatory military service, two different groups of military personnel and their families with different rights, needs, and obligations can be distinguished – conscripts and professional service men and women. For example, in Estonia it is possible to postpone compulsory military service due to family obligations (e.g., being the sole breadwinner and having dependent family members).

### 5.3.2    Women in the Military

Although gender equity and equality has increased in Western countries [18], women still are the ones who mainly take care of children [19] and, thus, have the main responsibility for children's well-being. The proportion of women in the military is increasing in most of the countries under study, and women can start military service on a voluntary basis (see Table 5-2). However, female volunteers usually have to pass training on conscript-like conditions and pass special tests – just as men do. In Norway, conscription is compulsory for men and women. When Norway introduced universal military service 2015, it was the first NATO country to give both men and women equal duty to protect their country. Further, in most countries, women can serve in all branches, including in frontline combat positions. The exceptions are the Czech Republic and the United Kingdom. The United States opened all positions for women in 2016 and the UK has declared its intention to move in this direction by the end of 2018. The share of female military personnel in the armed forces varies across countries from 5% in Romania to 17% in Norway.

### 5.3.3    Everyday Military Life

Social perceptions of the military and military personnel also differ across countries. In Europe, the tendency is toward the ideology that military service is much like any other occupation. As such, the question of where one lives and one's housing are seen as private issues, and the military family has to find the best solution. As seen in Table 5-2, the prevailing tendency in most of the countries is that military personnel should live in their own homes. However, it has been pointed out that having one's own home means a long-distance commute for a person serving in military (e.g., Slovenia, Sweden, and Estonia). It seems that in smaller countries, instead of relocating, families prefer to remain in their current homes. Although it reduces the risk of problems related to relocation (e.g., new schools, friends), it might affect everyday family life and relations between family members. For instance, the longer distance between home and the military installation means less time for family members and limited ability to participate in everyday family life

(taking children to school or day care). Independent housing is also the prevalent trend in the United States: in 2010 almost two thirds of service men and women owned their own homes, 32% rented, and 22% lived in military housing.

**Table 5-2: Description of the Military in Different Countries.**

| | Military Branches | Defence Expenditures as a Share of GDP (%) | Military Personnel (Thousands) | Type of Service, Conscription | Women in Service and Proportion of Women in the Armed Forces[a] | Women in Frontline Combat Positions | Year Mandatory Military Service was Abolished | Housing for Professionals Working in Military |
|---|---|---|---|---|---|---|---|---|
| **Belgium** | **Belgian Armed Forces:**<br><br>– Land Operations Command<br><br>– Naval Operations Command<br><br>– Air Operations Command | 0.85 | 29 | No | Yes, voluntary military service.<br><br>7.7% | Yes | 1992 | |
| **Canada** | **Canadian Forces:**<br><br>– Canadian Army<br><br>– Royal Canadian Navy<br><br>– Royal Canadian Air Force<br><br>– Canada Command (Homeland Security; 2011) | 0.99 | 65 | No | Yes, voluntary military service.<br><br>15% | Yes | Never had compulsory service in peacetime. | |
| **Czech Republic** | **Army of the Czech Republic (*Armada Ceske Republiky)*:**<br><br>– Joint Forces Command (*Spolocene Sily*; includes Land Forces [*Pozemni Sily*]) and Air Forces [*Vzdusne Sily*]) | 1.04 | 22 | No | Yes, voluntary military service.<br><br>13.1% | No | 2004 | |

| | Military Branches | Defence Expenditures as a Share of GDP (%) | Military Personnel (Thousands) | Type of Service, Conscription | Women in Service and Proportion of Women in the Armed Forces[a] | Women in Frontline Combat Positions | Year Mandatory Military Service was Abolished | Housing for Professionals Working in Military |
|---|---|---|---|---|---|---|---|---|
| **Denmark** | **Defence Command:**<br>– Army Operational Command<br>– Admiral Danish Fleet<br>– Arctic Command<br>– Tactical Air Command<br>– Home Guard | 1.17 | 16 | Conscription | Yes, voluntary military service.<br>6.2% | Yes | – | Own home |
| **Estonia** | **Estonian Defence Forces (*Eesti Kaitsevagi*):**<br>– Land Force (*Maavagi*)<br>– Navy (*Merevagi*)<br>– Air Force (*Ohuvagi*)<br>– Defence League | 2.16 | 6 | Conscription | Yes, voluntary military service.<br>9.7% | Yes | – | Own home |
| **France** | – Army (*Armee de Terre*; includes Marines, Foreign Legion, Army Light Aviation)<br>– Navy (*Marine Nationale*)<br>– Air Force (*Armee de l'Air* [AdlA]; includes Air Defence) | 1.78 | 207 | No | Yes, voluntary military service.<br>15.2% | Yes | 1996 | |

| | Military Branches | Defence Expenditures as a Share of GDP (%) | Military Personnel (Thousands) | Type of Service, Conscription | Women in Service and Proportion of Women in the Armed Forces[a] | Women in Frontline Combat Positions | Year Mandatory Military Service was Abolished | Housing for Professionals Working in Military |
|---|---|---|---|---|---|---|---|---|
| **Germany** | **Federal Armed Forces (*Bundeswehr*):**<br><br>– Army (*Heer*)<br><br>– Navy (Deutsche Marine, includes naval air arm)<br><br>– Air Force (*Luftwaffe*)<br><br>– Joint Support Services (*Streitkraeftbasis* [SKB])<br><br>– Central Medical Service (*Zentraler Sanitaetsdienst* [ZSanDstBw]) | 1.19 | 180 | *De jure* conscription, *de facto* no. | Yes, voluntary military service.<br><br>10.9% | Yes | Since 2011 conscription suspended. | Own home<br><br>Younger privates may stay in military housing. |
| **Norway** | – Norwegian Army (*Haeren*)<br><br>– Royal Norwegian Navy (*Kongelige Norske Sjoeforsvaret* [RNoN], includes Coastal Rangers and Coast Guard [*Kystvakt*])<br><br>– Royal Norwegian Air Force (*Kongelige Norske Luftforsvaret* [RNoAF])<br><br>– Home Guard (*Heimevernet* [HV]) | 1.54 | 17<br><br>Employee<br><br>9 conscriptions per year. | Conscription | Conscription<br><br>Since 2015 for both men and women.<br><br>17 % (of the employed). | Yes | | Own home<br><br>Younger privates may stay in military housing. |

| | **Military Branches** | **Defence Expenditures as a Share of GDP (%)** | **Military Personnel (Thousands)** | **Type of Service, Conscription** | **Women in Service and Proportion of Women in the Armed Forces[a]** | **Women in Frontline Combat Positions** | **Year Mandatory Military Service was Abolished** | **Housing for Professionals Working in Military** |
|---|---|---|---|---|---|---|---|---|
| **Romania** | – Land Forces <br><br>– Naval Forces (*Fortele Naval* [FN]) <br><br>– Romanian Air Force (*Fortele Aeriene Romane* [FAR]) | 2 | 70 | No | Yes, voluntary military service. <br><br>5% | Yes | 2006 | Combination of military housing and own home. |
| **Slovenia** | **Slovenian Armed Forces (*Slovenska Vojska* [SV]):** <br><br>– Forces Command (with ground units, naval element, air and air Defence brigade) <br><br>– Administration for Civil Protection and Disaster Relief (ACPDR) | 0.94 | 7 | No | Yes, voluntary military service. <br><br>16.1% | No | 2003 | Own home |
| **Sweden** | **Swedish Armed Forces (*Försvarsmakten*):** <br><br>– Army (*Arméen*) <br><br>– Navy (*Marinen*) <br><br>– Air Force (*Svenska Flygvapnet*) <br><br>– Home Guard. | 1.1 | 20 employees <br><br>22 in Home Guard, 10 employed part time. | Yes, again with start 2018. | Yes, has been voluntary military service (2011 – 2017). <br><br>In 2018, will become conscription for both men and women. <br><br>16% of the full-time employed. | Yes | 2011 conscription suspended, but 2017 law in force again. | Own home |

| | Military Branches | Defence Expenditures as a Share of GDP (%) | Military Personnel (Thousands) | Type of Service, Conscription | Women in Service and Proportion of Women in the Armed Forces[a] | Women in Frontline Combat Positions | Year Mandatory Military Service was Abolished | Housing for Professionals Working in Military |
|---|---|---|---|---|---|---|---|---|
| **United Kingdom** | – Army<br>– Royal Navy (includes Royal Marines)<br>– Royal Air Force | 2.21 | 161 | No | Yes, voluntary military service.<br><br>10.1% | No, but it is changing by the end of 2018. | 1963 | Combination of military housing and own home. |
| **United States** | **United States Armed Forces:**<br>– US Army<br>– US Navy (includes Marine Corps)<br>– US Air Force<br>– US Coast Guard<br><br>*NB*: Coast Guard administered in peacetime by the Department of Homeland Security, but in wartime, reports to the Department of the Navy. | 3.61 | 1305 | No, but required to register with the Selective Service System. | Yes, voluntary military service.<br><br>15.5% | Yes | 1973 | Combination of military housing and own home. |
| [a] Active duty female military personnel, 2015.<br>**Sources:** Refs. [38], [39]. | | | | | | | | |

## 5.4 THE INTERPLAY BETWEEN THE WELFARE STATE AND THE MILITARY

Children's well-being can be affected by different institutions. Besides the family, children spend increasing amounts of time in other institutions: nurseries, day care centres, preschools, schools, and hobby groups. The availability and quality of these services vary from one country to the next. We now look at how childcare, health care, and formal and informal education are arranged in different countries and who – family, state, or the military – supports the well-being of children from military families. Childcare might be seen as an issue of social welfare needed by children in vulnerable situations, or as a matter of child development and needed by all children [20]. In a welfare state, both these aspects are living ideas. First, we will frame the discussion about childcare in terms of equal opportunities and as a response to children's rights.

### 5.4.1 Children's Rights and Position in Society and Military

Children's rights require a different approach that respects children and young people as well as their capacities, involving them as active participants in issues and decisions affecting them [6]. The UN Convention on the Rights of the Child, UNCRC [21] has been ratified by most of the countries in the world, but not by the United States [22]. In the U.S., the Constitution does not say anything specifically about children and youth, nor does it recognize any of the welfare rights important to children [23]. On the other hand, due to initiative of President Obama the care and support of U.S. military children was made to a top national security priority [24].

The near universal ratification of UNCRC lends significant force to recognition of the new status of children [25]. The strong regional commitment of the Council of Europe to children's participation rights and the example of its European neighbours have resulted in a situation where, in a few short decades, children's rights under the UNCRC, including rights of participation, have become integrated into civic life in many countries and into binding national law in some [22]. However, children's rights remains a complex and contentious topic, considering also controversial practices such as child labour and the involvement of minors in armed conflict – both of which remain widespread and persistent socio-economic realities for many young people around the world [26].

#### 5.4.1.1 Three Forms of Children's Rights

UNCRC is an important global frame of reference for conceptualising childhood, giving children some legal, social, and cultural independence. UNCRC defines a child as a person below the age of 18, and the guiding principles include non-discrimination, adherence to the best interests of the child, the right to life, survival, and development, and the right to participate [27]. Three main forms of rights for children are identified, often called the three Ps [28]:

- *Provision* of appropriate support and services.
- *Protection* from exploitation and abuse.
- *Participation* – the right to be involved and heard.

The domains of prevention, provision, and participation reflexively co-create and influence one another, each valued for its complement to the others, but with none overriding the importance or influence of the others [29]. These are rights to the resources, skills, and contributions necessary for the survival and full development of the child [27]. They include rights and access to adequate housing and food, shelter, clean water, formal education, primary health care, leisure and recreation, cultural activities and information about their rights. Specific articles in the convention address the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development (Art. 27). Governments are required to help families and guardians who cannot afford to provide this, particularly with regard to food,

clothing, and housing. In addition, the needs of child refugees (Art. 23), children with disabilities (Art. 22), and children of minority or indigenous groups (Art. 30) are addressed.

The term *child protection* refers to prevention and response to violence, exploitation, and abuse of children in all contexts [30]. This includes reaching children who are especially vulnerable to these threats, such as those living without family care, on the streets, or in situations of conflict or natural disasters. Child protection aims to prevent and address all forms of ill treatment that harms or is likely to cause harm to a child's or young person's safety, well-being, development, or human dignity in all settings, regardless of who commits that act and intentionality [6]: "The aim is not to minimise the danger to children but to maximise their welfare" ([31], p. 1).

The UNCRC proclaims children's right to enjoy leisure, recreation, and cultural activities; their right to enjoy and to practice their own culture, religion, and language without fear of persecution or discrimination; and their right to privacy, protection, and autonomy [32]. The right of participation extends to all actions and decisions that affect children's lives – in family, in school, in local communities, at national level [33]. Specifically, children have both the right to be listened to and to be taken seriously. Children's rights are both about the right to be informed or consulted in decision making and the right to autonomy, that is, to make decisions [34]. The child should be heard and his or her point of view be considered, particularly in judicial and administrative proceedings affecting the child as well as in the process of service delivery [35], [36]. This includes considering children as vital to dialogue around human rights and in a human development agenda [22].

UNCRC acknowledges the child as a member of her or his family and a member of a community, affirming the rights and duties of the child's parents, legal guardians and other responsible for looking after the child's interest and provide for the child's needs. The child is understood as a subject of rights and a social actor [25], [37]. In particular, Article 12 gives children the right to participate and be heard. This adds a unique dimension to the concept of children's well-being, particularly when linked to the other general principles of the UNCRC, namely, non-discrimination (Art. 2), considering the best interest of the child (Art. 3), and the right to a harmonious development (Art. 6) [25].

### 5.4.1.2    Children's Rights and Children's Well-Being

Research has shown that children and young people often wish to and are able to participate in issues related to their own protection and well-being and that this can have positive effects on their subjective well-being and safety and stability of care arrangements [38]. Child protection can be improved through meaningful and effective engagement of children to ascertain their wants and needs [6]. The child is in reflexive interplay with family members as well as with others in the child's network, developing new social-emotional capacities as actors [40], [41]. With this emerging view on children as agents, it has become important to involve children in the process and decisions regarding their well-being [42], [43]. Any child who is capable of forming his or her own views has the right to express those views and get support to manage to do so, in all matters concerning the child [33]. The child's view and participation should be given due weight in accordance with the child's age and maturity and balanced against what is considered to be in the child's best interest:

> There is no lower age limit imposed on the exercise of the right to participate. It extends therefore to any child who has a view on a matter of concern to them. Very small children and some children with disabilities may experience difficulties in articulating their views through speech but can be encouraged to do so through art, poetry, play, writing, computers, or signing. ([33], p. 2)

By involving the children, the child's participation may improve the decisions taken, increase the success of care arrangements and increase feelings of well-being for children involved [44]. Children report higher

self-esteem, fewer behaviour problems, and better resist peer pressure to use illegal substances when living in family perceived as a democracy [45]. A child who becomes invited to participate in decisions, might also feel more connected to the decisions and the emerging processes [46], [47]. Listening to children is about respecting them and helping them learn to value the importance of respecting others [33]. Children should be led to believe that they have a right to have a voice, and their families should be involved in these processes [33]. This requires that adults see and approach children as partners rather than subordinates in planning for their well-being [48]. Caution must be taken to avoid manipulation or tokenism [49]. For children, a good relationship with parents and other adults involved is important in order to create a situation in which the children feel free to say what they want and to feel that they are being taken seriously [50].

Appropriate services, care, and support, including from family relations matters for every child and even more for children in military families because they face multiple stressors, transitions, deployments, and other changes related to military life (cf. [51], [52]). Even if military children are doing well on average, the subset who suffer adverse effects from parental deployment need support [53]. Engaging in military-sponsored activities and programs could serve as a resource for well-being [54], [55]. However, new research has also revealed clear implications for establishing and sustaining programs that build on natural, informal networks in communities providing children in military families opportunities to develop relationships "characterized by reliable alliance, sense of attachment, guidance, social integration, reassurance of worth, and opportunity for nurturance" ([56], p. 24).

## 5.4.2   Childcare Policies

A recent report by the NATO Committee on Gender Perspectives [38] briefly summarises the main work-life balance initiatives of NATO member nations. Based on national reports, the conclusion is that 61.5% of nations have specific programmes or policies to maintain work-life balance, half of the nations have implemented measures to support parents when both are members of the armed forces; e.g., not deploying them at the same time. About 60% of nations allow part-time employment, and there are some measures to provide support to single parents. Most of the countries (88.5%) have childcare policies that include day care facilities for children, breastfeeding breaks or flexible working hours.

### 5.4.2.1   Maternity and Parental Leave

In all countries under study, the mothers can go on pregnancy leave or maternity leave, and in most of the countries it is paid. In the United States, however, mothers only can have up to 12 weeks of unpaid leave. Generally, women in the United States use a combination of sick and vacation leave to take time off work after the birth of a child.

In Denmark, mothers can have pregnancy leave before the child is born from 4 – 8 months. In Sweden, a pregnant woman working in a hard or risky work has a right to a maximum of 12 paid weeks (80% of income in previous period) before the estimated time of the birth. Both Denmark and Sweden allow the father of a new-born 10 paid days. In Denmark, maternity leave is 14 weeks followed by parental leave for 32 weeks. For parental leave the parents decide how to divide the time between themselves. In Norway, the maternity/parental leave could either be 35 weeks paid at the rate of 100% of income or 45 weeks paid at 80%. The longest period of paid parental leave is provided in Sweden. The parents have together 480 days (69 weeks) paid parental leave. The parent on leave gets 80% of their previous income and a maximum 95 EURO/day for 390 days. The rest of 90 days the parents have to share at a lower payment level.

In the UK, maternity/parental leave is 52 weeks, but only the first 6 weeks are paid at 90% of average weekly earnings; for the next 33 weeks, the payment is 139.58 pounds or 90% of average weekly earnings, whichever is lower. Although the duration of paid parental leave is lower in Estonia, Denmark, Slovenia, Germany, and France (between 14 to 20 weeks), the coverage is 100% of earnings. In Slovenia, the maternity leave is 15 weeks (at 100%), followed by a period of parental leave (37 weeks), which is paid at 90% of salary. However, the condition is that child is in homecare.

Thus, in most of the countries a maternity leave is followed by parental leave. The paid period of parental leave is the longest in Estonia, Sweden, and Norway, and the benefit is linked to previous income. If the parent has not had previous income, the parent gets a flat-rate benefit[4] during the parental leave. France, the Czech Republic, and Belgium pay out a flat-rate benefit. In the Danish labour market model, employee and employer determine the amount for the leave benefits by collective agreements, individual contracts, or workplace agreements; the state provides flat-rate leave (maternity, parental, and paternity) benefits.[5] It should also be mentioned that there are different rules for being on parental leave and employed at the same time. For instance, Germany has introduced a new leave scheme called Parental Allowance Plus, which combines part-time work and a parental allowance. In Estonia, during the period of paid parental leave, additional income is capped at 430 euros. If the income is higher, then the parental allowance will be reduced accordingly.

### 5.4.2.2 Childcare Arrangements for Children Under 3-years Old

In most of the countries, children are cared for during parental leave period by their parents. During paid parental leave, most of the new-born children are cared by their parents at home. In Sweden parents are encouraged to bring their older children to childcare/preschool when parents are on parental leave. By law, the children have the right to be in preschool for at least 3 hours a day or 15 hours a week. Some municipalities offer more. In the Czech Republic, there is a restriction on access to institutional childcare during the paid parental leave period: Children under the age of two years can attend a nursery or other facilities for preschool children for a maximum of 46 hours per month. The duration of leave and the amount of allowances and benefits vary widely; moreover, there are different rules that may restrict the options for childcare provision for children under 3 years old. An analysis by Mills *et al*. [57] showed that, in 2010, the 33% Barcelona target for children under 3 years old was met in Denmark, Sweden, France, Slovenia, Belgium, and the UK. Nonetheless, the authors highlighted considerable cross-country variation regarding hours used. In some countries, such as Denmark, Slovenia, and Estonia, the use of the formal childcare provision is predominantly full-time (over 30 hours per week), whereas in the UK and the Czech Republic parents mostly use childcare part-time (under 30 hours per week) [57]. To sum up, childcare provision in Europe is heterogeneous: In Scandinavian countries, the dominant model of childcare is provided in formal settings, but Central and Eastern European countries tend to rely on long parental leave schemes [58].

In the United States, the federal government provides money to states to fund preschool programs for low income families (children from birth up to 5 years of age qualify). Further, 40 out of the 50 states provide preschool programs (some with income qualifications) for children, generally starting at 4 years of age. Consequently, most childcare is private with parents paying. Thus, for children under 5 years old, the most common type of childcare arrangement is relative care (about 42% of children), followed by organized care facility (approximately 23.5% in day care centres, nursery or preschool, Head Start/school) and non-relative care (approximately 11.2% with nannies, child-minders, etc.) [59]. According to Sinha [60], Canadian parents primarily rely on three types of childcare arrangements for their children aged 4 and under: day care centres (33%), home day care (31%), and private arrangements (nannies, relatives at 28%). In general, 70% of parents used full-time care (at least 30 hours per week) for children aged 4 and under. The use of childcare arrangements, as well as childcare programs and subsidies can vary widely by province, influencing the actual cost to parents.

As described above, formal care and financial support to parents is very limited in the United States, which might be one reason why the military's role in childcare provision is more significant. The Department of Defence has over 800 Child Development Centres (CDCs) around the world. Childcare is typically available through these centres for children from six weeks to 12 years of age. The centres are generally open from Monday through Friday between the hours of 6:00 a.m. and 6:30 p.m., although some installations have

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[4] For instance in Sweden 25 Euro a day (7 days a week).

[5] 554 euros per week in 2015.

centres with extended hours or centres open around the clock. Fees are charged but vary by family income level. Each service branch has an in-home childcare provider program that certifies childcare providers. These homes can either be in or outside military installations. Fees are generally the same as the CDCs. Subsidies are provided for private childcare in cases where the CDCs are full or not available for families (http://www.military.com/spouse/military-life/military-resources/military-child-care.html). CDCs also provide before- and after-school care for a fee for children of school age. Moreover, there is additional support provided for families with a service member in the Wounded Warrior Transition Unit. Because most of the care is privately arranged, the families can find babysitters and nannies through websites, which may offer military discounts. With regard to European countries, the UK military arranges some extra childcare support for children from the military families. Some camps in UK and overseas provide publicly supported childcare, but these spaces are limited. Some places subsidise on-site childcare offered by private or charitable organisations. In recent years, childcare issues have become important in Germany. At the moment, there are four nurseries arranged by the military (in München, Bonn, Koblenz, and Ulm), with special agreements between the military and public or private childcare facilities, which have provided 300 places for children from military families [61].

### 5.4.2.3    Childcare Arrangements for Children Age 3 Up To Mandatory School Age

Older children, between three and mandatory school age, are mostly enrolled in public childcare. It is important to emphasize that the mandatory school age varies widely across countries. It is 5 years in the United States and United Kingdom, 6 years in Belgium, the Czech Republic, France, Germany, Slovenia, Norway, Romania, and Denmark, and 7 years in Estonia and Sweden. Looking at the percentage of children in this age-group who are cared for by formal arrangements, Belgium, France, Sweden, Germany, Estonia, Slovenia, Denmark, and the United Kingdom have met or surpassed a 90% coverage rate, and Norway is very close to it. Romania and the Czech Republic have a coverage rate between 60% – 70% [1]. However, it should be taken into account that in countries with social democratic welfare regimes, public childcare is funded by state or local authorities, but free childcare is limited (e.g., in the UK). It means that all 3 – 4 year-old children are entitled to 15 hours per week of free early education for 38 weeks a year. However, if both parents are employed, they child gets a further 15 hours per week. In the countries where the mandatory school age is lower and children start their formal education at a younger age, the public childcare options are more limited than in countries where children start school when they are older. To conclude, in European countries the parental leave schemes and public childcare establishments are open to both civilian and military families – there are no special childcare facilities for children from military families. It is the opposite in the United States where support for childcare is provided by military; the military thus fills the gap.

### 5.4.3    Formal and Informal Education

Regarding formal education, children from military families in most of the countries under study attended public or private schools on the same grounds as children from civilian families. However, there are some exceptions. In the United States, the Department of Defence Education Activity (DoDEA) runs 194 schools in the U.S. and in other countries for military children. Approximately 86,000 of an estimated 1.2 million school-age children of military families attend such schools; 75,000 attend public schools on military installations, and the rest attend public or private schools off military installations or are home schooled. In the case of overseas installations, the UK military also has their own schools. Moreover, it should be borne in mind that public schools near military installations can be described as military-heavy school districts. This is not only the case in the United States; it is a phenomenon also seen in other countries.

Extracurricular activities (before- and afterschool programs, all-day schools, hobby groups, etc.) have been seen as a microsystem in children's lives, embedded in the mesosystems of schools and families [35]. The main assumption is that participation in extracurricular activities positively develops children and adolescents. Before- and afterschool programs are offered in all countries, but access and availability varies. In the United States, the government and private entities fund some after school care programs, but they are

means-tested. Most civilian families pay for these programs themselves if they choose to use them. However, all military families have access to recreational facilities, such as libraries, bowling alleys, movie theatres, pools, gyms, vacation resorts, etc., for free or reduced prices.

In social democratic countries, the afterschool programs are subsidised by government or local municipalities. Voluntary organisations provide after-school programmes, which are sometimes undertaken in collaboration with public institutions. In Slovenia and Estonia, the schools offer their own programs for free, but there are also activities and programmes that are organised by private companies and organisations for a fee.

The role of the military in providing extracurricular education for military children is rather modest. As described before, in Scandinavian countries, a wide range of after-school activities have been arranged and they are universal to all children, including children from military families. However, there could be some extra support if the family is joining the deployed servicemen abroad. In the case of Sweden, the military will cover the costs of education for the children during the deployment. In the UK, the activities offered depend on the location (e.g., youth clubs). A different example comes from Estonia. The Defence League (a voluntary organisation), which is a part of the Defence Forces, has its own children's/youth organisations ("Young Eagles" and "Home Daughters"). However, these organisations are open to all children and not only to children from the military families. They organize free-time activities, training, and camping.

### 5.4.4    Healthcare and Counselling

In most of the countries, children have free access to the health care and health services provided by the public health care system (taxpayer funded health insurance): Estonia, Sweden, Norway, Denmark, Slovenia, Romania, and the United Kingdom. Thus, additional health services for military children are not so widely needed. In the U.S., the publicly funded health care (Medicaid and the Children's Health Insurance Program [CHIP]) is provided only to children from low-income families. Children from military families are covered by the Military Health System (TRICARE). The U.S. military health care system provides care for children either through military treatment facilities or through private facilities. If the care is gotten through military facilities, there is no cost, but there are some costs if private care is used.

In the UK, the military provides care for children from military families who are located overseas and, occasionally, where capacity exists in the UK military medical centres (i.e., where such services support clinical training). Although most countries provide state funded health care for all children, there are special cases when the military gives some extra support. For instance, in the case of a parent's death or injury, the all countries' militaries provide or organize counselling for the family. However, the military counselling system in the U.S. is more developed in that the military provides licensed child and youth behavioural and family life counsellors to all military children. In the case of a parent's death, the grief counselling (through Military One Source) and bereavement counselling (through the Veterans Administration) is provided. In Denmark the counselling and support is organized by the Danish Veteran Centre. The centre offers support, counselling, help by social workers, and psychological treatment for veterans and their families with problems that arise in connection with deployment. It is a lifelong service to cover challenges that only become apparent later in life [62].

### 5.4.5    Deployment and Children's Well-Being

Finally, we will look at military-specific situations, relocations and deployments, which may have a significant influence on children's well-being [63]. The question is how seriously the military takes the effects of deployments and relocations on children's well-being. In post-communist countries (Estonia, Slovenia, Romania), it is quite common that parents with small children can postpone deployment or refuse to be deployed if children are preschool age. This is regulated by general public legislation. For instance, in Estonia parents with child/children up to three years old cannot be deployed without their consent.

In Slovenia, the parent has right to decline working more than 8 hours per day until the child is 3 years old or until the end of the first school year of the youngest child (6 – 7 years old) in families with more than one child; similarly, service members can choose not to be deployed. In Denmark and Germany, the general rules of maternity and parental leave apply also to military personnel. If a service member has the right to maternity or paternity leave during a given period, she or he can stay on leave but has to arrange her or his future work situation with his or her supervisor. The supervisor decides whether to accept the wish to stay on maternity/paternity leave during the deployment period. Although there is no rule or legislation, the application to stay on maternity/parental leave is usually accepted and a person is replaced by another service member. In some countries, there is a differentiation according to the gender. In the UK, for example, a female service member who is still breastfeeding or has a child under 6 months will not be deployed, but this does not apply to male service members. Moreover, dual-serving couples who have children are generally not deployed at the same time. In Sweden, Norway, the U.S., and Canada members with children are not exempted from deployment. In the U.S., dual-military parents and single parents are obliged to have a Family Care Plan in case of deployment, meaning that families have to plan and arrange the care of children for the period of deployment, but they cannot defer deployment. A different example comes from Sweden, where the soldier, being deployed aboard, has the right to compensation for additional costs at home,[6] including for children at home.[7]

To sum up, a clear pattern has emerged. On one side are Eastern European countries where service members with small children have similar rights as parents in any other occupation, which are regulated by national legislation. On the other side are countries where being a parent does not bring with it any more rights than service members without children.

## 5.5  DISCUSSION AND CONCLUSIONS

The present chapter was guided by the structural model of children's well-being. We described the social and legal contexts that shape the well-being of children from military families across different countries. We showed how children's well-being is supported by different institutions – welfare state, military, voluntary organizations, and the family – and that support is very differently divided between these institutions in different nations. We focused on structural factors that could influence children's well-being: general legal context, childcare, healthcare, and formal and informal education. And we tried to describe the roles of military institutions and the general social security system in these domains. Thus, of the three main forms of rights of children, we concentrated mostly on aspects of provision.

*The different types of welfare state and military legal systems create the context for children's well-being in military families.* At the start of the chapter, we indicated that our analysis would be guided by the typologies of the welfare state. Children's well-being, including children from military families, may vary across nations because of different family policies (including childcare arrangements, parental leave schemes, etc.) and social security systems. The comparison of European military law systems showed that there are great variations across countries in civilianisation of the armed forces [64]. As pointed out by Nolte and his colleagues, the military's approach to working time is permanent availability of military personnel. However, the extent to which different nations adhere to this concept varies. On the one hand, some countries' military working time was comparable to that of their civil services (e.g., Denmark, the Netherlands, Germany); on the other hand, some countries had no laws regulating the service hours or compensation of overtime work (e.g., France and Spain) [64]. Thus, in addition to family and child-related policies, the military's legal system should be taken into account in understanding children's well-being because different countries have different laws that affect military personnel and their families.

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[6] Approximately 320 euro per month.

[7] 425 euros per month.

*The policies framing children's well-being are not static, but dynamic.* Legislation and policy (e.g., social policy, veteran's policy) are not fixed but are constantly developing, and this change is enlivened by the international flow of ideas [65]. This means the division of countries by the typology of welfare regimes depends on the indicators used at particular points in time. For instance, Germany has recently introduced new legislation to reconcile military service and family life (e.g., bill regulating the time for family care obligations in 2016[8]).

Our analysis points to some patterns among the variation across nations. Looking at the interplay between the welfare state and the military in the case of childcare, we can highlight the following patterns. *In social democratic and post-communist countries, children from military and civilian families are equal.* The social democratic welfare regimes – Norway, Sweden, and Denmark – and the post-communist countries – Estonia, Slovenia, the Czech Republic and Romania – provide publicly funded childcare, and children from military and civilian families are treated equally. The relatively good availability of public childcare services means the military need not provide extra services. Nevertheless, the other reason might be that in post-communist countries the social security system and the military have been created since the beginning of 1990s. And both processes have taken place at the same time, which means that the family members of military personnel are seen to belong to civilian world and their well-being is supported by universal social security system. However, if we look at parental rights of military personnel in case of deployments, military parents have no more rights than non-parents in Norway and Sweden.

*In liberal welfare regimes the military plays an important role children's well-being.* On the other end of the spectrum are the liberal welfare regimes – Canada, the United Kingdom and the United States – where state-funded childcare is rather limited, and this must be compensated for with a higher provision of care by the military. Moreover, parental status is not seen by the law as a reason to refuse deployment. Finally, among the conservative welfare regimes (i.e., Germany, France, and Belgium), only France and Belgium have met the Barcelona target[9] for childcare in both age categories. This suggests a good availability of childcare for children from military families. As described above, in the case of Germany, the military supports to some extent the childcare arrangements of military families.

To sum up, the military has a larger role in children's well-being in liberal welfare regimes, while services in social democratic regimes are provided universally to all individuals. Social democratic regimes have services dedicated only to the children from military families, but these services are extra support and related with the specific aspects of military life (e.g., long parental deployments, etc.) and do not replace the services and support provided by the general social security system.

*Analysing and supporting the well-being of children from military families depends on accounting for the institutional and cultural factors that shape the military and the families of military personnel.* As stated by Nolte [64], the differences in military laws will become especially visible during international military operations when personnel from different nations are serving together. Involvement in international operations and membership in NATO will have an influence on military laws, including the development of services. In Estonia, for instance, a veteran's policy was first adopted in 2012, and one reason behind it was international experience. Considering the differences of social security systems framing the everyday lives of children, including children from the military families, we might witness a movement toward harmonization of policies and practices; e.g., different EU targets. However, as we pointed out, people arrange childcare health care, and education in different ways in different countries. Thus, in some cases, there is no need for the support from the military side; in other cases, it could be the only option for military families.

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[8] Gesetz zur besseren Vereinbarkeit von Familie, Pflege und Beruf für Beamtinnen und Beamte des Bundes und Soldatinnen und Soldaten sowie zur Änderung weiterer dienstrechtlicher Vorschriften.

[9] Ensuring suitable childcare provision is an essential step towards equal opportunities in employment between women and men. In 2002, at the Barcelona Summit, the European Council set the targets of providing childcare by 2010 to: 1) at least 90% of children between 3 years old and the mandatory school age and 2) at least 33% of children under 3 years of age.

To conclude, we found patterns matching the typology of welfare regimes, but each country has its own peculiarities associated with historical background, cultural values, and even with the size of population, which in turn creates a context for the interplay between military and civilian worlds. Thus, the grouping of countries could be understood as a generalisation for analytical purposes, and we do not claim that these countries are identical; rather, they share some similar traits that create an environment for the well-being of children from military families.

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# Chapter 6 – PROGRAMS FOR CHILDREN IN MILITARY FAMILIES

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## ABSTRACT

*This chapter reviews representative programs for families and children from each NATO and Partnership for Peace (PFP) Country with a representative participating in the task group on The Impact of Military Life on Children in Military Families. Each participating country was invited to submit up to three programs targeted at military-connected children and families. The number of services offered in each country appeared to be influenced by size of the military, the degree to which military life is separate or immersed in civilian life, and the access to universal and preventive healthcare. Program descriptions for representative programs are included, as well as recommendations for program development, evaluation and implementation.*

## 6.1 INTRODUCTION

There is a growing body of research that highlights the impact of parental military service on children (see Chapter 3 of this report for a review; also [1]). In general, children in military families are doing well, but current research suggests areas of specific risk that are tied to developmental periods, recency of parental deployment, and parent functioning that may affect child mental health and academic functioning [1], [2], [3]. The mental health and well-being of children in military families is supported by the fact that at least one parent is employed (by the military), which is a protective factor identified in the wealth of child well-being research [4], [5], [6]. In some countries, such as Canada, United Kingdom and United States, family support is bolstered by additional safeguards provided by the military service like subsidized housing and childcare [7], [8], [9], [10], [11]. In addition, the military ethos of strength, sacrifice, and being of service may support family resilience in countries with a strong and unique military culture [3]. In the US, for instance, it is commonly said that when one family member serves in the military, the entire family serves [1]. In addition, there is ample research to suggest that families play a role for successful military deployment [12], [13], [14], [15], [16].

Over the last fifteen years, researchers have increasingly focused attention on developing programs to better meet the needs of children in military families by examining both risk and protective factors of child well-being (for a systematic review see [17]; see also [18], [19], [20], [21], [22]). Recommendations centre on the need to study the effectiveness of programs for use with military populations and to ensure that existing programs are adapted to take into account the circumstances that are considered specific for military families [23]. Many researchers also suggest utilizing a family approach to treatment as parents may be more likely to seek support for their children than for themselves [1], [24], [25], [26]. There are a few evidence-based programs developed specifically for military families with children that target improved family communication, strengthening parent-child relationships and parenting. Four widely cited (see Refs. [2], [3], [17], [26]) evidence-based programs developed in the United States have been used for military families: After Deployment Adaptive Parenting (ADAPT; [27]), Families OverComing Under Stress (FOCUS; [24]), Passport Toward Success [28], and Strong Families Strong Forces [25]. Of these four interventions, only FOCUS has been implemented in one other NATO or PFP Country (Canada), though it has not been

evaluated there. At the time of writing this report (December 2017) we were not able to identify any citations for evidence-based, family-level, and military-specific interventions with child outcome data in countries outside the US, although there is an evaluation of child and adolescent support groups (that include a parent component) underway in Denmark.

We identified one example of a widely disseminated evidence-based intervention in several NATO and PFP Countries, the Prevention and Relationship Education Program[1] (PREP; [29]). PREP has undergone Randomized-Controlled Trials (RCTs) in the United States and has been implemented in Denmark, Norway and Sweden. A mixed-method evaluation in Denmark is underway. However, PREP does not target the parent-child relationship directly as its primary focus is on improving the relationship between couples, i.e., in a military context.

To better understand the variety of services that may support the well-being of children in military families, this task group aimed to identify best practice programs for families and children to address the challenges of military life. We aimed to inspire NATO and PFP Countries to learn from the experiences of countries that have already developed and evaluated programs as developing new programs is costly and may not always include evaluation of efficacy. Consequently, this chapter provides an overview of programs considered 'best practice' in the representing NATO and PFP Countries, including type and purpose of program, target audience, theoretical foundation, and whether the program has undergone evaluation.

## 6.2   METHODS

Task Group representatives completed a survey about programs that improve the lives of children in military families in their own country, which may include enhancing family dynamics or helping children adapt to changing military contexts. The representatives were asked to submit information to the authors of this chapter about as many as three programs that represented the types of services available to military families in their country, or programs that were considered innovative or particularly helpful to children of military families.

The task group representatives collectively determined that it would not be feasible to review more than three programs per country and doing so might further weight the report toward programs developed in countries with larger military services (US, Canada, and UK). The task group representatives were advised to prioritize programs that had a theoretical basis and that had demonstrated evidence for their effectiveness or had undergone some form of program evaluation (i.e., quantitative, qualitative, or mixed-methods) that included outcomes for children. If no such program existed (or less than three programs) that met these criteria, task group representatives were invited to submit information about other existing military family programs.

Because the submission limit (three programs) suppressed the variety of program type from each country, we sent a secondary chart that listed the primary categories of identified services and asked the task group representatives to fill in whether or not their country had in fact a program in one or more of the listed categories. The categorization of the submitted programs from each country was done by the authors of this chapter and based on:

1) Country;

2) Type of program;

3) Target audience; and

4) Information on whether the programs had a theoretical foundation and/or have undergone evaluation.

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[1] Formerly known as the Prevention and Relationship Enhancement Program.

The categorization was primarily done by the first author and discussed with the co-authors. In case of disagreement, a common solution was prioritized after a discussion.

## 6.3  RESULTS

A total of thirty-six programs were submitted from nine countries (Canada, Denmark, Estonia, Germany, Norway, Romania, Sweden, United Kingdom, and United States). However, some representatives submitted more than three programs and some only submitted one program. In the case that more than three programs were submitted, the authors prioritized the three that had undergone program evaluation, bringing the total number of programs included in this report to twenty-five.

Table 6-1 shows the twenty-seven programs that were selected from the submitted programs. The programs were categorized by type: informational/educational resources/support centers, financial support for education, financial support for material necessities or hobbies, family retreats, couples' retreats, camps for children, family-level programs, couple-level programs, parenting classes, intervention/support groups for children and teenagers, online counseling, books for children, and wellness mobile apps. For example, seven of nine countries handed in information about programs that could be grouped under 'informal/educational resources/support centers' and 'couple level' programs.

Table 6-2 shows the thirteen typologies and which countries offer programs within each category as reported by the country representative(s). As can be seen, evidence-based or widely disseminated programs were included in the list specifically, not just by category, namely PTSD Family Coach, FOCUS, ADAPT, and PREP.

Table 6-3 lists each of the programs, target audience, evaluation methods and references. Two programs have a randomized controlled effectiveness trial or comparison groups (ADAPT and FOCUS), eight have mixed method evaluation, three qualitative evaluation, and four have user satisfaction and feedback singularly (not as part of mixed methods/qualitative methods).

## 6.4  DISCUSSION

This chapter provided an overview of NATO and PFP Country programs with a focus of improving the lives of children in military families. Results of our survey of the task group members (details presented in Table 6-1, Table 6-2, and Table 6-3) illustrate the diverse range of programs across countries, including evidence-based and promising practices.

The importance of supporting child well-being specifically in military families is a relatively new area of focus that has received increasing attention over the last fifteen years [30]. This is, for the most part, based on research suggesting that there are distinct factors that place children in military families at risk for psychological and behavioral disorders. However, there seems to be a new tendency emerging among researchers investigating military children's potential resources and strengths, as well as the positive outcomes of a military lifestyle [31]. To reduce the impact of specific risk factors, several programs have been developed to better support the well-being of children in military families. Each country with a participating task group representative offered at least one program that targets the needs of children, though often programs impacted the child indirectly through intervention with the parents (e.g., PREP, couple-level programs, financial support; see Table 6-2).

Our results identified variability not only in the number of available military-specific programs, but also in the types of programs offered across each of the NATO and PFP Countries. We found that some countries had relatively fewer child- and family-focused military programs available, whereas countries like Canada and the United States had many programs targeting military families with a wider variety of service types.

An important factor affecting the quantity as well as focus of the programs available in the countries represented in this report is the presence or absence of a state welfare system (see Chapter 5). Countries that offer state-funded health care often have a focus on universal, selective, or indicated prevention programming that may help to reduce the need for military-centric services. For example, in many of the Scandinavian countries, new parents and their infant may receive home visiting services to support the health and well-being of both the child and parents [32]. Such services are not automatically available in other countries. For example, in the United States, home visiting services are only publicly funded for families that have a specific risk factor and qualify for public funding assistance, but are offered to military families as a specific military-centric program [33]. This is in contrast to Denmark and Sweden, for instance, where all families regardless of their military service involvement can receive home visiting services [34]. In other words, support for military families is in some countries part of the national healthcare services provided for all families.

The availability of evidence-based programs handed in by representatives from the task group varied across countries (See Table 6-1 and Table 6-3). For the purpose of this chapter, we requested programs that had child-related outcomes, even if they only demonstrated feasibility or satisfaction. Most task group representatives were not able to put forth three such programs. One possible explanation for this could be the limited number of military-specific programs with research to support their efficacy. Evaluation is costly and some countries may have adapted programs that have already been evaluated in the country of origin (such as PREP). It is important to note that we did not request programs that were implemented more broadly across the population if they were not also specifically adapted for use with military families. Adaptation is an important aspect of implementation, as it is important to ensure that an intervention can appropriately meet the cultural context and specific needs of the target population [35]. As a result, several of the submitted programs have been used in a more general (non-military) population with additional adaptation for military-specific challenges. For example, Denmark's support groups for children and teenagers of parents with deployment-related mental health symptoms, such as PTSD, depression or anxiety were adapted from an evidence-based support group curriculum that was available to Danish children having a parent suffering from mental illness [36]. In order to ensure that the intervention was responsive to the needs of the military community, it was important to augment the population-based program for use in military families to account for the additional challenges that can come from repeated or extended separations from a primary caregiver, parental risk, and other challenges that are associated with parental deployment and combat-related injuries. The military-specific adaptation is currently being evaluated. It is important to note, however, that programs not specifically targeted at military families may be efficient and successful among service personnel and their family members. In addition, some military families choose to seek support outside the military institution or in programs developed for the civilian population.

**Table 6-1: NATO and PFP Countries and Their Submitted Programs Targeting Military Children and Families.**

| | | Type of Program | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Informational / Educational Resources / Support Center | Financial Support for Education | Financial Support for Material Necessities or Hobbies | Family Retreats | Couples Retreats | Camps for Children | Family-level Programs | Couple-level Programs | Parenting Classes | Intervention/ Support Groups for Children and Teenagers | Online Counseling | Books for Children | Wellness Mobile Apps |
| **Canada** | Road to Mental Readiness: Family Component | X | | | | | | X | X | | | X | | |
| | E=MC3 | | | | | | | X | | | | | | |
| | iSTEP program | | | | | | | | | | X | | | |
| **Denmark** | PTSD Family Coach App | X | | | | | | | | | | | | X |
| | PREP for Couples | | | | | X | | | X | | | | | |
| | Support groups for children and teenagers | | | | | | | | | | X | | | |
| **Estonia** | MPT Website | X | | | | | | | | | | | | |
| | Carolin Illenzeer Fund | | X | X | | | | | | | | | | |
| | Wellness Weekends | | | | X | | | | | | | | | |
| **Germany** | Books for Children | | | | | | | | | | | | X | |
| | *Bundeswehrbetreuungs-* organisation | X | | | | | | | | | | | | |
| | Seminar for soldiers/partners | | | | | | | | X | | | | | |

| | | Type of Program | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Informational / Educational Resources / Support Center | Financial Support for Education | Financial Support for Material Necessities or Hobbies | Family Retreats | Couples Retreats | Camps for Children | Family-level Programs | Couple-level Programs | Parenting Classes | Intervention/ Support Groups for Children and Teenagers | Online Counseling | Books for Children | Wellness Mobile Apps |
| **Norway** | Package and Workbook | X | | | | | | | | | | | X | |
| | *Min Tur Ut* | | | | | | X | | | | | | | |
| | PREP for Couples | | | | | X | | | X | | | | | |
| **Romania** | Deployment Workshops | X | | | | | | | | | | | | |
| | VeteRUN | | | | X | | | | | | | | | |
| | Holiday support | | | | | | | | | | | X | | |
| **Sweden** | PREP for Couples | | | | | X | | | X | | | | | |
| | Invidzonen – Family Zone | X | | | X | | X | X | | | X | X | X | |
| | SSHF (*Svenska Soldathemsförbundet*) | X | | | X | X | | | X | | | X | | |
| | Service Pupil Premium | | X | | | | | | | | | | | |
| | Family Activity Breaks | | | | X | | | | | | | | | |
| **USA** | FOCUS | | | | | | | X | X | X | X | | | X |
| | Operation Purple Camp | | | | X | | X | | | | | | | |
| | ADAPT | | | | | | | | X | | | | | |

**Table 6-2: Type of Program Targeting Military Children and Families
in NATO and PFP Countries.**

| Type of Program | Canada | Denmark | Estonia | Germany | Norway | Romania | Sweden | UK | USA |
|---|---|---|---|---|---|---|---|---|---|
| Informational/Educational Resources/Support Centers | X | X | X | X | X | X | X | X | X |
| Financial Support for Education | | | X | | | | | X | X |
| Financial Support for Material Necessities or Hobbies | | | X | | | | | | X |
| Family Retreats | | X | X | X | | X | | | X |
| Couple Retreats | | X | | X | X | | X | | X |
| Camps for Children | | | | X | X | | | X | X |
| Family-level Programs | X | | | | | | X | | X |
| Couple-level Programs | X | X | | X | X | | X | | X |
| Parenting Classes | | | | | | | | | X |
| Intervention/Support Groups for Children and Teenagers | X | X | | | | X | X | | X |
| Online Counseling | | | | | | | X | | X |
| Books for Children | | X | | X | | | X | | X |
| Wellness Mobile Apps | | X | | | | | | | X |
| Legal Aide | | | | | | | | | X |
| FOCUS | X | | | | | | | | X |
| PREP | | X | | | X | | X | | X |
| ADAPT | | | | | | | | | X |
| PTSD Family Coach App | | X | | X | | | | | X |

**Table 6-3: NATO and PFP Countries and Their Programs Targeting
Military Children and Families (Detailed).**

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
| Canada | **Road to Mental Readiness: Family Component** | Provides parents with guidance and skills to help mitigate the stress of the deployment experience (pre-, during and post-) for parents with relevance to children. | Parents | In progress (short survey) |
| | | No references | | |
| | **E=MC3** | The program is for families with children (4 – 12 years) dealing with a family member affected by an Operational Stress Injury (OSI). The goal of the program is to develop each family member's strengths to improve individual and family well-being. | Family | Qualitative evaluation |
| | | 1. Hachey, K. K. (August, 2015). Experiences and Care of Children of Ill and Injured Canadian Armed Forces Members: A Parental Perspective. DGMPRA Scientific Report. DRDC-RDDC-2015-R147. <br><br> 2. Hachey, K. K. (June, 2015). Experiences and Care of Children of Ill and Injured Canadian Armed Forces Members: Perspectives from Subject-Matter Experts. DGMPRA Scientific Report. DRDC-RDDC-2015-R112. <br><br> 3. Hachey, K. K. (2015). Children of Ill and Injured Canadian Armed Forces Members: Perspectives from Parents and Subject-Matter Experts. Military Behavioral Health, 4 (3), 251-259. | | |
| | **iSTEP program** | The program is designed for children ages 6 – 12 who have a parent affected by an OSI. Through education and peer support, children can normalize and validate their feelings and develop coping tools to deal with the changes occurring in their life as a result of their parent's injury. | Child | Qualitative evaluation |
| | | No references | | |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---------|--------------|---------------------|-----------------|-------------|
| **Denmark** | **PTSD Family Coach App** | Danish version of the smartphone app "PTSD Family Coach" developed by US Department of Veterans Affairs (VA) is available to family members of Danish veterans with posttraumatic stress disorder (PTSD). The app is designed to facilitate learning about PTSD and related mental health problems, stress management and access to support, as well as to provide a tool for assessment and monitoring of the user's stress level. | Parents | Mixed method evaluation |
| | | 1. Hoffman, J. E., Wald, L. H., Owen, J. E., Kuhn, E., Jaworski, B. K., Ramsey, K. M., and Iverson, K. (2015). PTSD Family Coach (version 2.0) [Mobile application software]. <br><br> 2. Hoffman, J. E., Wald, L. J., Kuhn, E., Greene, C., Ruze, J. I., Weingardt, K. (2011). PTSD Coach (version 1.0) [Mobile application software]. <br><br> 3. Olff, M. (2015). Mobile mental health: a challenging research agenda. *European Journal of Psychotraumatology*, *6*, 1-8. <br><br> 4. Gravenhorst, F., Muaremi, A., Bardram, J., Grünerbl, A., Mayora, O, Wurzer, G., …, and Tröster, G. (2014). Mobile phones as medical devices in mental disorder treatment: an overview. *Personal and Ubiquitous Computing*, *19*, 335-353. <br><br> 5. Kuhn, E., Greene, C., Hoffman, J., Nguyen, T., Wald, L., Schmidt, J., …, and Ruzek, J. (2014). Preliminary evaluation of PTSD Coach, a smartphone app for post-traumatic stress symptoms. *Military Medicine*, *179*, 12-18. <br><br> 6. Owen, J., Jaworski, B., Kuhn, E., Hoffman, J., Ramsey, K., and Rosen, C. (2015). Phase I trial of the PTSD Family Coach mobile app: Recruitment, procedures and preliminary findings. Abstract 1137 at the *International Society for Traumatic Stress Studies* (31st annual meeting). | | |
| | **Prevention and Relationship Enhancement Program (PREP) for soldiers, veterans, and partners** | Since June 2015, PREP courses have been offered to veterans as well as soldiers and their partners. PREP is run by the Danish Veteran Centre / Danish Defense, which provides six to seven courses annually. The courses were developed in cooperation with "Center for Familieudvikling" (copyright on the Danish PREP-concept). PREP is the most complete and well-respected divorce-prevention / marriage-strengthening program based on an educational approach with emphasis on teaching communication and conflict resolution skills to couples for relational success. | Couples | Mixed method evaluation |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
| | | 1. Loft, L. T. G. (2014). Parinterventioner og samlivsbrud: En systematisk forskningsoversigt. Copenhagen: SFI- Det Nationale Forskningscenter for Velfærd. <br><br> 2. Stanley, S. M., Allen, E. S., Markman, H. J., Rhoades, G. K., and Prentice, D. L. (2010). Decreasing divorce in army couples: Results from a randomized controlled trial using PREP for Strong Bonds. *Journal of Couple and Relationship Therapy, 9*, 149-160. <br><br> 3. Spanier, G.B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*, 15-28. <br><br> 4. Halford, W. K., Markman, H. J., Kline, G. H., and Stanley, S. M. (2003). Best practice in couple relationship education. *Journal of Marital and Family Therapy, 29*, 385-406. <br><br> 5. Markman, H. J., Renick, M. J., Floyd, F. J., Stanley, S. M., and Clements, M. (1993). Preventing marital distress through communication and conflict management training: A 4- and 5-year follow-up. *Journal of Consulting and Clinical Psychology, 61*, 753-76. | | |
| | **Support groups for children and teenagers** | Socializing with other children in the same situation can provide information, knowledge and support to children having a parent with metal health problems. The support groups are combined with a parent group for the purpose of stimulating communication about the topic between parents and children, but also to stimulate networking and sharing within the parent group. The groups are comprised of a 10 session curriculum and offered to children from 8 – 12 and 12 – 16 years. | Child, Parents | Mixed method evaluation |
| | | 1. Nordenhof, I. (2008). Narrative familiesamtaler: Med udsatte børn og deres forældre. København: Akademisk Forlag. <br><br> 2. Nordenhof, I., Eide, G. (2013). Børne- og ungegrupper - veje til mestring i teori og praksis. København: Akademisk Forlag. <br><br> 3. Ruscio, A. M., Weathers, F. W., King, L. A., and King, D. W. (2002). Male war-zone veterans' perceived relationships with their children: the importance of emotional numbing. *Journal of Traumatic Stress, 15*, 351-357. <br><br> 4. Pollmann, J. B., Gjelstrup, J. W., and Vedtofte, M. S. (2016). Samtalegrupper for børn og unge - en procesevaluering. Retrieved from: http://veteran.forsvaret.dk/Omos/publikation/Documents/Gruppesamtaler_til_Born_og_Unge.pdf. | | |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---------|--------------|---------------------|-----------------|-------------|
| **Estonia** | **Missiooni Perede Toetus Programm (MPT) Website: Support program for families with a deployed member** | Since 2009, the family members of the deployed servicemen have access to the restricted homepage. The homepage provides up-to-date information, counseling, and a chat room. | Parents | Number of visits per day, qualitative feedback |
| | | 1. Siplane, A. (2015). Mille pärast muretseb sõduri naine? *Sõdur: Eesti sõjandusajakiri*, *4*, 22-23.  2. Truusa, T.-T., and Siplane, A. (2015). Using internet forums to support military families during deployment. In: Third Annual Military Social Work Conference Strengthening Military Families Through Effective Community Practices. Joe C. Thompson Center, The University of Texas at Austin, September 16 – 18, 2015. | | |
| | **Carolin Illenzeer Fund** | Since 2011, the aim of the Carolin Illenzeer Fund is to collect financial and social assistance resources to support the children of the members of the Estonian Defence Forces who have been killed or severely injured in the line of duty. The fund covers mainly the schooling costs or supports the hobby activities of the children. | Child | Money collected, number of children supported |
| | | No references | | |
| | **Wellness Weekends** | Since 2013, the families have the possibility to stay for a weekend at a wellness center. They can choose between different wellness centers in Estonia. The idea is that the weekend at a wellness center will support the reunion of the family members after the deployment, relations between family members, etc. | Family | User satisfaction |
| | | No references | | |
| **Germany** | **Books for Children** | Children often attribute a service member parent's behavior to their own failings or to not being loved anymore. The book can support the reattribution of the parent's behavior to the deployment-related illness. It can help children understand that it is not their fault and that there is help available for his/her parent and their family. Thereby, the book aims at preventing suffering from the child by secondary traumatization, resulting psychological stress or mental disorders or eventual developmental impairments. | Child | Book reviews |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
| | | 1. Beckmann, U. Karl the Bear Reporter (Karl der Barenreporter). (n.d.). Retrieved from www.einsatz.bundeswehr.de/portal/a/ein satzbw/start/familienbetreuung/!ut/p/z1/hY9PC4JAEMW_kbNu6drRPwmCaKBW7iUWXcywXVk26dCHb5eomzSHB_PezG8YoH AGKtgyDkyPUrDJ9C31L1GQ1zneYZzUTYiyvYfKKk42KMVwhNO_EWpitFIhgqrn0BoGWWcQqIAC7bnTScG1Vc2FHo0Oimm pnFkqPdnkoZRJnLGHFrlJ5JLt95T78uMwbYiHcFakpQXe2MKev13W2aehvTLRT_wgu_BjzPc0KApveAMXJvtM/dz/d5/L2dBISE vZ0FBIS9nQSEh/#Z7_B8LTL2922DTUA0IE50OSCD30F7. | | |
| | **Bundeswehrbetreu ungs-organisation** | The centers provide a link to different experts/representatives of the military psychosocial network, psychologists, social workers, military chaplaincy, eventually medical experts. It also addresses questions like what is my partner doing in his/her deployment? How can I reach him/her in case of emergency? How do other families deal with the long separation / the deployment experience? Who can help me if everything has changed? Who can help me if I need someone to look after my children? They also organize excursions for families of the deployed. | Child, Parents | None |
| | | 1. Bundeswehr im Einsatz. (n.d.) Retrieved from www.einsatz.bundeswehr.de | | |
| | **Seminar for soldiers/partners** | Three day seminar consisting of three modules:<br>• Module 1: Educating on the psychological background of deployment-related mental disorders and their treatment in the context of the German Armed Forces.<br>• Module 2: Emotional relief by sharing the emotional burden with other partners and creating group cohesion.<br>• Module 3: Empowerment: Strengthening resources. | Couples | Assessment at pre-, post-, and 3 months follow-up |
| | | 1. Wesemann, U., Jensen, S., Kowalski, J. T., Gewandt, A., Kröger, C., Fischer, C., …, and Zimmermann, P. (2015). Einsatzbedingte posttraumatische Belastungsstörung im sozialen Umfeld von SoldatInnen. Eine explorative Studie zur Entwicklung und Evaluierung eines Angehörigenseminars. *Trauma and Gewalt*, *9*, 2-11. | | |
| **Norway** | **Package and Workbook** | The activity takes place in the soldier's home with his/her family, by using the workbook, country maps and stationery. The book and package are given out to make it easier to talk about what is happening. These packages are offered before deployment on Family Day, so the soldier can use the book together with the children before he or she deploys. | Family | None |
| | | No references | | |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---------|--------------|---------------------|-----------------|-------------|
| | **Min Tur Ut** | Since 2012, the Norwegian Veteran Center has offered a one-week camp for children 12 – 15 years old. This camp is for youngsters who are children of veterans who have served, are serving or will serve for the Norwegian defense in military operations abroad. The purpose of this program is that children can meet to share experiences and build networks. | Child | User satisfaction |
| | | 1. Norway Forsvaret (February 2018). Min Tur Ut. Retrieved from https://forsvaret.no/tjeneste/veteraner/veteransenteret/ungdomscamp. | | |
| | **PREP for Strong Bonds** | The PREP concept (and also a modified version to military couples: PREP for Strong Bonds) is developed by Professor Howard J. Markman and is the most complete and well-respected divorce-prevention / marriage strengthening program. Couple education can reduce the risk of divorce, at least in the short run with military couples. | Couples | Mixed method evaluation |
| | | 1. Loft, L. T. G. (2014). Parinterventioner og samlivsbrud: En systematisk forskningsoversigt. Copenhagen: SFI – Det Nationale Forskningscenter for Velfærd.<br><br>2. Engsheden, N., and Sarkadi, A. (2014). "Jag önskar att fler kunde gå kursen"– Om relationsutbildning vid Soldathemsförbundet. Uppsala Universitet. Insitutionen för kvinnors och barns hälsa. *Forskargruppen för Socialpediatrik,* 1-13.<br><br>3. Lübeck, K., and Sarkadi, A. (2004). Samverkan till samsyn en resa genom par, grupper och organisationer. Rapport. Mora., Sweden, 2009, 1-46.<br><br>4. Halford, W. K., Markman, H. J., Kline, G. H., and Stanley, S. M. (2003). Best practice in couple relationship education. *Journal of Marital and Family Therapy*, *29,* 385-406.<br><br>5. Markman, H. J., Renick, M. J., Floyd, F. J., Stanley, S. M., and Clements, M. (1993). Preventing marital distress through communication and conflict management training: A 4- and 5-year follow-up. *Journal of Consulting and Clinical Psychology*, *61,* 753-760. | | |
| **Romania** | **Deployment Workshops** | This program is designed to provide information and training of military personnel and their families before, during, and after deployment abroad. The main task is to help military personnel and their families adapt to the new situation. | Family | None |
| | | No references | | |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
| | **VeteRUN** | A cross competition with a cultural component, involving both military personnel and civilian society. The main task is to facilitate a better integration in society for military veterans. The program also has a team-building component. | Family | None |
| | | No references | | |
| | **Children's Day** | During national holiday, targeted services support the family and children of military personnel who were killed or injured in action. | Child | None |
| | | No references | | |
| **Sweden** | **PREP for Strong Bonds** | The PREP concept (and also a modified version to military couples: PREP for Strong Bonds) is developed by Professor Howard J. Markman and is the most complete and well-respected divorce-prevention / marriage strengthening program. Couple education can reduce the risk of divorce, at least in the short run with military couples. | Couples | Mixed method evaluation |
| | | 1. Loft, L. T. G. (2014). Parinterventioner og samlivsbrud: En systematisk forskningsoversigt. Copenhagen: SFI- Det Nationale Forskningscenter for Velfærd. <br><br> 2. Engsheden, N., and Sarkadi, A. (2014). "Jag önskar att fler kunde gå kursen" – Om relationsutbildning vid Soldathemsförbundet. Uppsala Universitet. Insitutionen för kvinnors och barns hälsa. *Forskargruppen för Socialpediatrik,* 1-13. <br><br> 3. Lübeck, K., and Sarkadi, A. (2004). Samverkan till samsyn en resa genom par, grupper och organisationer. Rapport. Mora., Sweden, 2009, 1-46. <br><br> 4. Halford, W. K., Markman, H. J., Kline, G. H., and Stanley, S. M. (2003). Best practice in couple relationship education. *Journal of Marital and Family Therapy*, *29,* 385-406. <br><br> 5. Markman, H. J., Renick, M. J., Floyd, F. J., Stanley, S. M., and Clements, M. (1993). Preventing marital distress through communication and conflict management training: A 4- and 5-year follow-up. *Journal of Consulting and Clinical Psychology*, *61,* 753-760. <br><br> 6. Olsson, A.-.M. E. (forthcoming) Responses of members in Primary Network Families of Swedish soldiers and veterans. Emerging interaction, communication and social support in context of Military International Deployments. Research Report in Social Work, Kristianstad University. | | |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
| | **Invidzonen – Family Zone** | Invidzonen consists of a network of family members offering support and contact with other families and family members in similar situations. This is done via a website with a chatroom and invitations to activities in different locations around the country. Invidzonen sends encouraging postcards to spouses and other significant family members for Christmas, Easter, and other important events of the year.<br><br>Family zone offers programs for parents and children, including meetings where the participants can give and get advice, share experiences, and normalize reactions. Invidzonen offers a crisis phone number, hero medals for kids, and is the publisher of a magazine.<br><br>In addition to the magazine, Invidzonen has an app, a blog, and a podcast. With the app, you can log into the chat, read the blog, and take part of other relevant news. All of this information can also be found on the website. Many blog posts are written by Invidzonen mentors and volunteers or family members. On the podcast, you can listen to other family members talking about loneliness and the anxiety they feel when their partner is away on international missions. Invidzonen is also very active on social media, including Facebook, Twitter, and Instagram. | Parents, Child | Mixed method evaluation, qualitative research |
| | | 1. Olsson, A-M E. (forthcoming). Responses of members in Primary Network Families of Swedish soldiers and veterans. Emerging interaction, communication and social support in context of Military International Deployments. Research Report in Social Work, Kristianstad University. | | |
| | **SSHF (Svenska Soldathemsförbundet) (similar to YMCA)** | Before and after a deployment, SSHF has couples and family counseling. They also organize various activities for families and veterans and can be a resource for the local family coordinators who works with veterans and spouses in every military unit. SSHF can provide psychological support to both adults and children. This can be deployed quickly if needed. The agreement between SSHF and Swedish Armed Forces includes eight free sessions with a licensed psychologist if needed for family members – three assessments and five treatments. | Families, Couples, Child | Mixed method evaluation, qualitative research |
| | | 1. Olsson, A-M E. (forthcoming) Responses of members in Primary Network Families of Swedish soldiers and veterans. Emerging interaction, communication and social support in context of Military International Deployments. Research Report in Social Work, Kristianstad University. | | |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
| UK | **Service Pupil Premium** | Provides government subsidy of £300 per Service child provided to the school to provide additional, usually pastoral, support. Often used to support transition and additional needs support. | Child | Qualitative evaluation |
| | | 1. British Government. The Service Pupil Premium (Internet). UK; British Government: 2012 (updated 20 Nov 15, cited 21 Oct 16). Available from: https://www.gov.uk/government/publications/the-service-pupil-premium. | | |
| | **Family Activity Breaks** | Since 2008, Families' Activity Breaks (FAB) is a non-public funded, tri-Service charitable initiative in partnership with Youth Hostel Association (England and Wales) Ltd., providing fun and challenging activity camps around the UK for bereaved Military families. All staff are volunteers and trained bereavement counselors. | Family | Board of Trustees |
| | | 1. Families' Activity Breaks. What is FAB? (Internet). UK: 2009 (updated 2016, cited 21 Oct 2016). Available at: http://fabcamps.org.uk/. | | |
| USA | **FOCUS (Families OverComing Under Stress)** | FOCUS provides resilience training to military children and families. It teaches practical skills to help families overcome common challenges related to a parent's military service, to communicate and solve problems effectively, and to successfully set goals together and create a shared family story. | Family, Parents, Children, Couples | Comparison group, pre-post, satisfaction and feedback, RCT underway |
| | | 1. Saltzman, W. R., Lester, P., Beardslee, W. R., Layne, C. M., Woodward, K., and Nash, W. P. (2011). Mechanisms of risk and resilience in military families: Theoretical and empirical basis of a family-focused resilience enhancement program. *Clinical Child and Family Psychology Review*, *14*, 213-230.<br>2. Lester, P., Saltzman, W. R., Woodward, K., Glover, D., Leskin, G. A., Bursch, B., ... and Beardslee, W. (2012). Evaluation of a family-centered prevention intervention for military children and families facing wartime deployments. *American Journal of Public Health*, *102*, S48-S54. | | |
| | **Operation Purple Camp** | A week long camp that builds psychological strength and resilience by fostering connections with other military youth, teaching positive coping and communication skills, and offering service projects and recreational activities. | Child | Mixed method evaluation |

| Country | Program Name | Description/Overview | Target Audience | Evaluation? |
|---|---|---|---|---|
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| | **ADAPT (After Deployment, Adaptive Parenting Tools)** | ADAPT is a 14-week group-based prevention intervention. ADAPT targets five positive parenting practices: skill encouragement, positive involvement, family problem-solving, monitoring, and effective discipline. These parenting practices are taught in weekly 2-hour groups using active teaching methods such as role-play, practice, and discussion. | Parents | RCT |
| | | 1. Gewirtz, A. H., Pinna, K. L. M., Hanson, S. K., and Brockberg, D. (2014). Promoting Parenting to Support Reintegrating Military Families: After Deployment, Adaptive Parenting Tools. *Psychological Services*, *11*, 31-40.<br><br>2. Gewirtz, A. H., and Davis, K. L. Parenting Practices and Emotion Regulation in National Guard and Reserve Families: Early Findings from the After Deployment Adaptive Parenting Tools / ADAPT study. In W. MacDermid (Ed.), *Military deployment and its consequences for families* (pp. 111-131). Hoboken: Wiley Press. | | |

### 6.4.1   Recommendations

Although many of the reviewed country programs had no evaluation data to support efficacy, it is possible that the programs could be effective for use in military families. When a program appears to have an appropriate cultural fit for military families and they have positive satisfaction data, it is recommended to evaluate the efficacy in a comparison study if possible. While the gold standard for efficacy trials is a randomized controlled study, this is not always feasible due to the program's content, size, and cost of an efficacy trial. In addition, there may often be an urgency to begin implementation at scale right away in order to begin serving families in critical need. Government mandates and public pressure may also affect the ability to perform rigorous scientific inquiry prior to program implementation. For example, in 2007, the American Psychological Association released a report documenting the unmet needs of children in military families in the US. Following its release, there was governmental and public pressure to implement programming that would better meet the psychological needs of US military families and initiate greater preventive efforts to thwart the wear and tear of multiple deployments. As a result, several programs were rapidly scaled up without the completion of research to determine efficacy [37].

The use of a comparison group can often achieve immediate delivery of service and research into effectiveness/efficacy in a cost effective manner. For example, comparison of child outcomes of those receiving services to those who are on a waitlist may provide some evidence to support the efficacy of an intervention [38]. Similarly, comparison of those who complete a program to those who do not complete a program is another possibility.

The use of blended quantitative and qualitative methods may also strengthen evidence to support the use of a program, though each of these methods introduces limitations to the interpretation of the results. It can be helpful to perform qualitative evaluation of evidence-based programs that are newly adapted for a cultural context or special population. Qualitative evaluation can provide information that might not be uncovered in a quantitative-only design and can help fine tune an intervention to further enhance the application and utility within a population. This strategy can be particularly helpful in countries with a small population that may not have a sufficient number of program participants to warrant a costly comparison group and to shed light on helpful practices to support the target group.

As seen from Table 6-3, several of the reviewed programs have undergone either RCT or a comparison study in other contexts, but have not been evaluated for use in the country in which it is being implemented. When a strong evidence base exists, it may not be necessary to complete an entirely new RCT. However, some adaption to enhance cultural relevance should always be considered [39]. This process should start with translating the curriculum into the new language followed by a blind back-translation into the original language to ensure the translation is accurate [40]. Beyond simply translating the program from one language to another, there is also a need to look at logistical and cultural factors [35]. For example, a program developed in the United States may include information about multiple deployments, regular changes of duty stations, and the effects of moving every two years on children. This information may not be relevant to families of a service member in, for example, Estonia, Sweden, Denmark, or Norway, where families do not tend to move regularly or multiple times as part of military duty. In these countries, the service member may live at home with the family and commute during the week while performing their military duty. The family may therefore be able to stay stationary near to their known and trusted service structures and within close proximity to their networks and circles of support. Furthermore, countries have different military traditions and histories that affect the general societal attitude towards the military institution, and by implication, military families. This may influence military families' identification with the military and their attitude towards services and programs provided by the military. Program content should be adjusted accordingly. The most agile programs will allow for relatively easy customization to the local context. For example, the FOCUS model consists of five core elements that can be implemented with a variety of family constellations, including single parents and blended families and adjusted to be responsive to the needs of the family and the system of care within which it is being implemented [41]. Programs with clearly described

core elements, the active ingredients or activities that make a program effective, will be most easily adapted compared to programs with overly defined or heavily didactic content [42], [43]. It is also advised that the program evaluators consider using assessment measures that have been cross-culturally validated (see Chapter 5 for examples).

Finally, best practice programs provide support to child well-being not just narrowly to the child, but consider the relationship of the child to his or her family, the parent-child relationship, and the child's interaction with other helpful adults through various systems of care (e.g., FOCUS and the Canadian program E=MC3, see Table 6-3). This importance of using a family or relational approach to intervention not only strengthens the adaptive and coping skills of the child, but also strengthens the network that supports that child. As shown in Table 6-3, E-MC3 helps develop skills for each family member in order to strengthen the well-being of the overall family. FOCUS provides intervention to the entire family and defines family as whomever the family defines themselves (i.e., it is not based on what the military or state dictates; [44]). This means that other supportive adults who play an important role in care giving can be included in sessions (e.g., a neighbor, a stepparent, a grandparent, or an adult sibling). PTSD Family Coach is another example that provides education and helpful tips to family members and caregivers who provide care and support to a family member with PTSD [45]. Several programs offer support for the couple relationship or the co-parenting relationship (e.g., PREP, ADAPT) even though the child is not present in sessions. In each of these cases, the focus is on strengthening the relationship through parenting education, communication strategies, or regulating emotions across a relational system. Although some of the above-mentioned programs are not directly targeted at military families, they are based on the assumption that the well-being of military-connected children is affected by the overall function of the family [46].

## 6.4.2    Limitations

One limitation of our approach is that we may have missed some programs that are available to children in military families but are funded through other federal programs. At first glance, it appeared that there were fewer military-specific programs in countries labeled as a welfare state (e.g., the Scandinavian countries). Upon further examination, we discovered that this might be due in part to the fact that so many services are available to the population more generally. It is perhaps overly simplistic to look only at the number of available programs and is important to consider the role of the welfare state as some countries offer a few military specific programs that are layered on top of programs to support child and family well-being more generally.

In addition, we found that countries with larger military structures provided several programs not only by the military complex, but also by public-private partnerships, private foundations, and volunteer organizations. To keep track of provided programs, some countries offer a centralized website that provides information and access to various programs. Other countries do not offer a centralized resource and consequently, the programs may be difficult to find outside of the local context.

Another limitation of this chapter is that there was a tendency for task group representatives to provide psychoeducational programs such as the PTSD Family Coach App and Romania's Deployment Workshop. Many of these programs, such as informational websites and books for children, provide education and information but do not offer instrumental ongoing support. It can be difficult to evaluate the impact of these programs on children. However, providing access to information is an important part of the service structure for military families. It can be helpful to think of programs across a continuum of care and following a public health approach. Thus, access to information may be all that is needed for some families who can synthesize the information provided and implement suggested strategies on their own without further intervention. Other families may have higher needs and for which information is less likely to be accessed or effective for the family. We recommend that each country offer a variety of programs providing broad information that is useful for most military families, as well as more targeted strategies for those most at risk for psychological or behavioral challenges.

We designed our initial survey with the goal of identifying programs implemented in each Country with an emphasis on programs with at least some evaluation data. This was open ended and not specifically aligned with our model for child well-being (see Chapter 4). As a result, we did not receive program descriptions that cover each domain of the model. For example, we did not receive any program within the legal domain. It is possible that most task group representatives do not consider rules/regulations that support child well-being to be "programs". For example, Belgium has rules about when a parent can be deployed based on the age of the child(ren) within the family. Other countries make similar considerations in deployment decision making. While legal aid may be available in several of the countries, it was not submitted as a program that targets military-connected children. Despite this, this task group emphasizes that legal aid, child protection laws, and military regulations that consider the important role of the military parent in child development are critical factors that support child well-being.

### 6.4.3    Future Directions

As more programs that support the well-being of children in military families are adapted for use in other countries, it will be helpful to develop recommendations for adaptation and implementation. The use of learning collaboratives [47] may foster sharing of best practices for dissemination in a flexible manner while still upholding fidelity to the core elements of evidence-based models. Originally used in medicine, this model for dissemination brings together multidisciplinary teams from multiple organizations to share lessons learned and useful approaches to engage families, increase system support of evidence-based practices, and enhance innovation [47]. Teams may meet in person and/or by phone or webinar format at regular intervals with work periods in between that support the trial of shared practices within each organization.

Research about how families define themselves, what kind of support they prefer to receive, and how and when they would like to receive it may be helpful as we develop and implement programs across cultural contexts, with different roles of the welfare state and with varying involvement in shifting military operations and contexts. In the UK, researchers have examined perception of the family by military service members and their dependents [48]. The results suggest that families do not necessarily follow the common or traditional perception of family as a mom, dad, and two children. Many blended families exist, as well as families with single parents, same-sex parents, or grandparents as primary caregivers. As a result, it may be helpful to broaden the lens to include other caregivers and supportive others such as stepparents, stepsiblings, or extended family members, in programming even if they do not have the "lived" military experience. In many countries, such as Estonia, there is a very young military force, where some service members are as young as seventeen years of age. These service members are often single, but are still members of a family. Services to strengthen their family relationships with adult parents or siblings can still be useful to better support the health and well-being of the service member. This may aid in retention of services members, support force mental fitness, and reduce suicide risk, but also may have long-term positive effects as these young service members may eventually become parents themselves.

In conclusion, one of the goals of this task group was to identify best practices for programs to support children in military families. We reviewed 36 programs from nine countries to identify best practice programs. Our recommendations include:

1) Implementation of diverse types of programming to meet the multicultural needs of individual families within a country's military population;

2) Adoption of existing evidence-based interventions;

3) Selection of programs that can be easily adapted to differing cultural contexts and national systems of care;

4) Selection and implementation of programs that focus on strengthening family relationships; and

5) Provision of funding for program evaluation.

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# Chapter 7 – RECOMMENDATIONS FOR MEASUREMENT OF WELL-BEING

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## ABSTRACT

*Measurements of child well-being in the military context through cross-national surveys must allow assessment of both:*

1) *Indicators for vulnerability and resilience in such children; and*

2) *Factors leading to program success across the different NATO members.*

*This review identifies psychometric properties (including validity, cross-cultural validation, Sensitivity (SE), and Specificity (SP) of each measure for various cutoffs for referral for psychiatric evaluation) as well as feasibility (cost-efficiency, time needed for filling in the questionnaire, language availability, and costs for its use). The measures included are four generic health-related quality-of-life measures (PedsQl 4.0, KIDSCREEN-52, DCGM-37, and KINDL-R) and four screening measures for mental health (ASEBA, CHQ, PSC, and SDQ). High SE and SP values (.70) for the screening instruments occurred in only 30% – 55% of the studies reviewed. Cross-cultural validation and content validity are best covered by the KIDSCREEN-52, which is the dominant HrQoL instrument in Europe. The HrQoL instrument mostly used in the U.S. is the PedsQL. Although there is no gold standard, the combination of a mental health screening instrument, the SDQ, with a HrQol instrument, the KIDSCREEN-52, is recommended due to their complementary advantages on the evaluation criteria. Future comparability of items banks, such as those in the KIDSCREEN-52 and the PedsQL, is aimed for by the U.S.-based PROMIS project.*

## 7.1 INTRODUCTION

This chapter recommends measures of child well-being in a military context and identifies the need for further research for the development or improvement of existing instruments. The task group identified two guiding principles for the review of measures: validity and utility. Measures should cover the relevant domains, subcomponents, and indicators of child well-being in military families across different nations (content validity). In addition, measures should serve a number of objectives:

a) Identifying risk and protective factors for child well-being in military families, including mental health screening;

b) Enabling recommendations on social, educational, and health care policy, programs, and preventive and intervention measures;

c) Allowing for cross-national comparisons of child well-being in military families and comparisons between children from civilian and military families; and

d) Being usable in large-scale cross-sectional and longitudinal surveys. For investigating the objectives identified, child well-being is understood as an outcome and should be narrowed down to the child.

In line with much of the literature, the terms *well-being* and *Quality of Life* (QoL) are used interchangeably in this chapter. Methodological reviews most often use the term Health-Related Quality of Life (HrQoL). In recent years, a number of systematic reviews on health-related quality of life measures and screening instruments on mental health and developmental-behavioral screening measures have been published. These

have focused on different aspects, including content, psychometrics, and feasibility features for implementation.

While a number of research instruments with good psychometric properties are available for different aspects of child well-being, the military aspects of child well-being have rarely been taken into account. This chapter describes the principles, requirements, and inclusion and exclusion criteria that child well-being measures should meet taking into account the military context.

## 7.2 CHILD WELL-BEING AS AN OUTCOME MEASURE

The task group's model for describing child well-being in the military context (as described in Chapter 4) can be used as a guiding framework for the identification of important domains of assessment of well-being for the military-connected child. The framework differentiates between specific military factors that might be associated with or might impact child well-being. The domains and indicators that relate to evaluation of the child are informed by the HELMS-model: 1) the Health domain including both physical and mental health, 2) Education, 3) Social, and 4) Material. The Legal domain was omitted in respect to measurement since the task group identified the laws and institutions to belong to the macro level of the Bronfenbrenner's model and, as such, the laws and institutions are the same for all children in one country (though they might be perceived differently). To reduce the complexity of the measures, the task group decided to recommend a core well-being measure or few core well-being measures for use in large cross-cultural surveys.

## 7.3 CONSIDERATIONS FOR THE MEASUREMENT OF CHILD WELL-BEING

The requirements for child well-being measures are derived from the research objectives. The inclusion and exclusion criteria for the research instruments follow from the research objectives. An overview is presented in Table 7-1.

### 7.3.1 The Relevant Domains, Subcomponents, and Indicators of Child Well-Being (Content Validity)

The first objective is content validity: The child well-being measures should cover the relevant domains, subcomponents, and indicators of child well-being for military families across different nations. Researchers agree that well-being and quality of life [1], [2], [3], [4] is a value-based variable. In the case of measuring value-based variables, three principles are recommended in the literature [1]:

1) Basing the measurement on a theory agreed upon by experts;

2) Involving the stakeholders in developing the measures; and

3) Making underlying values explicit.

On these three principles, the following considerations enhance content validity: the coverage of the four domains of well-being (health, education, social, and material well-being), systematic involvement of children and youth in developing the child well-being measure (stakeholder involvement), the non-discriminative nature of the child well-being measure and adaptation for children with chronic conditions, the coverage of the relevant target groups in respect to the age range (0 – 18 years), age and stage adequacy, and the use of the measures with military families. These considerations should result in concrete criteria guiding the inclusion or exclusion of measures of child well-being and their evaluation in respect to content validity.

*Principle 1:* The measurement of well-being should be based on state-of-the-art-research requiring a literature review on internationally agreed-upon measurement models by researchers on child well-being.

Based on the literature review, international interdisciplinary experts on the well-being of children from military families should agree on the relevance these will have to the agreed-upon domains, subcomponents, and indicators. The NATO working group derived from these considerations the following *inclusion* criteria: the generic well-being measure should cover the four domains (i.e., physical and mental health, social well-being, education, and material well-being). Measures should be *excluded* if none of the domains or a very restricted set of specific difficulties in one of the four domains is covered (e.g., specific mental health disorders).

Next, the researchers' exclusion and inclusion criteria must be evaluated against what the stakeholders consider relevant for the well-being of children from military families (Principle 2).

*Principle 2:* The stakeholders of child well-being are the children themselves, according to a majority of researchers in the recent years [5]. However, in the past, the assessment of well-being has more often been carried out by adult proxies, including caretakers, school teachers, and childcare workers than by children themselves. This overreliance on parental reports is also a limitation when studying the impact of military deployment on children [6]. This practice is based on the assumption that adults are more objective and knowledgeable when it comes to assessing whether the child's development is conducive to becoming a happy and well-functioning adult. At the same time, research has shown that children are able to reliably assess their well-being even at the age of five years [7], [8], [9].

**Table 7-1: Purpose/Objectives and Selection Criteria: Inclusion and Exclusion Criteria.**

| Objective/Purpose | Principle | Requirements | Inclusion Criteria | Exclusion Criteria |
|---|---|---|---|---|
| 1a) Covering relevant domains, subcomponents and indicators of child well-being for military families in different nations. | a) Principles in dealing with child well-being as a value based construct.<br><br>b) In line with the principles of the UNCRC:<br>• Stakeholder involvement;<br>• Non-discrimination (of disabled children). | a1) State-of-the-art research: literature review.<br>a2) Agreement of international interdisciplinary experts on relevance on military-specific demands of child well-being.<br>a3) Intersubjectivity: integrating information from multiple sources.<br>a) and b) Identification of components relevant to the stakeholders (children, youth, disabled children, children from military families). | a1) and a2) Generic measure covering four domains of HrQoL: physical and mental health, social WB, education, material WB, legal aspects.<br>a3) Self-report and proxy version of questionnaire.<br>a) and b) Systematic data collection of children of different ages, sex, national origin, children with chronic conditions and from civilian and military families, as part of the development and validation process. | None of the domains covered, narrow set of specific difficulties or mental health disorders covered.<br>a3) Only self-report or proxy version (6 – 18 years).<br>a) and b) Only validated with a restricted age range, only with one sex, one nation, only with healthy or clinical samples. |

| Objective/Purpose | Principle | Requirements | Inclusion Criteria | Exclusion Criteria |
|---|---|---|---|---|
| 1b) Relevant target groups covered:<br>• 0 – 18 years;<br>• Civilian and military families. | Age and stage adequacy for children and youth between 0 – 18 years.<br>Experience with use with military sample. | Age adequate domains and subcomponents, items.<br>Age adequate format. | 6 – 18y: Health, Social, Education, Material [legal] domain years.<br>Self and proxy report.<br>0 – 6y behavioral screening of development, proxy report and/or observation. | Age range covered for QoL-instruments ≤ 8 – 18y. |
| 2) Identifying risk and protective factors in military children. | a) Mental health screening: Identifying children at risk.<br>b) Instrument should discriminate between risk and protective factors, including military-specific factors. | a) Classification accuracy in respect to mental health screening.<br>b) Group validity, responsiveness. | a) Simultaneous sensitivity (SE) and specificity (SP) ($\geq$ .70).<br>b) Significance and effect sizes in intervention and naturalistic studies. | a) Lacking information on simult. SE and SP.<br>b) Lacking information on group validity. |
| 3) Informing social, educational and health care policy, programs and interventions. | a) Items relevant for social, educational and health care policy based on internationally agreed scientifically based categorization system.<br>b) Responsiveness. | a) Linking items in line with linking rules of Rieza *et al*. to ICF-CY Categories.<br>b) Intervention studies and naturalistic studies with different time frames, including for children from military families. | a) Highest percentage of ICF-CY categories covered in comparison relative to other measures.<br>b) Effect sizes, multiple use (naturalistic, intervention, civilian, military, short- and long-term). | a) No information on ICF-CY categories covered.<br>b) No information on responsiveness. |
| 4) Cross-national comparisons of child well-being for military families and between children from civilian and military families. | Scientific guidelines for cross-cultural validation of psychometric instruments. | Cross-cultural validity of instruments. | • Validity (content, construct , criterion), precision (IRT, DIF).<br>• National age- and gender-specific norms available.<br>• Instrument widely used. | • No information on reliability, validity.<br>• No norms available.<br>• Instrument not widely used.<br>• < 10 NATO languages. |

| Objective/Purpose | Principle | Requirements | Inclusion Criteria | Exclusion Criteria |
|---|---|---|---|---|
| 5) Use in large-scale cross-sectional and longitudinal surveys. | Feasibility features. | a) High Response rate and low drop-out. <br><br> b) Sustainability by independence of funding. | a) Completion of questionnaires < 20min). <br><br> b) Instruments free for use. <br><br> c) Language availability. | a) Completion of questionnaires > 20min.) <br><br> b) Non-fixed costs for licensing. |

Systematic patterns of disagreement between caretaker and child have been found when assessing the well-being of the child: Parents of healthy children rate them to have a better quality of life than the children themselves [10], though this trend was reversed for children with health conditions [11], [12], [13], [14]. Lanier *et al*. [15] found that in families receiving child welfare services for child physical abuse and neglect, agreement between parents and child reports on pediatric quality of life (PedsQl 4.0) was poor. In this case, children's self-reports scored substantially lower than parent-proxy reports on total and all domain scores. The poor agreement was associated with high parent anger and parental self-report of poor mental health. Similar patterns are seen in studies on the impact of military deployment on children's well-being [6], [16] and could be due to the negative filter that can be associated with mental health diagnoses, such as depression and PTSD [17].

Agreement or disagreement between the adult proxy's perspective and the child's view are not necessarily evidence of reliability, as it is often assumed in the case of interrater agreement. Agreement or disagreement between self- and proxy reports instead can provide important information about the child's quality of life, its impact on the child's well-being, the relationship between caretaker and child, discrepancies in their expectations about the child's well-being, the need of developmental support/treatment, and the caretaker's mental health or stress level. All these factors can in turn reflect on the child's well-being. With respect to the impact of military life on ratings of child well-being, interrater agreement might be affected by different deployment realities, an at-home parent's or the returning soldier's stress level, and their respective expectations about the long-term impact of the parental absence and reunification on the child's development. In the case of interrater disagreement, complementary qualitative methodology could deepen the understanding behind it through observation. As a consequence, multiple perspectives are recommended in assessing the well-being of children from military families.

Disagreement between parents and their children over the well-being of the child is not the only kind. Children and youth of different ages, gender, healthy or chronic conditions, and children with a civilian or military family background might also differ in respect to what they consider relevant for their well-being. In addition, measurement might have to be adapted to the age and development of the respective child for being stage adequate. This applies to the incorporation of *future well-becoming and current well-being* [5], [18]. The relative importance of the various well-being domains likely differs over the course of child development. For example, the impact of educational engagement in a school system may increase during the school-age years and remain through the transition to adulthood. Further, shifts in developmental tasks span the life course and can affect content of the assessment as well as the methodology [18], [19], [20]. Methodological shifts can improve assessors' sensitivity to the stage of the child's development. For example, assessment of an infant or toddler may be most valid if done through observation or parent report. Preschool-aged children may be verbal but may not have yet developed the verbal expression or comprehension skills necessary to represent the true complexity of their experience. A stage-appropriate methodology requires that the child or adolescent understands the questions asked in a self-report approach. For young children, observation of parent-child interactions, playing behavior, attachment styles, and proxy

reports are alternative and complementary sources of information. Covering the complete age range from 0 – 18 years requires that inclusion criteria for the measures be age dependent. Screening measures of their development by observation or by evaluation of their caretakers should be included for 0 – 6 year-old children. For older children and youth, the relevant well-being domains should be covered by self- and proxy report. If self- and proxy report measures cover a smaller age range than 8 – 18 years, these should be excluded.

Based on this empirical background, the well-being measures for children from military families should be included if they meet the following inclusion criteria:

- They cover four domains: physical and mental health, social well-being, education, and material well-being.

- The development and validation of the well-being measure is based on systematic data collection of what the stakeholders consider relevant for their well-being. These are children of different ages, sex/gender, national origin, with healthy and chronic conditions and from civilian and military families and their caretakers.

- Self-report and proxy report version of the questionnaire are available for 6 years of age and older.

- For children younger than 6 years, toddlers and babies, the measures allow screening of behavioral development by proxy report or observation.

Measures should be excluded from the review if:

- There is only a self-report or a proxy report version available (for the age range from 6 – 18 years);

- The questionnaires were only validated with a restricted age range (< 8 – 18), with one sex/gender, one nation, only with healthy and clinical samples; and

- None of the domains, or a very restricted set of specific difficulties in one of the four domains, is covered; e.g., specific mental health disorders.

*Principle 3:* The underlying values should be made explicit. The selection of measurement instruments is also guided by the incorporation of a strength-and-vulnerabilities-based approach (positive and negative indicators of well-being in line with Ben-Arieh [5]), the United Nations Conventions of the Rights of the Child (UNCRC), in particular articles 2, 12, and 23, and by skepticism with respect to objective measures (see also Section 3.4).

*Incorporating vulnerabilities and strengths:* A policy-driven use of indicators requires identifying shortcomings and gaps in need of improvement. The identification of nation- and military-specific vulnerabilities and gaps in resources stresses the need for action and for mobilizing resources for children from military families. At the same time, the identification of positive indicators serves children's empowerment by focusing on their capabilities and strengths. As a consequence, positive and negative outcomes should be measured.

*Art. 2, 12, and 23 of the UNCRC:* Article 2 refers to non-discrimination, article 23 to the rights of disabled children, and article 12 to the right of the child to be heard. Article 12 underlines the importance of treating children as stakeholders in questionnaire development. Thus, it adds to the relevance of the inclusion criteria of children as stakeholders in the development of questionnaires and the necessity of providing a self-report measure for children. Respecting the rights of disabled children or children with chronic conditions (Art. 23) requires giving them a voice and considering their specific needs. Though empirical studies are missing, anecdotal evidence suggests that the absence or deployment of a military parent strains the support system of the affected child. As a consequence, the at-home dyad of a child with a chronic condition may be more

vulnerable.[1] Therefore, well-being measures should have been validated with both healthy samples and children with chronic conditions.

In sum, the described values underlying well-being measurement (Principle 3) support the inclusion and exclusion criteria for child well-being measures with respect to content validity. The important considerations to enhance content validity are as follows: the coverage of the four domains of well-being (health, education, social, and material well-being), systematic involvement of children and youth in developing the child well-being measure (stakeholder involvement), the non-discriminative nature of the child well-being measure and adaptation for children with chronic conditions, the coverage of the relevant target groups in respect to the age range (0 – 18 years), age and stage adequacy, and use with military families.

### 7.3.2    Enable Identification of Risk and Protective Factors

The second function of effective measurement of well-being is to enable identification of both risk and protective factors. In other words, child well-being as an outcome should increase with the positive impact of protective factors and should decrease with the negative impact of risk factors. A risk factor increases the likelihood of suffering from a mental health condition, while protective factors reduce the likelihood and contribute to a quicker and more sustainable recovery. As a consequence, the child well-being outcome measure should screen children and youth for mental disorders. The psychometric requirement is that the instrument demonstrates good classification accuracy, which means simultaneous sensitivity and specificity as high as or higher than 0.7. This is the strictest psychometric requirement for a well-being research instrument. Lower requirements are that the instrument discriminates between groups with high and low risk factors and that it reacts sensitively to changes in the risk and protective factors as well as interventions (responsiveness). Responsiveness includes sensitivity to natural changes over time and changes due to interventions. All changes can be recorded with different time frames, short- and long-term changes.

In conclusion, measures on child well-being should be included, if information is available, on:

- Their classification accuracy (Sensitivity [SE] and Specificity [SP] allowing for mental health screening);

- Their group validity; and

- Their responsiveness.

### 7.3.3    Informing Social, Educational, and Health Care Policy

The third function of child well-being measures is to inform social, educational, and health care policy, programs, and interventions. It is assumed here that two conditions increase the likelihood of having an impact on policies, programs, and interventions:

a) The responsiveness of the child well-being measure with a specific focus on sensitivity to interventions (as already described); and

b) Its close connection with the respective social, educational, and health care policies.

For international cross-cultural research, the relevance of a child well-being measure for health, education, and social services for children has to be assessed by the help of an internationally agreed-upon and scientifically based coding system. A coding system that provides such a unified standardized language is the *International Classification of Functioning, Disability and Health for Children and Youth* (ICF–CY) by the

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[1] No data are available on prevalence rates of children from military families with one or more chronic conditions. An estimate would have to rely on international prevalence rates for children with chronic conditions. Prevalence rates for children with one or more chronic conditions differ substantially depending on different definitions. In a European study, rates of families with disabled children ranged between 0.5% and 4% between the different European countries [21]. Wiljaars et al. [22] report prevalence rates of children with at least one chronic condition between 13% and 27%.

World Health Organization (WHO). It is based on the WHO's definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The ICF–CY moves beyond a classification of diseases or mental disorders and moves the physical, mental, and social well-being, including education in its focus. It applies classification codes to "hundreds of bodily functions and structures, activities and participation, and various environmental factors that restrict or allow young people to function in an array of everyday activities." It has important functions for educational policy, research, and service designs for children and youth. Its visibility as an international standard increases the likelihood of affirming universal needs and rights of children (http://www.who.int/mediacentre/news /releases/2007/pr59/en/). The establishment and consensual use of linking rules by Cieza and Stucki [22] allows reliably evaluating health-related quality of life measures in respect to their coverage of policy-relevant ICF-CY categories.

In sum, measures of child well-being should be included, if the following information is available:

- The percentage of ICF-CY categories; and

- Their responsiveness (sensitivity to change: multiple use, naturalistic, intervention, short- and long-term, effect sizes, military-specific).

They should be excluded from the evaluation, if:

- Data on the coverage of ICF-CY categories or no data on responsiveness of the measure is available.

### 7.3.4 Enable Cross-National Comparisons Between Children from Military Families and Comparison Between Civilian and Military Families

As a fourth objective, the child well-being measure or measures should allow both cross-national comparisons of child well-being in military families and comparisons between children from civilian and military families. This means that the psychometric properties of the child well-being measure or measures have been tested in different countries in line with the established scientific guidelines for cross-cultural validation. The cross-cultural validity does not only depend on the number of countries or cultures in which the instrument is validated and the translating rules followed. It also depends on the test theory on which the cross-cultural testing is based; Classical Test Theory (CTT) or Item Response Theory (IRT), including Rasch-modeling and differential item functioning; and the validity types (content validity, construct validity, including structural validity, convergent and discriminant criterion validity, and predictive validity, group validity, and responsiveness). The more information available and the more evidence for equivalence across the different nations and cultures, the better the instrument will be suited to the cross-national and cross-cultural comparisons. Only when country- and culture-specific norms for a child well-being measure are available can cross-national comparisons be interpreted against this frame of reference. Norms are more likely to be available and updated when the respective instrument is widely used. On a general note, information on the non-equivalence of an instrument across cultures is more useful than no information at all. Based on prior information about country-specific performance of an instrument, results from the respective countries can be interpreted in light of the knowledge of the instrument's functioning.

In cross-cultural research on child well-being, an additional difficulty arises in identifying objective indicators and interpreting national differences. Eco-social indicators might be confounded with health or social system performance, cultural norms, and historical changes. As a consequence, conclusions about well-being on the basis of allegedly objective indicators can easily be misleading; e.g., almost the same vaccination rate for measles in children 12 – 23 months in Sweden (98%) and Tanzania (99%) (http://data.worldbank.org/indicator/SH.IMM.MEAS) might not reflect the same quality of health care. The understanding/interpretation of economic or material well-being or deprivation might be influenced by economic inequalities in the respective countries, differences between civilians and military personnel, and differences between military ranks. In addition, the possession of the same object (e.g., bike, mobile phone, kind of shoes) might be of different value in different countries.

Cultural norms, in addition to mood and priming effects, have been found to impact the subjective assessment of general life satisfaction and satisfaction with specific domains of well-being. Differences in life satisfaction are more pronounced when comparing countries than when comparing lowest and highest income classes. As a consequence, the interpretation of life satisfaction is not clear, though often used.

Solutions to these challenges for cross-cultural research can be quantitative, qualitative, or mixed-method methodology: As a survey-focused solution to the problem, relative measures might be standardized. In an interpretation-focused solution, results can be interpreted against the background on national contexts/norms. In an ideal world, single indicators would require the assessment of well-being concepts across nations and developmental stages (in respect to these indicators). Good evidence of the instruments' psychometric qualities for cross-national reliability and validity and, ideally, the cross-cultural development of such instruments from the beginning should be a prerequisite. In addition, contextualizing indicators with respect to differing cultural, age, and child-caretaker-dependent concepts, requires mixed methods designs. In a nutshell, a mixed-methods design provides the following advantages for measuring childhood well-being [23]: in the process of simultaneous data collection, surveys could be used to identify subgroups for deepening or contextualizing certain issues and indicators by in depths interviews or focus groups (or alternative qualitative methods). At the same time, qualitative methods can be employed to identify survey questions. In the process of data analysis findings from different methods or from quantitative and qualitative researchers could be synthesized. Results from qualitative research could further confirm or refute the validity of surveys. They can also be used to enrich or explain information on processes in the survey, including discrepancies in assessments.

In order to select and evaluate child well-being measures for large scale surveys, these measures should meet the following inclusion criteria:

- They have been validated in more than 10 countries;
- Information is available on:
  - Content validity (see objective 1);
  - Construct validity: structural, discriminant, and convergent validity;
  - Precision in line with Item Response Theory (IRT) and analyzed with respect to Differential Item Functioning (DIF); and
  - Nation-, age- and gender-specific norms.
- They are widely used.

### 7.3.5   Sustainable Use in Large-Scale Cross-Sectional and Longitudinal Surveys

Finally, as a fifth objective, the child well-being measure should be suitable for use in large-scale cross-sectional and longitudinal surveys. The sustainability will partly depend on funding for carrying out the research and partially on the high response rate and low dropout rate. These consequences can be influenced through feasibility features. While the personnel resources for carrying out these cross-sectional and longitudinal studies cannot be influenced by the choice of different self-report instruments, the cost of the large-scale use of the child well-being measures can. Free to use measures would help ensure funding. The response rate and the dropout rate can be positively influenced by only including questionnaires that take less than 20 minutes to complete.

In sum, the inclusion criteria for child well-being measures are completion time (< 20 minutes), free for use, and available in multiple languages. Instruments should be excluded if they are longer than 20 minutes, have costs for licensing, and are not available in multiple language (< 10 languages), or require extra personnel for administration (e.g., for conducting interviews).

## 7.4   SEARCH METHODS

The following search terms were used {well-being or subjective well-being or quality of life or life satisfaction or resilience} and {baby or toddler* or child* or youth or adolescent} and {measurement* or assessment or questionnaire or self-report or research instrument or interview or observation} and {meta-analysis or review or reliabl* or valid* or psychometrics or psychometric properties}. The following databases were searched: PubMed, DIMDI including MEDLINE, EMBASE, EMBASE ALERT, PsycINFO AND PSYNDEX and scholar.google.de using the search terms. Articles were excluded if they were duplicates, if they were published in a language other than English, French, Spanish, Portuguese, German, or Russian. However, most (about 95%) of the articles were published in English. In addition, hand searches were conducted, and authors were contacted when information was not attainable.

## 7.5   RESULTS

Based on the exclusion and inclusion criteria, four generic Health-Related Quality-of-Life measures (HrQoL) and four mental health screening measures are identified for the age range 6 – 18 years. The four generic HrQoL measures were the most widely used HrQoL instrument in the U.S., the PedsQl 4.0, the most widely used HrQoL-instrument used in Europe, the KIDSCREEN-52. Other measures were the DisabKids (DCGM-37) and the KINDL-R. The four mental health screening tools were the Achenbach System of Empirically Based Assessment (ASEBA), including the Child Behavior Checklist (CBCL), the Youth Self-Report (YSR), and the Teacher Report Form (TRF), the Child Health Questionnaire (CHQ), the Pediatric Symptom Checklist (PSC), and the Strengths and Difficulties Questionnaire (SDQ).

In spite of good psychometrics, the following screening instruments for mental health were excluded for pragmatic reasons. Among the most important were costs of use, time needed to fill in the questionnaire, and language availability: Beck Youth Inventories, Behavior Assessment for Children, the Behavioral and Emotional Rating Scale, Child Symptom Inventories (CSI), the Health of the National Outcome Scale for Children and Adolescents (HoNOSCA), and Youth Outcome Questionnaire (YOQ). In addition, no systematic reviews and fewer than six studies on classification accuracy (simultaneous sensitivity and specificity $\geq$ .70) were found [24].

The presentation of the results and the evaluations of the eight child well-being instruments are structured by the five objectives and the inclusion and exclusion criteria lined out in Chapter 3 and summarized in Table 7-2.

**Table 7-2: Results Organized by Criteria.**

| Criterion/Requirement | Health-related Quality of Life (HrQoL) | | | | Mental Health Screening | | | |
|---|---|---|---|---|---|---|---|---|
| | **KIDSCREEN** | **PedsQl 4.0** | **Kindl** | **DCGM-37** | **ASEBA** | **CHQ** | **PSC** | **SDQ** |
| **1) Content Validity:** Well-being domains covered, systematic stakeholder involvement, self and proxy version, age range covered | | | | | | | | |
| 1.1 Well-being domains covered (max. 5 domains) | **4** | 3 | 3 | 3 | 2 | 2 | 2 | 2 |
| 1.2 Systematic stakeholder involvement: | | | | | | | | |
| • Age, gender, nation | **Yes, in EU** | – | – | – | – | – | – | – |
| • Children with chronic conditions | – | – | – | **Yes** | – | – | – | – |
| • Children from military families | – | – | – | – | – | – | – | – |
| 1.3 Self-report (SR) and Proxy version (PR) of questionnaire | Yes | Yes | Yes | Yes | Yes + teacher | Yes | Yes | Yes + teacher |
| 1.4 Age range covered in SR and PR | SR: (6)8 – 18  PR: (6)8 – 18 | SR: 8 – 16  **PR: 2 – 18** | SR: 4 – 17  PR: 4 – 17 | **SR: 4 – 16**  PR: 4 – 16 | SR: 11 – 18  PR: 6 – 18 | SR: 10 +  PR: 5 – 18 | SR: 11 +  **PR: 1 – 16** | SR: 11 – 17  **PR: 4 – 16** |
| **2) Identifying risk and protective factors in military children:** Information available on classification accuracy and group validity | | | | | | | | |
| Information available on classification accuracy | No | No | No | No | **Yes** | No | **Yes** | **Yes** |

| Criterion/Requirement | Health-related Quality of Life (HrQoL) | | | | | Mental Health Screening | | | |
|---|---|---|---|---|---|---|---|---|---|
| | KIDSCREEN | PedsQl 4.0 | Kindl | DCGM-37 | | ASEBA | CHQ | PSC | SDQ |
| Group validity<br>• Clinical-healthy<br>• High – low SES | Yes<br>ES ≤.7 | Yes<br>ES ≥.5 – ≥.9 | Yes | Yes | | **Yes** | Yes | **Yes** | **Yes**<br>**SE <.5** |
| **3) Policy relevance:** Categories of ICF-CY covered by instruments and Responsiveness | | | | | | | | | |
| 1.1 ICF-CY:<br><br>Body functions | 33% (SR)<br>**46.7% (PR)**<br>**6:9C (PR)** | 33% (SR) | **44%**<br>**(SR)** | 29% (SR) | | | 27% (SR) | | |
| 3.1 ICF-CY:<br><br>Body structure | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 |
| 3.1 ICF-CY:<br><br>Activities/participation | 31% (SR) | **52% (SR)**<br>**50% (PR)**<br>**10:13C (PR)** | 24% (SR)<br>20% (PR)<br>5:13C (PR) | **47% (SR)** | | 6:13C (PR) | **55% (SR)**<br>**45% (PR)**<br>**10:10C (PR)** | | **48% (PR)** |
| 3.1 ICF-CY:<br><br>Environmental factors | **24% (SR)**<br>**13,3% (PR)** | 11% (SR)<br>0 (PR) | 18% (SR)<br>0 (PR) | 18% (SR) | | | 5% (SR)<br>6.7% (PR) | | 4% (PR) |

| | Health-related Quality of Life (HrQoL) | | | | | Mental Health Screening | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Criterion/Requirement** | **KIDSCREEN** | **PedsQl 4.0** | **Kindl** | **DCGM-37** | | **ASEBA** | **CHQ** | **PSC** | **SDQ** |
| 3.2 Information on Responsiveness:<br><br>• (1) Naturalistic<br>• (2) Intervention<br>• Time frames: (3) Short;<br>• and (4) long<br>• (5) Small to medium<br>• effect sizes<br>• (6) Medium to large ES<br>• (7) Military-specific<br>• (8) Reliable change based<br>• on RCI<br>• (9) Reliable and clinical<br>• Significance | (1), (4), (5) | **(1), (2), (3), (4), (5), (6)** | – | (2), (3) | | (5), CBCL (7), (8), YSR (9) | For JIA and SLE disease activity | Heterogeneous (7) | **(1), (2), (3), (4), (5), (6), (7), (8)** |

| | Health-related Quality of Life (HrQoL) | | | | | Mental Health Screening | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Criterion/Requirement** | **KIDSCREEN** | **PedsQl 4.0** | **Kindl** | **DCGM-37** | | **ASEBA** | **CHQ** | **PSC** | **SDQ** |
| **4)  Cross-cultural validity of instruments:** countries, IRT and DIF, availability of country-specific norms | | | | | | | | | |
| Number of countries | ≥ 15 European countries, USA | ≥ 10 European countries, USA | ≥ 5 European countries, USA | ≥7 European countries | | Yes, **> 57,** | **> 32** countries | USA, Chile | ≥ **27** countries |
| IRT and DIF | **Yes** | – | – | ? | | – | – | – | – |
| Number of societies in which norms are available | Yes, Europe, but not for all countries yet | Yes, USA | German | No information | | CBCL 1,5 – 5y: 24/ 6 – 18y: 45 YSR: 40[2] | USA-specific | USA, Chile | ≥ 10 countries[3] |
| **5)  Feasibility features (large scale surveys):** language availability, completion time, free for use | | | | | | | | | |
| Language availability | ≥ 38 self-report ≥ 33 proxy version | ≥ 60 | ≥ 27 | ≥ 7 | | > 80 | > 70 | ≥ 3 | > 70 |
| Completion of questionnaires < 20min) | Yes | Yes | Yes | Yes | | No | Yes | Yes | Yes |
| Instruments free for use | For research purpose, manual 40€ | Yes | Yes | ? | | No | For research purpose | Yes | Paper copies |

**Note:** SES = Socioeconomic Status; ES = Cohen's Effect Size

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[2] http://www.aseba.org/products/societies.html#societies6_18

[3] http://www.sdqinfo.com/g0.html

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### 7.5.1 Objective 1 – Covering the Relevant Domains, Subcomponents and Indicators of Child Well-Being (Content Validity)

*Domains defined by literature review and agreement between international experts:* The generic HrQoL-instruments, KIDSCREEN, PedsQL 4.0, KINDLR, and DISABKIDS (DCGM-37) cover more domains than the mental health screening instruments. Most of the agreed-upon well-being domains are covered by the KIDSCREEN. The KIDSCREEN covers physical and mental health, education, the social and the material domain. None of the instruments covers the legal domain. Three well-being domains are covered by the CHQ, Disabkids Chronic Generic Measure (DCGM-37), KINDLR, and PedsQL 4.0.

*Multiple perspectives/sources:* Self- and proxy reports are available for all selected instruments.

*Domains and items identified by stakeholders (content validity)*: The only instruments based on systematic stakeholder involvement during their development were the KIDSCREEN and the DCGM-37. Both instruments have been developed alongside each other. Domain and item development of both instruments are systematically based on age- and gender-specific focus groups in 15 (KIDSCREEN) respective 7 (DCGM-37) participating European countries. Thus, cross-cultural validity has not only been implemented by culture-sensitive translation and cross-cultural validation procedures, but in its very development. Since the DCGM-37 focuses on the question of what impact a chronic condition could have on child well-being, it involves children with different chronic conditions in the focus groups when creating an item-pool. In addition, the items of the KIDSCREEN have been developed on the basis of a Delphi-Panel by experts. The data reduction has been guided by reducing redundancies, card sorting techniques, and cognitive interviews with children and parents. No studies have been found in which children from military families have been involved systematically in the development of a child well-being instrument.

### 7.5.2 Objective 2 – Identifying Risk and Protective Factors in Military Children

*Mental health screening and classification accuracy (Sensitivity [SE] and Specificity [SP]):* A number of single high sensitivity or specificity values were found in many psychometric and feasibility measures [25], [26]. However, only one systematic review has been found that examines high simultaneous sensitivity and specificity ($\geq$ .70) of behavioral screening measures for use in pediatric primary care settings [24]. Lavigne *et al*. [24] selected measures on the basis of their wide use in primary care and a minimum number of recommendations in systematic reviews and studies.[4] These were the CBCL, the PSC, the SDQ for children and adolescents and, for babies and toddlers, the Brief Infant Toddler Social Emotional Assessment (BITSEA) and the Ages and Stages Questionnaire: Social-Emotional Scale (ASQ:SE). The CBCL, the PSC and the SDQ simultaneously achieve high sensitivity and specificity values in only 30% – 55% of the studies. Studies on classification accuracy of the BITSEA and ASQ:SE were judged as insufficient. Lavigne *et al*. [24] concluded that the documented utility of these is, so far, insufficient.

*Group validity:* All instruments discriminate between healthy children and those with chronic health conditions. Comparing the discrimination performance of the most frequently used HrQoL-instrument in the U.S. (PedsQl 4.0) and in Europe (KIDSCREEN-52) in a sample of 908 American children, a large effect size was found for the PedsQl 4.0 (ES = 0.80) and a medium effect size for the KIDSCREEN-52 (ES = 0.68) [27]. Effect sizes of the PedsQl 4.0 were in line with previous American studies [28], as were effect sizes for the KIDSCREEN-52 in previous European studies [29]. The KIDSCREEN also discriminates between children/youth with different socio-economic status [30], [31].

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[4] Selection criteria were that the measure was recommended either (a) in at least three reviews and in at least three primary care studies or (b) in one review and five studies [25].

### 7.5.3 Objective 3 – Informing Social, Educational, and Health Care Policy, Programs, and Interventions

*Highest percentage of ICF-CY categories covered:* The following generic health-related quality-of-life and mental health screening instruments have been assessed in how far they capture the items and categories of the *International Classification of Functioning, Disability and Health-Children and Youth (ICF-CY)*: CHQ, DCGM-37 (DISABKIDS Chronic Generic Measure), KIDSCREEN-52; KINDL (Kindl-R for older children and Kid-Kindl for younger children), PedsQL 4.0, and the SDQ [32], [33], [34], [35]. The results of the three studies linking items or domains to ICF-CY coding were mixed. In spite of all authors employing the linking rules by Cieza *et al.* [23], the results differed. This can be attributed to items or domains linked to the ICF-CY codes and to using different versions of the questionnaire, the self-report [33] or the proxy version [32], [34], [35]. In addition, results were presented in different ways; e.g., by the number of categories [32] or the percentage of items coded [33] in each of the categories of body functions, activities/participation, and environmental factors. What all studies had in common was that none of the body structure categories were represented by the different assessment instruments.

With regard to the self-report version, the highest percentage of items of the *ICF-CY* category *activities/participation* is captured by the CHQ (55%) followed by the PedsQL 4.0 (52%) and the DCGM-37 (47%), KIDSCREEN (31%), and Kid-Kindl (24%) [33]. With regard to the parents' proxy report version, most of the activity/participation items are covered by the PedsQL 4.0 (50%, 10 out of 10 categories), followed by the SDQ (48%), the CHQ (45%, 10 out of 10 categories), KIDSCREEN-52 (20%, 5 out of 13 categories) and Kindl-R (6 out of 13 categories) [32].

Most of the *body functions* in the ICF-CY are covered by the child self-report versions of the Kid-KINDL (44%), followed by the KIDSCREEN-52 and PedsQL (33%), the DCGM-37 (29%) and the CHQ (27%). The parents' proxy version captured most of the ICF-CY body functions is the KIDSCREEN-52 (46.7%, 6 out of 9 categories). Ordered by their degree of content mapping, we found the following: the SDQ (40%), the CHQ (35%), PedsQL 4.0 (30%, 5 out of 9 categories), and KINDLR (4 out of 9 categories).

Only a relatively small portion of the *ICF-CY*'s environmental factors were mapped by the HrQol-instruments with the self-report version of the KIDSCREEN (24%), performing best in comparison with the DCGM-37 and Kid-KINDL (18% respectively), the PedsQL 4.0 (11%) and the CHQ (5%), according to Petersson *et al.* [33]. According to Gandhi *et al.* [32] and Shiariti *et al.* [35], the parents' proxy version even covers a smaller part of the environmental factors: KIDSCREEN-52 (13.3%, no category), CHQ (6.7%), SDQ (4%), KINDL-R (no categories), and the PedsQL 4.0 (0%, no categories).

*Responsiveness (sensitivity to change: multiple use, naturalistic, intervention, short- and long-term, effect sizes, military-specific):* Search results on sensitivity to change are conflicting: Janssens *et al.* [36], in their systematic review, have not found any studies on sensitivity to change. By contrast, Solans *et al.* [37] in their systematic review of health-related quality-of-life measurement in children and adolescents, evaluate the following instruments as sensitive to change: CHQ, KIDSCREEN, KINDL, and PedsQL 4.0. In Kwan and Rickwood's systematic review [38] of mental outcome measures, they have registered the use of the following instruments at least in one trial or treatment intervention: CBCL, YSR, SDQ, and KIDSCREEN. While KIDSCREEN has been mostly used in longitudinal naturalistic population studies with long time frames (> 1 year) [29], [39], [40], [41], the SDQ has been employed at multiple time points assessing both naturalistic changes and intervention-induced changes [38]. In addition, the SDQ has been used as routine feedback monitoring system. Small to medium effect sizes have been found when using the YSR/CBCL [38], [42] and KIDSCREEN [39], [40], [41]. Medium to large effect sizes were found with the SDQ [38], [43], [44], [45]. According to Kwan and Rickwood [38], only the YSR/CBCL (ASEBA) and the SDQ provide a reliable change index [42], [44].

Changes in CHQ-PF50 physical health summary scores were observed to be consistent with changes in disease activity with children with Systemic Lupus Erythematosus (SLE) [46] and Juvenile Idiopathic

Arthritis (JIA) [47], both of which went along with changes in CHQ-PF50 physical health summary scores. The CHQ was found to be sensitive to clinical change in children with JIA with a large standardized response mean for those who improved (0.96), small for those whose health was unchanged (0.16), and moderate for those whose health worsened (−0.60) [48]. However, the CHQ-PF50 psychosocial summary score and the CHQ-PF50 total score were observed to be less responsive to changes in health [43].

The PedsQl 4.0 has proven its responsiveness to change in different studies [49], [50], [51]. In a longitudinal intervention study for patients with Juvenile Rheumatic Diseases (JRDs), both child and parent proxy self-report and parent-proxy report revealed effect sizes for the difference between visit 1 and 2 were in the small range and between visit 1 and 3 in the medium and large range ($d = 0.71$ or $d = 0.92$) [43].

The sensitivity to change of the DCGM-27 and the KIDSCREEN-27 have been compared in the context of a physical rehabilitation program. Changes have been reflected on four of the six scales of the DCGM, but only on one scale of the KIDSCREEN, the scale of physical well-being [52].

Based on military-specific studies, responsiveness to military deployment can be expected with three of the four mental health screening instruments: the CBCL [17], [53], [54], the PSC [55], [56], and the SDQ [16], [57], [58].

Additional hand search on PubMed, Google Scholar, and the websites of the instruments and the respective authors' publication list has not yielded any results concerning the sensitivity to change of the KINDLR.

### 7.5.4 Objective 4 – Cross-National Comparisons of Child Well-Being for Military Families and Between Children from Civilian and Military Families: Cross-Cultural Validity of Instruments

All child well-being measures included showed good psychometric properties, including reliability and validity in line with classical test theory. Therefore, only relevant differences in their psychometric properties' validity should be outlined here. These concern the extent of cross-cultural validations, cross-cultural content validity, construct validity (structural, convergent, and discriminant) and item selection/scale development in line with item response theory.

Most cross-cultural validations have been conducted for the mental health screening instruments, in particular with ASEBA ($\geq 57$ countries) and SDQ ($\geq 27$), followed by the CHQ ($\geq 32$ countries); insufficient cross-cultural validations exist for the PSC-17.

The best cross-cultural content validity was found for the KIDSCREEN-52 and the DCGM-37, due to the involvement of stakeholders and experts in their development (see Objective 1). Both systematically involved children of different age, gender, and national origin. One benefit of the KIDSCREEN-52 is that it covers all four domains, which were identified to be relevant by the NATO expert group. An advantage of the DCGM-37 is that children with chronic conditions were involved in its development. However, both instruments were developed in parallel.

*Construct validity (structural, discriminant and convergent validity):* In a sample of 907 American children, the KIDSCREEN-52 (PRS) performed better than PedsQl 4.0, CHIP, and KINDL on construct/structural validity. The results of the KIDSCREEN-52 were comparable for European samples [27]. The KIDSCREEN and PedsQl 4.0 (PRS) performed better than CHIP and KINDL on discriminative and convergent validity. With regard to precision, KIDSCREEN and DCGM-37 were the only instruments tested for precision in Line with Item Response Theory (IRT) and analyzed on Differential Item Functioning (DIF).

*Availability of nation-, age- and gender-specific norms:* ASEBA provides norms for more countries than any of the other instruments, followed by the SDQ. KIDSCREEN provides norms for more countries than the other HrQoL instruments.

*Instruments widely used:* All instruments are widely used. While the screening measures that originated in the U.S. are used worldwide, a different pattern emerges with the HrQoL-measures. While the PedsQl 4.0 is the most commonly used instrument in the U.S., KIDSCREEN is the most commonly used HrQoL-measure in Europe.

*Item Response Theory (IRT):* The only instruments whose items were tested in line with items response theory (IRT, Rasch model) and on Differential Item Functioning (DIF) is the KIDSCREEN-52 [29], [31], [59] and the DCGM-37 [60], [61], [62], [63].

### 7.5.5 Objective 5 – Use in Large-Scale Cross-Sectional and Longitudinal Surveys: Feasibility/Implementation Features

Except for the Achenbach system (CBCL, TRF, YSR), all documented survey instruments took less than 20 minutes to complete and paper copies (at least) were free for use. The PedsQl 4.0 was only free for use with non-funded research. However, actual terms for use are subject to change and should be checked again with the institutions providing them.

The instruments used for mental health screening (Achenbach system, SDQ, CHQ) were available in 70 – 80 languages. Only the PSC was available in only three languages. Concerning the assessment of (health-related) quality of life, most translated language versions were available for the PedsQl 4.0 (> 60), whose different versions mapped the widest age range (2 – 18 years). KIDSCREEN was available in more than 38 languages, the KINDL in more than 27 languages, and the DCGM-37 in at least 10 languages.

## 7.6 CONCLUSIONS: RECOMMENDATIONS FOR INSTRUMENTS, LIMITATIONS, AND FUTURE SOLUTIONS

Based on a summary of the results, the following recommendations are offered for child well-being instruments, including mental health screening instruments and health-related quality of life instruments. These recommendations are given in the light of current limitations for their use as well as their potential future developments.

### 7.6.1 Recommendations and Limitations

The objective of the current review is to make recommendations for assessment measures that will facilitate international comparative research on the well-being of children from military families in large cross-sectional and longitudinal surveys across nations. Systematic and meaningful comparisons depend on cross-culturally validated measures. Recommendations for core child well-being measures should be based on an assessment of measures that best fulfill the objectives, which, in this case, are as follows:

1) Cover the relevant domains, subcomponents, and indicators of well-being applicable to children from military families;

2) Enable the identification of risk and protective factors;

3) Inform social, educational, and health care policy, programs, and interventions;

4) Allow cross-cultural comparisons of child well-being for military families and between children from military and civilian families; and

5) Allow the sustainable use in large-scale cross-sectional and longitudinal surveys.

Based on these objectives and research principles, concrete inclusion and criteria for literature search were developed. The literature yielded four health-related quality-of-life measures and four mental health screening instruments. Their qualities were compared according to the criteria.

None of the instruments fulfill all of the requirements: The four health-related quality-of-life measures cover more of the relevant well-being domains (three to four domains), while the mental health screening measures only cover one or two of the well-being domains, health and social well-being. The downside of the HrQoL measures was that no information on screening accuracy is provided for them. The three mental health screening measures, the ASEBA, the SDQ and the PSC, perform better on the availability of information concerning screening accuracy, even though the screening accuracy (30% – 55% of the studies) of all three measures was unsatisfactory [25]. However, the availability of information on screening performance is still an advantage over having no knowledge on the performance of an instrument at all. As a consequence, it is recommended that a mental health screening instrument and a HrQoL measure be combined in order to benefit from the complementary strengths of both measures. The combination of both instruments should allow fulfilling the maximum requirements and should be based on the complementarity of the two instruments as well as on their specific advantages.

While ASEBA, PSC, and CHQ outperform the SDQ on some sub-criteria, the SDQ is the only instrument that fully meets all requirements for four of the five objectives: The SDQ allows identifying risk and protective factors (Objective 2), informing social, educational, and health care policy, programs, and interventions (Objective 3). It also allows cross-national (cultural) comparisons of child well-being for military families and between children from civilian and military families (Objective 4), and it can be used in large-scale cross-sectional and longitudinal surveys because it meets all feasibility criteria (Objective 5). The only measure that fulfils all the requirements of the first objective is the KIDSCREEN-52, which covers the relevant domains and subcomponents considered relevant from the point of view of researchers and stakeholders, caretakers, and the children of different ages, genders, and nationalities. When complementing the SDQ, a mental health screening measure, with the KIDSCREEN-52, an HrQoL measure, all objectives can be met. The proxy version of the SDQ, the CHQ, best covers the activity and participation categories of the *ICF-CY* (48%) and thereby complements best the HrQol measure that best covers the two remaining categories of the *ICF-CY*, body functions and environmental factors; i.e., KIDSCREEN-52. The ASEBA performs best on cross-cultural validations, language availability, and provision of norms for different societies. However, it is not considered a feasible instrument for longitudinal studies because of its long completion time (> 30 minutes), which is likely to increase dropouts.

The most widely used HrQol measure in the U.S., the PedsQol 4.0, and the most widely used HrQol measure in Europe, the KIDSCREEN-52, met most but different requirements for the HrQoL measures. Both measures identify risk and protective factors (Objective 2) and can facilitate large cross-sectional and longitudinal surveys due to their feasibility characteristics (Objective 5). With regard to Objective 3, informing policy, programs, and interventions, the PedsQoL 4.0 better captures the participation and activities category of the *ICF-CY* (52% for self-report and 50% for proxy-report), and there is better information available on its responsiveness than on the KIDSCREEN. KIDSCREEN-52 does not fulfil the requirements of Objective 3 that well. However, it better complements the SDQ than the PedsQoL 4.0. The combination of the SDQ with the KIDSCREEN-52 covers more of the requirements for informing policy, programs, and intervention than the combination of the SDQ with the PedsQol 4.0. Concerning the cross-cultural validity (Objective 4), the KIDSCREEN performs better on construct validity and precision, being the only instrument tested with IRT and DIF. In addition, it provides more national norms. KIDSCREEN-52 fulfils more requirements on content validity and covering the relevant child well-being domains (Objective 1) by covering most of the domains agreed upon (physical and mental health, educational, social, and material domain). The outstanding quality of KIDSCREEN-52 is that it is the only measure being developed in line with the UNCRC and the principles for operationalizing value-based constructs: It was not only validated cross-culturally, but it was developed systematically cross-culturally by focus groups of different gender, age, and nationality and through cognitive interviews with children and parents. Prioritizing cross-cultural validity, in particular content validity, the KIDSCREEN-52 is the better instrument. However, the advantages of the

PedsQL are the greater age range of the proxy version (2 – 18 years), its language availability (≥ 60), its use with a large variety of pediatric patient populations, and additional complimentary disease-specific modules. A specific advantage for its use in the United States is the availability of U.S. norms.

In light of all this, researchers could adopt two strategies in NATO research across different countries: A first strategy would be for all countries to use the same instruments. Due to their complementary advantages, the combination of the SDQ and the KIDSCREEN-52 is recommended. A second strategy would be that all countries use the same mental health screening instrument, the SDQ. While in European countries, due to norms availability and the width of use, the combination with KIDSCREEN-52 is recommended. For the U.S., the advantages also justify combing the SDQ with the PedsQl 4.0. A disadvantage of this is that comparative information will be lost between European countries and the U.S.

There are a number of limitations to this review and the current research on child well-being. Due to its objectives and inclusion and exclusion criteria, this review has omitted a number of relevant aspects for child development, in particular for the age range from birth up to six years. Assessment for this age range relies on more time-consuming child adapted procedures, e.g., playing, proxy-report, and observation methods. In addition, certain well-being domains or dimensions – e.g., school/education – do not apply to this age range. Instead, age-specific development assessment instruments and attachment-style assessments are of particular importance.

Because this chapter sought to recommend a limited number of child well-being instruments for the use in cross-national surveys, qualitative methodology has been omitted. Nonetheless, qualitative research methodology is considered of paramount importance in this very complex field of research. The use of qualitative methodology would facilitate a deeper understanding of the complexities and of the specific domains of child well-being. Qualitative methodology is also required as a basis for instrument development in the field of well-being of children from military families. This research could be advanced by asking military families to suggest important domains or indicators of child well-being that are not covered by the existing instruments and which should be added.

The limitations of the research in the field of child well-being are of a general nature and of a military-specific one. The use of cross-culturally valid child well-being instruments for military families is influenced by the state of research on child well-being instruments and what we know about these. In particular, we find a U.S. – European divide in the use of HrQoL-measures. Further research is needed to obtain information on cross-cultural classification accuracy, reliable cut-off-scores and norms, as well as on responsiveness. The need for further information on classification accuracy is even stronger for the age range 0 – 6 than for the age range 6 – 18. Apart from the SDQ, little is known about the responsiveness of the quality-of-life instruments to military-specific changes and interventions. The categories of the *ICF-CY* are partially covered by the different HrQoL-instruments, in particular the environmental factors. However, it has to be taken into account that the *ICF-CY* covers body functions, activities/participation, and environmental factors for those children and youth who suffer from a physical or mental condition. Generic HrQol-instruments, in contrast to condition-specific HrQoL-instruments, are also used for healthy populations in addition to those with a chronic condition.

With respect to content validity, no well-being or HrQoL-instruments were developed with the participation of children from military families. As noted before, this could be a task for further qualitative research; e.g., by carrying out systematic focus groups with children from military families.

### 7.6.2   Outlook

A number of the limitations with child well-being instruments could be addressed by the U.S. pediatric PROMIS-project. The PROMIS initiative (Patient Reported Outcome Measurement Information System) has been described as follows:

U.S.-wide project for the development and implementation of standardized, reliable and valid questionnaires to measure the psychological, physical and social health of adults and children. It aims at the development of international comparable item banks which can be used for the long-term integration of statistical short and long questionnaires as well as efficient "Computer Adaptive Tests" (CATs) into the routine care of the U.S. health system.…It is planned to connect the KIDSCREEN and the Kids-CAT with the PROMIS item banks psychometrically to make LQ-elicitation on children comparable for different instruments.[5]

The integration of questionnaires into international item banks will provide a solution to a number of today's measurement difficulties: improving the test accuracy, cross-cultural norming and validation, and test efficiency. This could help bridge the U.S. – European divide. In particular, one of the main risks or disadvantages of longitudinal surveys can be addressed: Psychometric testing chosen for longitudinal studies cannot be changed or adapted during the course of the study. However, the integration of health-related quality-of-life measures into an internationally available CAT-system would improve statistical comparisons, especially if the U.S. relies on the PedsQl 4.0 and European countries use the KIDSCREEN.

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[5] See Patient Reported Outcome Measurement Information System at https://www.child-public-health.org/english/research/paediatric-promis-project/ and at http://www.healthmeasures.net/explore-measurement-systems/promis/intro-to-promis/list-of-pediatric-measures.

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# Chapter 8 – SUMMARY DISCUSSION

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## ABSTRACT

*The purpose of RTG HFM-258, The Impact of Military Life on Children from Military Families, was to develop a theoretical model of well-being for children from military families to assist militaries and service providers in identifying the most effective supports military families and their children. Building on existing models of children's well-being and the sociopolitical context of NATO and Partnership for Peace (PfP) nations, and the unique challenges of military life, we developed the Health, Education, Legal, Material, And Social (HELMS) model, a universal framework for the well-being of children in military families. The model is specific to the unique aspects shared by military families and children while allowing for the differences and similarities of military families across different nations. Our aim is also to initiate a dialogue beyond NATO and PfP nations, and our task group serves as a forum for active collaboration on surveys and metrics to guide current and future work. The outcome of this NATO task group will not only benefit NATO military families and its partners, policy makers, and military organizations internationally, but it will also help service providers identify the most effective ways of providing support to military families and their children.*

## 8.1 CHILD WELL-BEING: UNDERSTANDING CHILDREN'S LIVES

Well-being is difficult to define in a way that can be measured, particularly when it comes to children's well-being, which combines multiple factors that unfold in a dynamic process across different cultural, political, and, most importantly, social contexts. Constructs of child well-being have evolved over the past few decades to include concepts such as well-becoming and measurements of negative outcomes and positive outcomes [1], [2]; (see also Chapters 2 and 3). Child well-being represents the whole child – his or her physical, psychological, emotional, social, and cognitive development. These dimensions overlap and are interrelated spheres, and (as discussed in Chapter 2) child well-being can be approached through positive or negative life outcomes [3], [4], [5], [6]. Life outcomes are influenced by internal factors (i.e., education, health, values, and beliefs) and external factors (i.e., family and social environment, economic circumstances, physical environment, safety, culture). Despite the extensive empirical research on child well-being, however, there is a lack of agreement on its definition.

Chapter 2 summarizes theoretical developments from the civilian literature and several key factors and variables that have been found to influence child well-being. Some of the factors affecting child well-being include familial relationships, social support network systems, safe and suitable environments, and the family's socioeconomic status. Among the many theoretical models of child well-being, Minkkinen's Structural Model of Child Well-Being (SMCW) best captured the multi-dimensionality of child well-being that we sought in such a model. Minkkinen's SMCW consists of six coaxial rings of well-being components with centrifugal effects on the four dimensions of child well-being domains: social, material, mental, and physical [7]. These four well-being domains include the child's daily life, as appraised by his or her social development and behaviour, as well as the child's community, peer, and familial relationships [8], [9], [10]. Research on child well-being suggests positive child outcomes such as civic engagement, environmental stewardship, and enhanced fruitful relationships are related to positive familial relations [11], [12], [13]. In contrast, poor familial connections may lead to negative behaviours or life outcomes, such as drinking, drug use, low self-esteem, suicidal thoughts, and depression [3], [4], [6], [14].

Other studies posit that aspects of culture are also important factors that shape the whole child [15], [16]. Over the years, the definition and constructs of child well-being have evolved to accommodate the ever-changing dynamic of human relations (see Chapters 2 and 3). As the world becomes increasingly globalized, changes in the organizational layers of society and the underlying influence of culture have affected the constructs of well-being [4], [6]. When assessing child well-being in military families, an added layer of complexity must be considered. In addition to the influences of civilian life, a military lifestyle may have profound effects on child well-being, which may ultimately affect the well-being of the family as a unit and the preparedness of the military member.

In particular, children in military families are often asked to embrace a set of stressors associated with the demands of military life, such as parental deployments and parental injury and loss [3], [4], [14]. It is important to note, however, that the impact of military factors may not be identical across countries. On the one hand, military factors may be more influential in putting military children and families at risk of distress and psychosocial health problems in countries that are involved in international or national conflicts, such as the United States, the United Kingdom, and Canada because military deployments and parental separations are more prevalent, [3] [14], [17] (see also Chapter 3). On the other hand, a military lifestyle may have less impact on children in Eastern European countries, such as Estonia, Slovenia, and Romania, because parents with small children may choose to postpone deployment or refuse to deploy (see Chapter 5). Early parental presence may also help decrease the risk of distress and other psychosocial health problems common among children whose parents are deployed. While the consequences of military factors may not be the same across all nations at all times, the military components of child well-being are still necessary for a comprehensive understanding of the well-being of children from such families.

Accordingly, our research task group synthesized these differing perspectives, conflicting definitions, and inconsistencies with existing child well-being models and measurements into the Health, Education, Legal, Material, And Social (HELMS) model of child well-being in military families. In other words, the HELMS model incorporates the multifaceted military factors affecting child well-being into a synthesis of existing research on child well-being. A better understanding of the well-being of military children, including the challenges and strengths associated with military life, will not only help them become more resilient but will also help them thrive.

## 8.2 THE "HELMS" MODEL: A THEORETICAL MODEL OF MILITARY CHILD WELL-BEING

The task group recognized that the reliability and quality of indicators – specifically, those properties captured by the psychometric questionnaires – were variable in implication and relevance. The task group's complete review of the different measures is covered in Chapter 7. These indicators provided the necessary framework in which to develop a model of military child well-being and in identifying its components. One of the most important factors in the development of the model was the inclusion of dimensions of child well-being that were believed to equally apply across all partner nations. A review of the literature from the participating NATO and Partners for Peace (PfP) countries demonstrated that there was no shared definition of military child well-being. This made it difficult to make comparisons across the NATO and PfP countries when researching the many indicators. Barring these limitations, the model developed showed military child well-being as a multidimensional construct with potential indicators and components, which grouped these indicators and included a military lens.

## 8.3 A SYSTEMIC PERSPECTIVE AND RECOMMENDATIONS FOR MEASURING CHILD WELL-BEING

Expanding upon the HELMS model, our task group explored different external factors that may influence child well-being. Using a bio-socioecological perspective, military child well-being may vary across

countries due to the cultural differences and differences in social environments. Additionally, not all countries are influenced by military factors equally. In some instances, child well-being is supported less by the military and more by the state's welfare regime (see Chapter 5). In Eastern-European countries like Estonia and Slovenia the interplay between the family and the state, with respect to child services, is a focal point in measuring its effects on child well-being. Conversely, in countries such as the United States, the United Kingdom, and Canada, services that support child well-being are blended between the family, local social supports, and the military. In other words, the military is more responsible for supporting military families and children than the government. The structures that support child well-being in military families vary across nations and the variation arises from the different distribution of responsibilities between the military and the welfare regime.

## 8.4   LOOKING THROUGH TRANSNATIONAL LENS: CONTRIBUTIONS, LIMITATIONS, AND CONCLUSION

### 8.4.1   Significant Contributions and Implications

Much of the research on the children and families of military personnel has evolved in the past few decades to include parental separation, residential mobility, and frequent military deployments (see Ref. [18], for a review), which are common military stressors in countries such as the United States, the United Kingdom, and Canada (see Chapters 3 and 6 for a review). Expanding the construct to other countries, however, allows for a more global understanding of how circumstances in different nations affect child well-being. Similarly, understanding the construct via different disciplines and perspectives also allows for greater understanding of how social environment and community context, psychological and physiological health, transnational family formation and function, as well as individual attitudes affect child well-being. Having this diversity in our multinational and interdisciplinary task group – while not exhaustive – allowed us to clarify assumptions, compose a comprehensive report, capture diverse perspectives, and provide more inclusive recommendations. Further, the inclusivity of our diverse disciplines and research backgrounds made our results more relevant to more contexts.

One of the most significant contributions of this task group is the generalized account of different indicators and various dimensions of military life affecting child well-being. Military children, while they are not invulnerable to the adverse and stressful effects of military life, often do well [19]. Children are more resilient than one might suppose, and they do well because of the positive familial, peer, and community support they receive and the quality of their "circle of care" [7], [20], [21]. Focusing on strengths is one way to develop interventions to prevent a host of compounding problems experienced by children from military families. As summarized in Chapter 6, the evidence-based approach identifies and implements practices and programs based on empirical evidence [23] (see also Chapter 6). The goal of the evidence-based approach is to replace ineffective programs and practices with those that have better outcomes. One way to expand on this concept is to incorporate strength-based approaches and practices. The core principle of the strength-based approach is facilitating the assessment of the effectiveness of current programs and the development of new ones [24]. In addition, strength-based programs may also help in lessening the stigma associated with those seeking social and mental health support, thus increasing access to high quality care.

Intervention and prevention efforts go hand-in-hand with strength-based approaches. Prevention approaches help in the development of programs aimed at preventing negative child and family outcomes by reinforcing military families' protective factors (i.e., social and mental services). Early intervention programs, on the other hand, may also help in the assessment of early signs of stress posed by the unique challenges of military life, including issues provided even before unions and marriages begin. Such intervention and prevention programs may help in building stronger families and enhanced community relations.

Another important achievement of this task group was the review, appraisal, and reporting of knowledge related to the best practices and identifying what makes them successful. Studies of children in military

families can benefit from sharing best practices from other countries so long as they are adapted for cultural diversity and differing national systems of care. The collaborative efforts of sharing and exchanging sources with other nations can help identify and develop relevant and effective programs. In addition, enabling exchanges of information and practices between nations will not only enhance the relationships between countries but can also assist in understanding what makes an efficient and successful program. With that said, program evaluations should be properly funded to better identify and develop programs that are truly effective in the local culture. This type of best practices network-sharing points to the importance of designing a process that fits each country's existing structure and culture. Most importantly, the task group's development of the military child well-being theoretical model and assessment measures will not only help foster research across countries but will benefit many other valued objectives and goals in their respective societies.

## 8.4.2    Limitations

While the task group offers significant contributions to military and academic research communities, it is not without limitations. First, strict inclusion and exclusion criteria were used in the development of a unified model of child well-being for children in military families, and thus attachment styles were not considered. Yet the literature shows that the attachment relationship developed early in a child's life plays a critical role in how children (and adults) cope and handle various stressors related to a military lifestyle and how they develop relationships and support networks that buffer the impact of such stressors. Hence, we strongly recommend that future researchers consider attachment relationships when investigating the differences in child well-being, and to incorporate these findings when using the HELMS model of child well-being.

The task group also did not examine developmental differences among specific age groups of children. The specific needs of younger children (up to the age of 5) were not fully accounted for in the HELMS model. The first five years of life represent a critical period during which children develop at a rapid pace. During early childhood, children's cognitive, physical, and emotional capacities change daily. Indeed, it was previously reported in a 2004 Defense Department Advisory Committee on Women in the Services (DACOWITS) report, that three common themes were noted in a focus group with young children of military parents (i.e., before attending school):

1)   Missing the absent parent and harboring feelings of loss;

2)   An inability to fully grasp and understand the situation; and

3)   Failure to recognize the deployed parent upon the parent's return [25].

Further, some of the systemic factors that affect well-being at this age differ from older children. Nonetheless, the extent and degree of impact that the military has on child well-being ultimately depends on the social welfare structure of the country, such as the availability of established support and preventive services, and in some countries, military members with young children are allowed to postpone deployments. In some countries, home visiting services are reserved for the most acute-risk families, while in others home visiting is a universal prevention approach that all infants and their families receive. Similarly, some countries offer universal preschool and high-quality early education centres to all citizens, while other countries do not begin formal education until age 5 or 6 years.

The task group acknowledges that the well-being of younger children is an especially important domain to investigate because of the multitude of developmental milestones and changes that children experience during this period. Indeed, the literature suggests that military stressors have differential effects on children, depending on their age (e.g., [26], [27], [28]), however, measuring child well-being in infants and toddlers can be difficult. Parents are often not reliable reporters of their child's experiences and very young children may be preverbal or not yet able to describe their experience. A third-party reporter can add to the data in perhaps a more valid manner, but the young child may not have come into contact with a teacher, care

provider, or medical professional in a consistent enough manner for them to reliably observe the child's behaviour. Finally, observational assessments of child and parent-child interactions often provides useful information about the well-being of the child but are quite costly. As a result, the task group recommends further inquiry into early childhood, the additional factors that may impact well-being at this developmental stage, and perhaps the addition of specific age-related factors to the HELMS model.

In relation to assessment measures, it is difficult to develop a reliable screening tool for children at-risk that applies across nations because most of the available measures have not been cross-culturally validated. This is an inherent limitation in most child well-being research, civilian and military alike, because it prevents the proper assessments of well-being of children from different ethnic and cultural backgrounds. Additionally, the few measures of child well-being that are available for use are largely based on the civilian population. As mentioned throughout the report, belonging to a military family adds a layer of complexity, where individuals encounter stressors related to both civilian and military lifestyles. Since children from military families were not systematically included in the development of child well-being measures (e.g., KIDSCREEN-52, DISABKIDS, DCGM-37), it is likely that these measures will not be able to capture the full complexity of their well-being. It is therefore important for future research in this area to:

a) Develop assessment tools to measure child well-being in younger children, not by proxy or observational report;

b) Systematically include children from military families in the development of these measures;

c) To focus on the effects of military stressors specific to child well-being;

d) To be cognizant of the developmental stages that the child has met or will meet; and

e) To be aware of the impact of the attachment relationship on well-being.

Finally, the small number of countries represented within this group is another limitation of the report. Although we have incorporated several NATO nations and PfP countries, this report may not be applicable to other countries. There may be significant cultural differences that were missed in the review of literature and development of the model; hence, researchers using this model, indicators, and measures should keep these limitations in mind. The literature on child well-being in military families is limited, and the definition of child well-being has not been unsettled. As a result, we agreed that child well-being is a multidimensional theoretical concept and, thus, that specifying a single consensus definition would be challenging. We found it difficult to postulate a working definition because of the diverse cultural and social aspects of each represented nation and lack of explicit theory in current research. Therefore, special consideration should be given to issues of cultural diversity. To mitigate these limitations, we adopted Minkkinen's Structural Model of Child Well-Being (SMCW) as a working definition; nevertheless, future research should be open to better definitions.

### 8.4.3    Future Directions

Although extensive civilian research on child well-being has been done, including some with children from military families, well-being studies varied across eras, the level of program effectiveness, and the quality of studies varied between countries. The measures, processes, and methods were rarely the same, precluding reliable conclusions about similarities and differences among different countries and military cohorts (i.e., those serving during peace time and wartime conflicts from North American countries to Western and Eastern European countries). Longitudinal research that also includes qualitative methods and cross-national investigation would likely be an effective approach. Additionally, duplicating such methods for civilian children would also allow comparative analyses for further investigation.

Additionally, with most of the literature contributed by the United States, the United Kingdom, and Canada, it was particularly difficult to compare and assess programs with European countries, which, as discussed, often have a very different military climate and socio-political context. More importantly, it presented

challenges when comparing existing theoretical models and developing the military child well-being model. The difficulty in performing cross-national assessments, as well as the comparisons of results and populations, is due to the differences in the availability of instruments in Europe and the United States, combined with the differences in the comprehension of the items and functioning of the instruments. Therefore, future research should first focus on determining whether equivalencies exist in the measurement tools of the nations involved and, second, incorporate both North American and European measurement tools in the same battery, with the aim of enabling comparisons and assessments in both populations.

Given the current state of tool development and research, the task group recommends using a well-being and mental health screening measure when assessing overall well-being. For instance, Chapter 7 has identified that KIDSCREEN and the SDQ may be a useful combination of measures when assessing child well-being. For chronic conditions, the series may also be accompanied by DISABKIDS and DCGM-modules. However, given the potential differences across nations, another alternative would be to use the PedsQI 4.0 (including specific modules) and the SDQ in the United States, and using the KIDSCREEN-52 (and DISABKIDS modules) and the SDQ in Europe. Moreover, the research has mostly been written in English, making it difficult for non-English speaking countries to not only transcribe studies to preclude mistranslation, but to also disseminate inter-lingual translation of the literature. While it is possible to translate empirical studies and important findings, the nuances of each language give rise to misinterpretation. Therefore, validation of studies and measurement tools across different cultures and languages is an important step in further research and collaboration between nations.

It seems evident that family compositions today are more diverse than they were in the past. Conducting studies that assume traditional family structure misses other family structures. Families are different and take many forms (i.e., same sex, single parent, blended); hence, it is important to consider the diversity of family composition, both military and civilian, and future studies should examine the impact of military life on children from different family structures. In light of all the factors that should be taken into account, it is also important that future military research incorporate military readiness and retention as variables of interest. As noted earlier, military families face unique challenges that differ from their earlier cohorts, suggesting that previous research may have limited relevance to this population. Additionally, it seems important to consider that changes in programs, services, and structures as various aspects of our rapidly changing culture and international relations may affect outcomes in the construct of military family and child well-being. To address these concerns, it is important that literature reviews are updated to reflect changes in our respective military communities and society.

## 8.5   CONCLUSION

Considering the complexity of the study of child well-being, developing an all-inclusive single definition of military child well-being is quite ambitious. Nevertheless, with the differing perspectives, varying definitions, and measurements, it is clear that further research and assessment are worthwhile endeavors. As mentioned above, child well-being is multidimensional construct: representing the whole child involves the physical, psychological, emotional, social, and cognitive development of the child. The HELMS model is an effort to fill the gap in the literature to not only benefit NATO military families and its partners, policy makers, and military organizations but also to benefit service providers globally. In the future, the collaborative efforts of the participating NATO and PfP countries may lead to even more effective ways of providing support to military families and their children.

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### 14. Abstract

Despite the extensive research available on well-being in the civilian literature, *well-being* is a construct that is not well-studied in the context of military research. While civilians and military members share many of the same stressors, a military lifestyle introduces a new set of difficulties that military members and their families must manage and cope with. These common and military-related stressors may impact children from military families even more so given the sensitivity of their development and the various disruptions that their parent's (or parents') military career may pose on their day-to-day life. In addition to the added complexity that a military career poses on one's overall well-being, the operationalization and understanding of the construct is not consistent across civilian literatures, and even much less so in military research. To address this gap in the present state of military research, representatives from 12 different NATO-affiliated nations collaborated to provide a comprehensive overview of *well-being* as it is understood in civilian and military research. Furthermore, using the existing literature as groundwork, the RTG HFM-258 Task Group developed a model of well-being that takes into account the complexity of military stressors. Lastly, the RTG HFM-258 Task Group also offered recommendations for measuring well-being and improving current measures so that it is suitable for use in large-scale, cross-national studies, as well as informative in the military context.

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