



THE MILLENNIUM COHORT PROGRAM: UNDERSTANDING RISK AND CONTEXT IN THE LIFE COURSE OF THE MILITARY CHILD

Hope Seib McMaster, PhD, and Sabrina Richardson, PhD

04 APR 2024

1510–1610 EST



PRESENTERS



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HOPE SEIB MCMMASTER, PH.D.



- ① Hope Seib McMaster, Ph.D., serves as a civilian research psychologist at the Naval Health Research Center where she is the Principal Investigator of the longitudinal Millennium Cohort Family Study launched in 2011 and the Millennium Cohort Study of Adolescent Resilience (SOAR) launched in 2022.
- ① Dr. McMaster began her work with the Millennium Cohort Program over 14 years ago when the Navy moved her family to San Diego. She helped establish the Family Study and was the lead investigator for all foundational papers and the mental health research portfolio director.
- ① Over the past two decades, she has published on the topics of racial bias, racial disparities in health, military couple relationships, survey methodology, and factors influencing military spouse well-being. She also has two active-duty military-connected adolescent daughters.



SABRINA RICHARDSON, PH.D.



- ⌵ Sabrina Richardson, Ph.D. is a developmental psychologist interested in child adaptation to military and non-military risk, with a particular emphasis on relationship processes of resilience. She has worked at the Naval Health Research Center for the past seven years as part of the Family Study and more recently, as part of the Study of Adolescent Resilience. Dr. Richardson heads the Family Study child program area, coordinating child-focused projects using Family Study data.
- ⌵ Among her topics of study, Sabrina has focused on foster youth sibling relationships and narrative meaning making, social worker-youth communication processes, military spouse adjustment to and readiness for future deployments, marital stability among military spouses, and child maltreatment among military parents. Most recently, Sabrina has been studying child behavioral adjustment to family separation from service.



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DISCLOSURES

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LEARNING OBJECTIVES






At the conclusion of this activity, students should be able to:

1. Identify experiences that may be influential for military children, when reviewing findings from the Millennium Cohort Program.
2. Examine children within the military life cycle and understand how this predictable sequence of events may inform child and family adaptation.
3. Consider children's development and how the developmental context is itself a key lens for viewing military and nonmilitary stress and resilience.

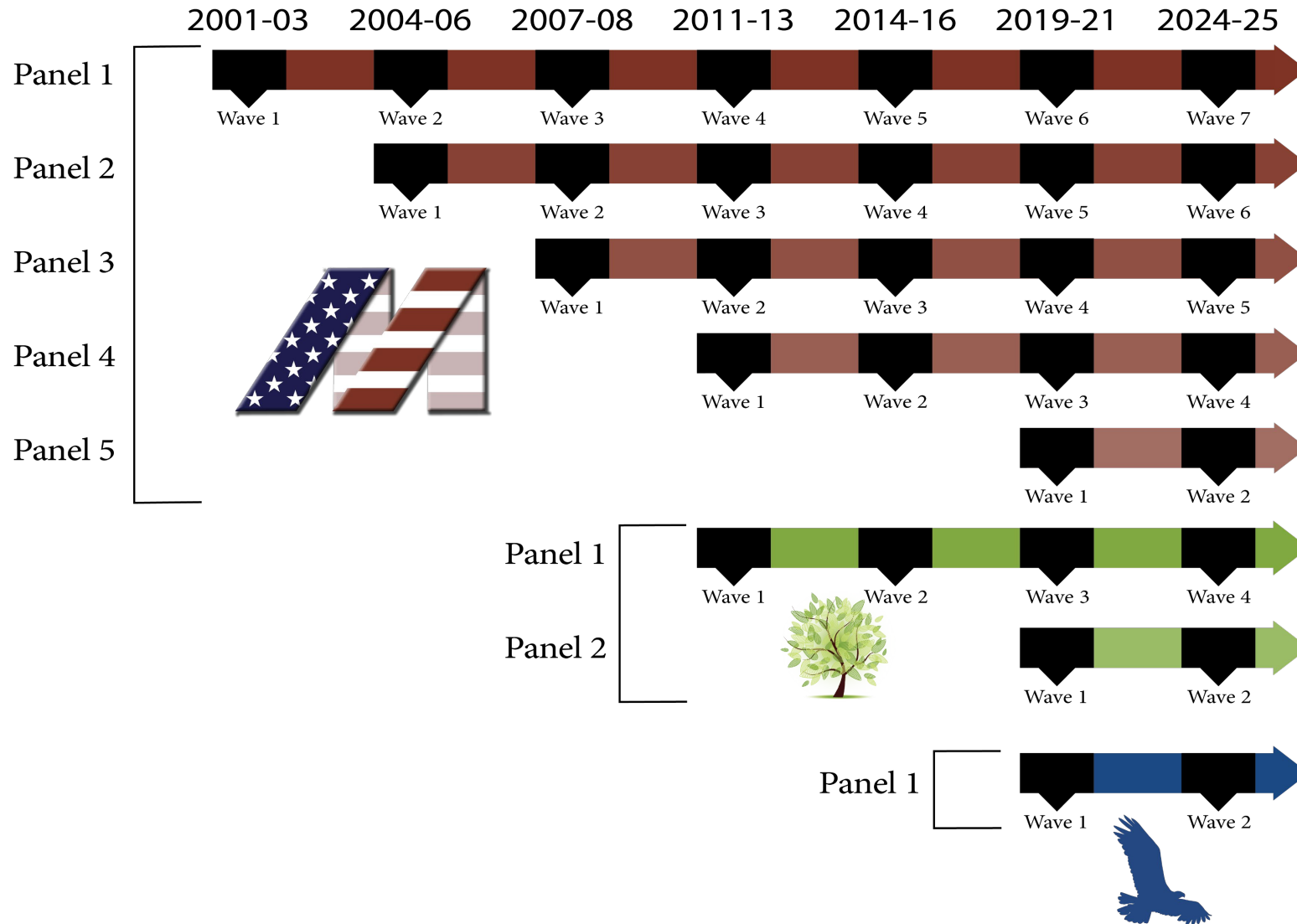


MILLENNIUM COHORT PROGRAM (MCP) STUDIES

Study	Logo	Launched	Population	Enrollment	PI
Millennium Cohort Study (MCS)		2001	Service members	260,228	Rudolph Rull, PhD
Millennium Cohort Family Study (MCFS)		2011	Spouses of service members	28,178	Valerie Stander, PhD
Millennium Cohort Study of Adolescent Resilience (SOAR)		2022	Adolescent children of MCS participants	3,716	Hope McMaster, PhD



MULTI-PANEL DESIGN





Funding
USAMRCD-MOMRP
DHA-DHP
MC&FP
VA
Leveraged funds

Strategic Board

Scientific Review Committees
MCS & Family SRC
VA CSP #505 Executive
Committee

Collaboration and Engagement
Military & Veteran SMEs
Knowledge Translation
Partners
Academic Researchers

NAVAL HEALTH RESEARCH CENTER



Millennium Cohort Study
(PI: Rull)



**Millennium Cohort
Family Study**
(PI: Stander)



**Study of
Adolescent
Resilience**
(PI: McMaster)





MILLENNIUM COHORT FAMILY STUDY

- Only Department of Defense (DoD) population-based study evaluating the health and relationship adjustment of military spouses and families
- Follows spouses of junior personnel (2–5 years of service) both during and after service life
- Two cohorts of participants enrolled from 2011–2013 and 2020–2021 panels, with 7 follow-up survey cycles conducted approximately every 3 years



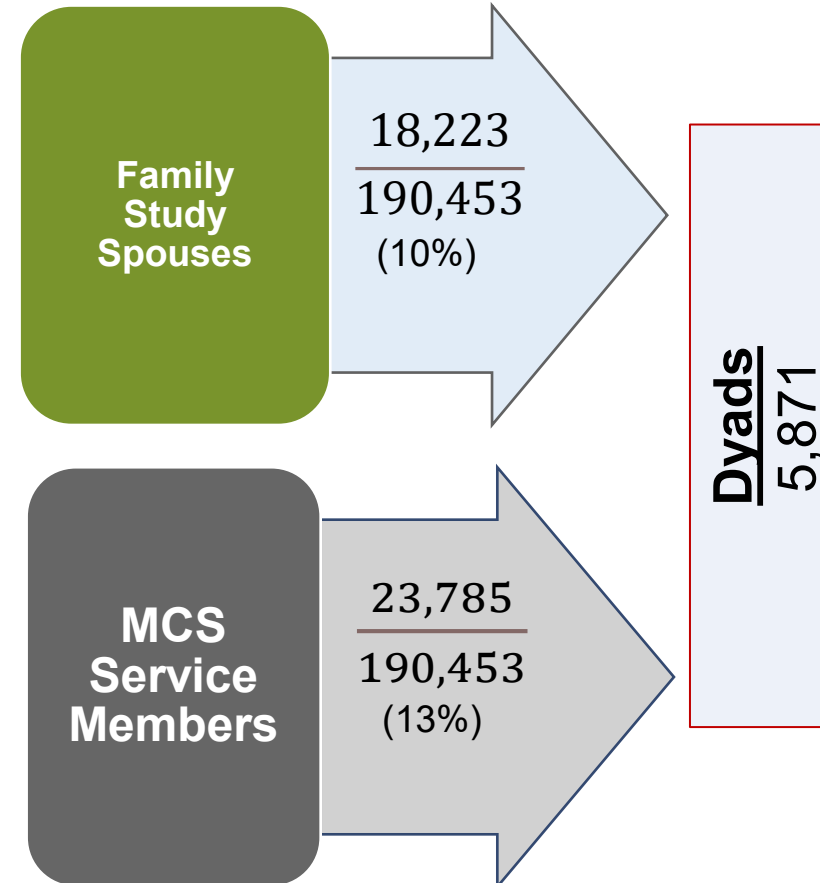
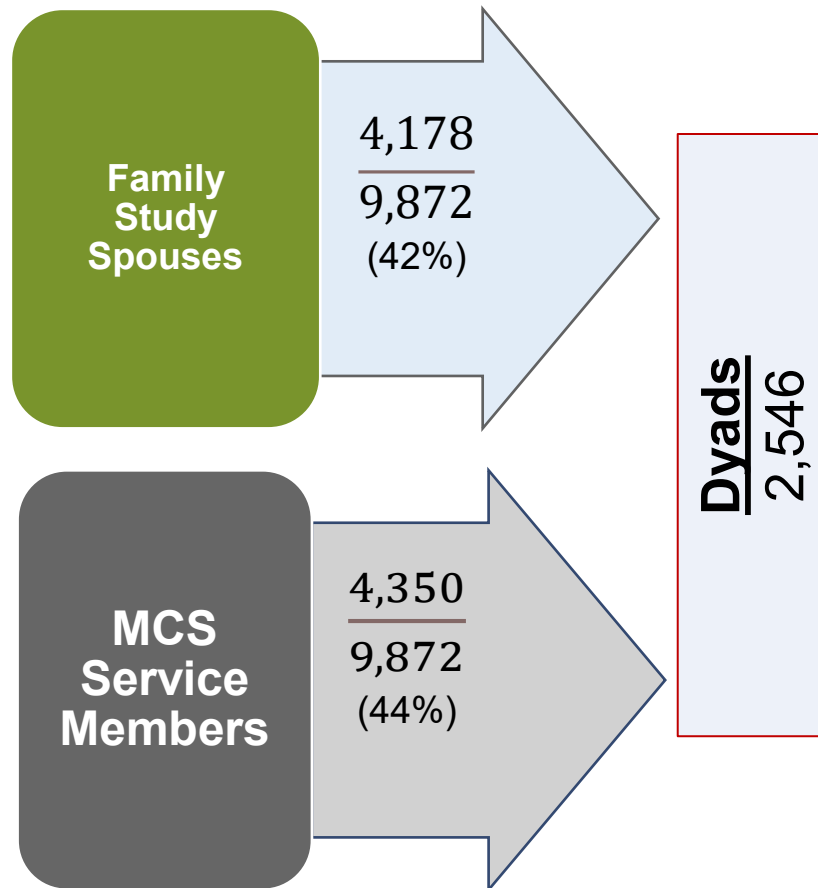
Millennium Cohort
Family Study



FAMILY STUDY ENROLLMENT (PANELS 1 & 2)

➤ Family Study Panel 1:
2019–2021 follow-up

➤ Family Study Panel 2:
2020–2021 recruitment

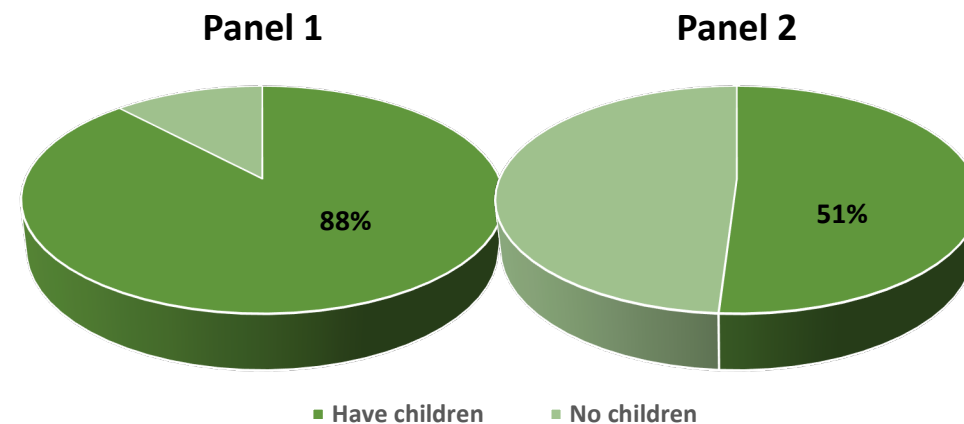




FAMILY STUDY DEMOGRAPHICS (PANELS 1 & 2)

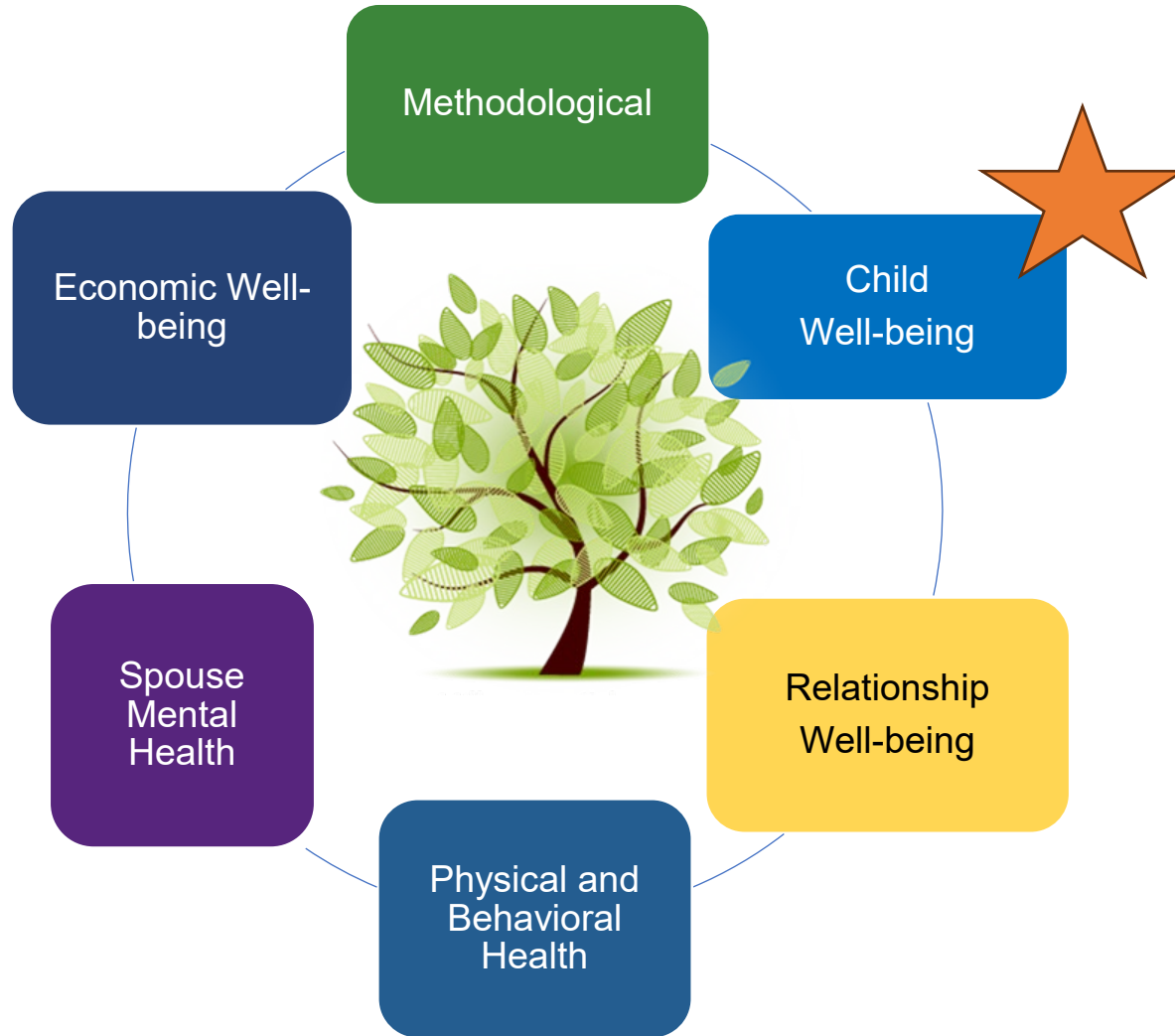
Baseline Characteristics		Panel 1	Panel 2
Gender	Male	13%	11%
	Female	87%	89%
Age	17-24	41%	29%
	25-34	49%	62%
	35+	10%	9%
Race	White	78%	67%
	Black	4%	6%
	Other	18%	27%
Service	None	82%	89%
	Dual military	9%	6%
	Veteran	9%	5%

Current Status	Panel 1	Panel 2
Age (mean years)	37.3	27.7
Marriage		
Married	85%	97%
Separated	3%	2%
Divorced/Widowed	12%	1%





FAMILY STUDY RESEARCH PORTFOLIOS



- Health Behaviors
- Substance Use
- Spouse Caregiving
- Economic/Occupational Outcomes
- Adverse Childhood Events
- Community Impact on Families
- Service Separation & Transition
- Interpersonal Aggression



CHILD WELL-BEING PORTFOLIO PUBLICATIONS

Completed

- **Mental health of children** of deployed and nondeployed US military service members...Fairbank et al., 2018, *Journal of Developmental & Behavior Pediatrics*, 39, 683–692.
- **Pre- and perinatal risk factors for child maltreatment** in military families across the first two years of life...Sullivan, et al., 2023, *Child Maltreatment*, 28(2), 209–220.
- **Children's mental health, deployment, parental mental health, and family dynamics**...Briggs et al., 2022, In Glick et al. (Eds.), *Parent-Child Separation. National Symposium on Family Issues* (Vol. 1, pp. 189–208). Springer.
- **Parent mental health and stress** exposure associated with mental and behavioral health outcomes among young, military-connected children [Manuscript submitted for publication]...Sullivan et al., 2024.

In Preparation

- **Family separation from military service** and children's externalizing symptoms: Exploring moderation...Richardson et al., 2024, *Social Development*, 23(1), 1–20.
- **Operational exposures and parenting alliance** in the Millennium Family Cohort...Marter et al.
- **The association of military parent sex, weight and active duty status with child and adolescent overweight and obesity**...Hisle-Gorman et al.
- **Military life stress and the well-being** of military children: Millennium Cohort Family Study Panel II...Richardson et al.
- **Parental** mental health conditions and infant health outcomes among military families...Bukowinski et al.
- **Adverse childhood experiences:** Examining military life stress and intergenerational transmission of adversity...Richardson & Sullivan, et al.

FOUNDATIONAL THEORY

Elder, G. H. (1986). Military times and turning points in men's lives. *Developmental Psychology*, 22(2), 233–245. <https://doi.org/10.1037/0012-1649.22.2.233>

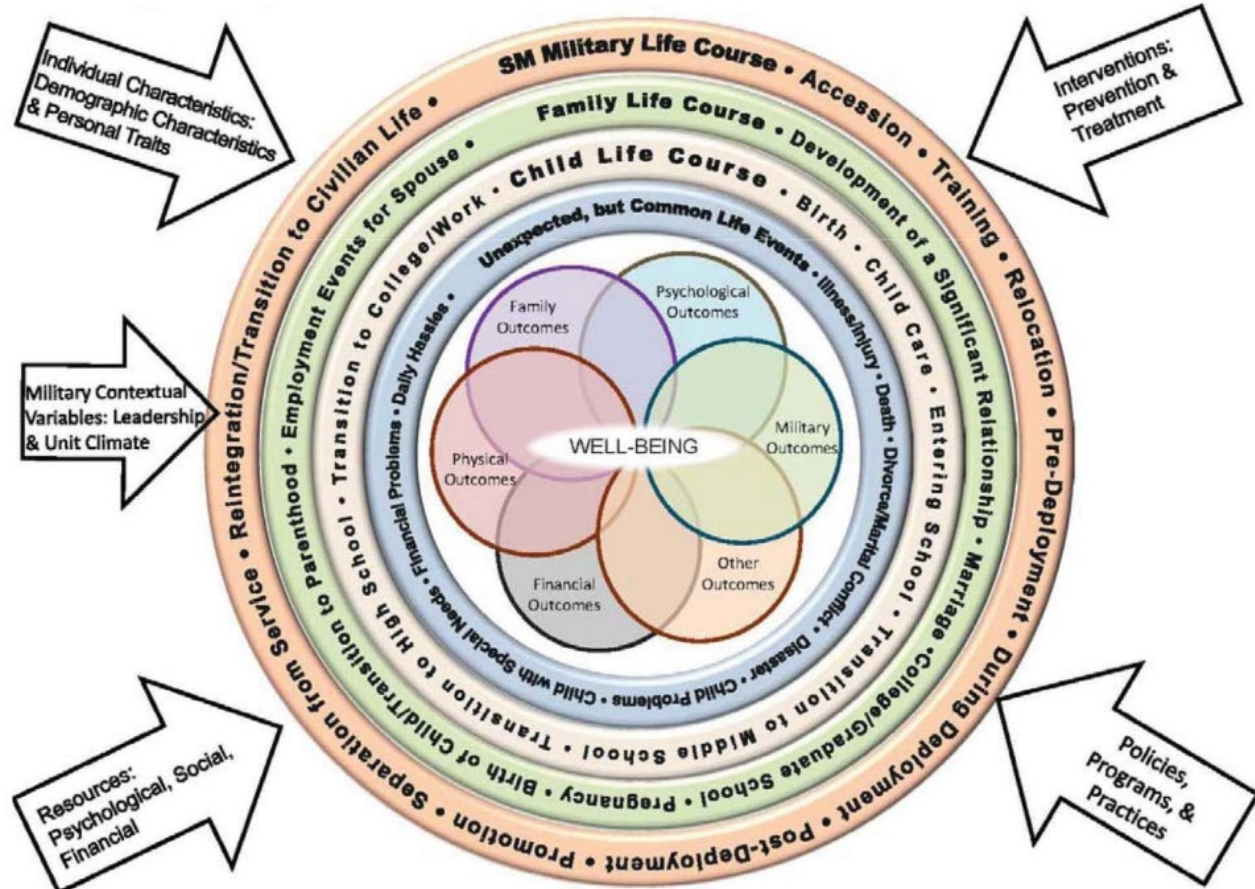
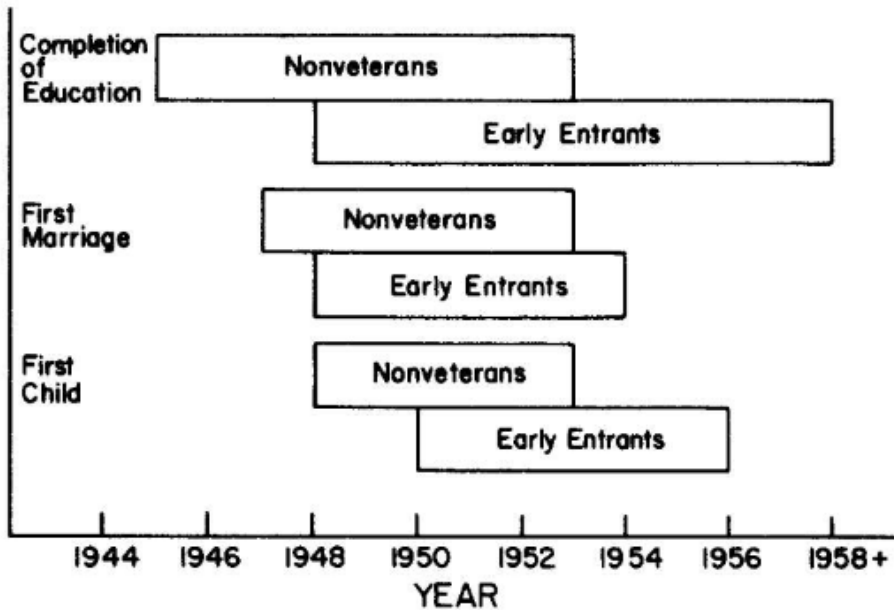


FIGURE 1 Military family events and well-being: A life course model.

Segal, M. W., Lane, M. D., & Fisher, A. G. (2015). Conceptual model of military career and family life course events, intersections, and effects on well-being. *Military Behavioral Health*, 3(2), 95–107. <https://doi.org/10.1080/21635781.2015.1009212>

USING THE MILITARY LIFE COURSE



FIGURE 2 The intersection of relocation, spouse employment, and child in high school.

- ⌚ Other major life course events: birth, attachment formation, entry to formal schooling, puberty, peer relationships, onset of dating, marriage
- ⌚ Considering these events within the life course model allows for a holistic view of children's adjustment via military and developmental contexts



MENTAL HEALTH OF CHILDREN



📍 Child Portfolio Study 1: Fairbank et al., 2018

- Examined parent-reported mental health of their children
 - Children aged 9–17 years
- Main Findings:
 - Families reported higher ADHD and depression diagnoses when active duty parent was deployed and experienced combat
 - Child depression diagnosis was elevated when active duty parent was deployed and did not experience combat
 - Numerous deployments and a longer previous deployment were related to lower hyperactivity and fewer conduct problems
 - Healthy warrior effect

In kids/teens between 9 and 17 years old, how does military stress (deployment, combat) disrupt children's life course and development?

Why might many deployments for the parent be related to improved function in kids/teens?



PRE- AND PERINATAL RISK FACTORS FOR CHILD MALTREATMENT



📍 Child Portfolio Study 2: Sullivan et al., 2023

- Examined stressors encountered prior and during birth and their impact on child maltreatment in the first 2 years of life
 - Using MCP, Family Advocacy Program, and Birth and Infant Health Research Program (BIHR) medical encounter data
 - Main Findings:
 - Preterm birth increased risk over time
 - Service member physical health and older age of service member reduced risk
 - There was no impact of recent deployment or combat trauma exposure
- Thinking about the unfolding life courses of parents and baby, why might older age at birth of a child be protective?
- Why might better parental physical health be protective?



CHILDREN'S MENTAL HEALTH



Child Portfolio Study 3: Briggs et al., 2022

- Examined the relation of each parent's mental health to children's mental health symptoms in a nested model, examining Panel 1 Wave 2 data
- Children ages 3–17
- Main Findings:
 - No association of deployment was found when also adjusting for parent's mental health
 - Spouse and both parents having mental health problems was most important for children's well-being

□ Why might the at-home parent's mental health be more influential in children's adjustment when considering the military family lifestyle?

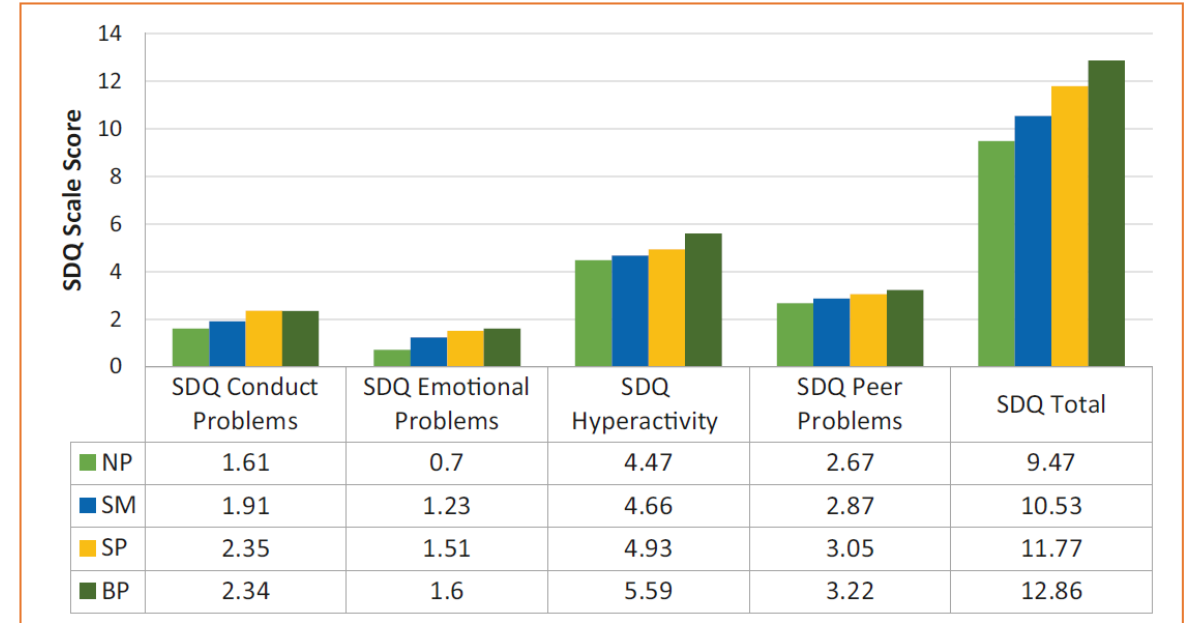


Fig. 8.1 Strengths and difficulties questionnaire mean scores by PMHC dyads. Note: *PMHC* problematic mental health composite dyads, *NP* neither parent, *SM* service member only, *SP* spouse only, *BP* both parents, *SDQ* strengths and difficulties questionnaire



PARENT MENTAL HEALTH AND STRESS



📍 Child Portfolio Study 4: Sullivan et al. [Manuscript submitted for publication]

- Expanded upon the work of Briggs et al. (2022) to look specifically at depression and posttraumatic stress disorder (PTSD) in parents
- Study used prospective design, predictors at Panel 1 Wave 1 and child mental health outcomes at Wave 2
- Main Findings:
 - The at-home parent's mental health was more importantly linked to children's behavior problems, echoing Briggs et al. (2022)
 - Especially the combination of both PTSD and depression in the at-home parent
 - Parent's history of adverse childhood experiences (ACEs) was a unique factor related to children's functioning, even when controlling for the parent's mental health
 - Military stressors like deployment not generally found to be significant

❑ Why would parent ACE history be a unique influence on children's behavior?



FAMILY SEPARATION FROM MILITARY SERVICE



📍 Child Portfolio Study 5: Richardson et al., 2024

- Examined the separation transition and how family adjustment may buffer or augment risk for children's externalizing
 - Panel 1 Waves 1 & 2 data, examining eligible children ages 3–6 over 3 years
- Main Findings:
 - Separation overall was NOT related to children's externalizing
 - Moderation results suggested that spouses who were employed at Wave 1 had children with lower externalizing when they separated, and those who maintained parenting cooperation and stayed in service also had children with lower externalizing
 - Employment is self-determined (not random) – positive impact of employment for those who determine it is right for their family
 - Parenting cooperation in military families may be particularly important
 - Parenting cooperation is a unique dimension not fully explained by marital relationship quality, suggesting even parents with low marital quality can have positive impacts on their children via parenting cooperation

❑ How do children experience the separation transition in their life course, depending on age?



FUTURE RESEARCH WITH PANEL 2

- ⓐ Improved measures of parent-reported ACEs and engagement at request of MC&FP
- ⓐ A Single Parent module to assess more diverse families
- ⓐ More data on Exceptional Family Members, childcare utilization and services



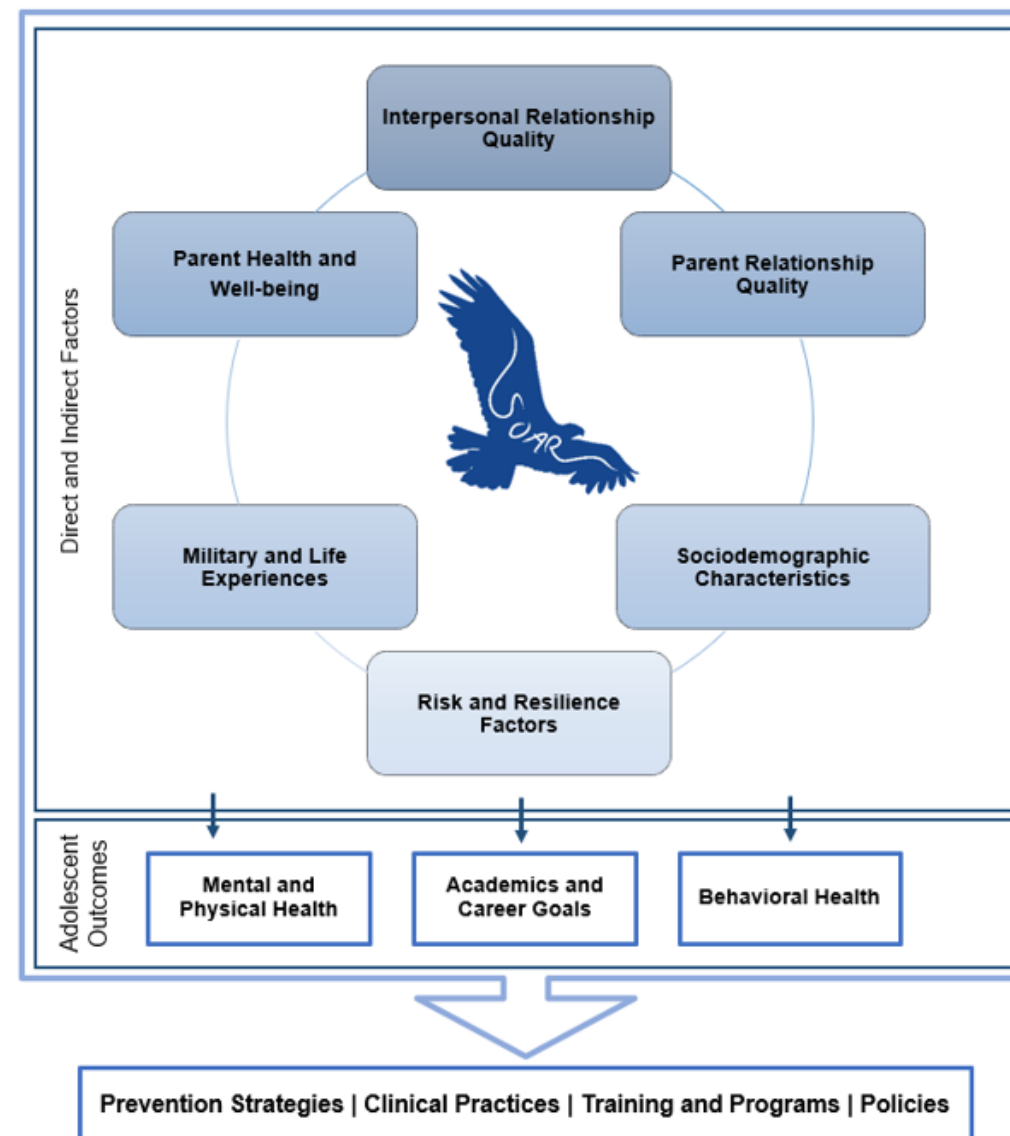
STUDY OF ADOLESCENT RESILIENCE (SOAR)

- SOAR is designed to understand how military life affects military-connected youth's psychological and physical health, academic achievement, and educational/career goals
- SOAR is the most comprehensive study of military-connected adolescents undertaken by DoD
- The study will assist DoD in outlining future strategic goals for programs and services
- SOAR will help DoD understand the health and well-being of the next generation of service members



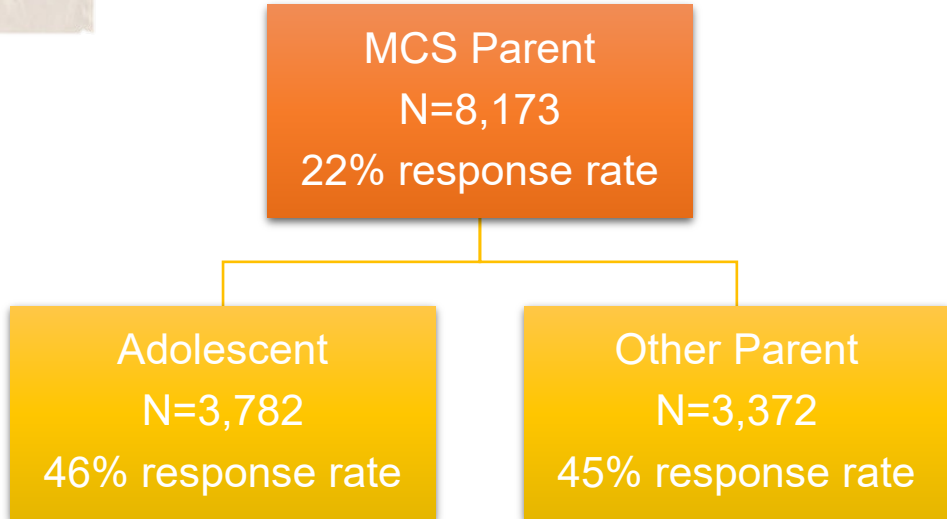
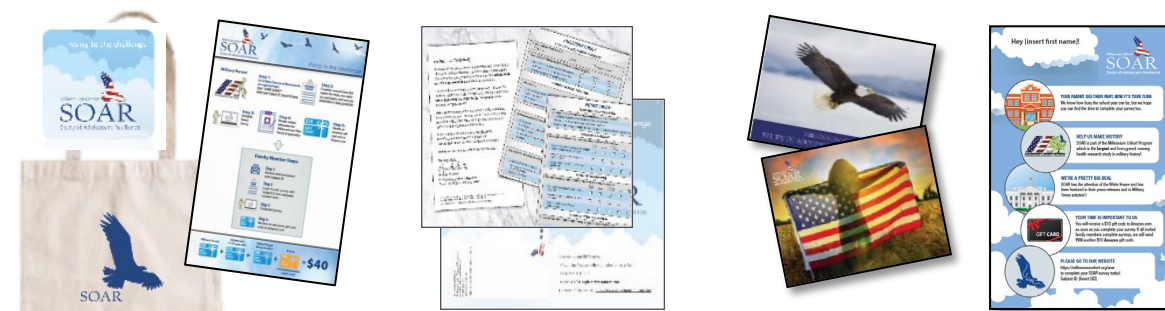
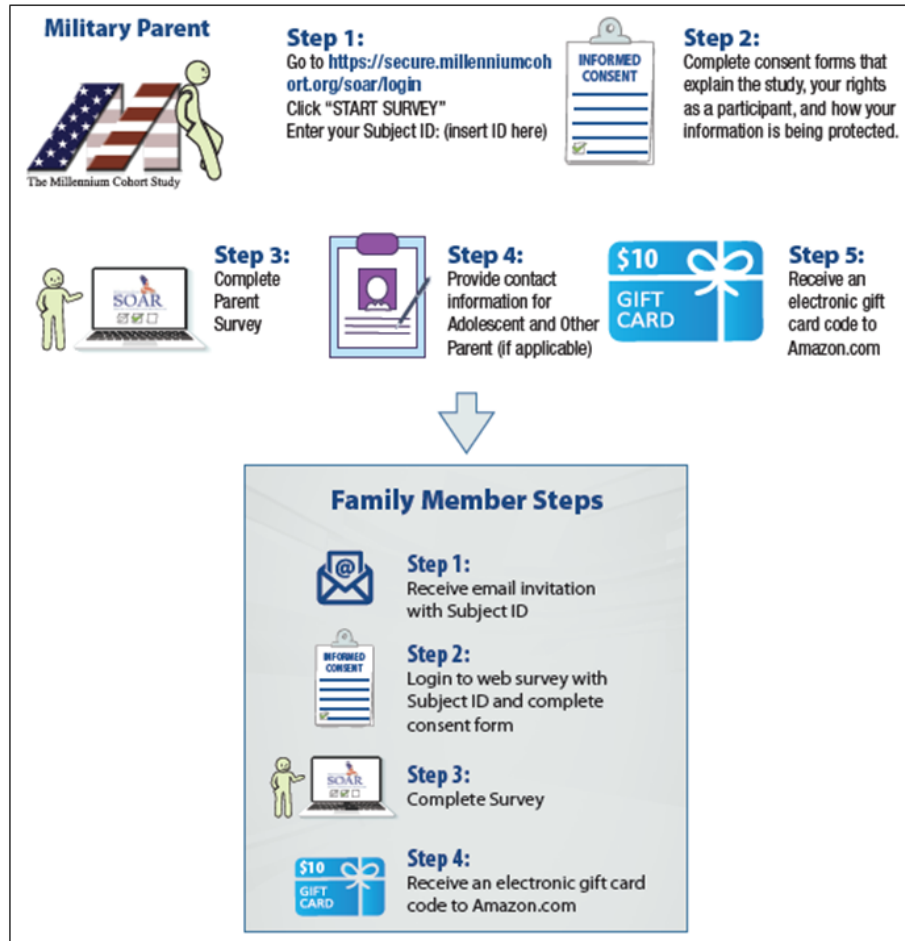
CONCEPTUAL FRAMEWORK AND COMPREHENSIVE SURVEY DESIGN

Measure Source	Survey Section	Specific Constructs
Youth Risk Behavior Survey 2021	Demographics; Academics; Behavioral Health	Age, race/ethnicity; grades, school attendance; substance use, sexual risk, sleep, exercise
National Survey on Drug Use and Health	Physical Health; Academics; Resilience; Parenting	Overall health; school engagement, academic motivation, extracurriculars; religiosity; parental discipline, conflict
National Assessment of Educational Progress	Academics	Teacher quality, school environment
National Alliance for Caregiving Youth Study	Military and Life Experiences	Caregiving
Patient-Reported Outcomes Measurement Information System	Parenting	Parent-adolescent relationship quality, communication
Monitoring the Future	Parenting	Monitoring/supervision
PHQ-2 depression, GAD-2, AMES, PYD	Psychological Health	Depression, anxiety, empathy, character



MULTI-INFORMANT RECRUITMENT PROCEDURES

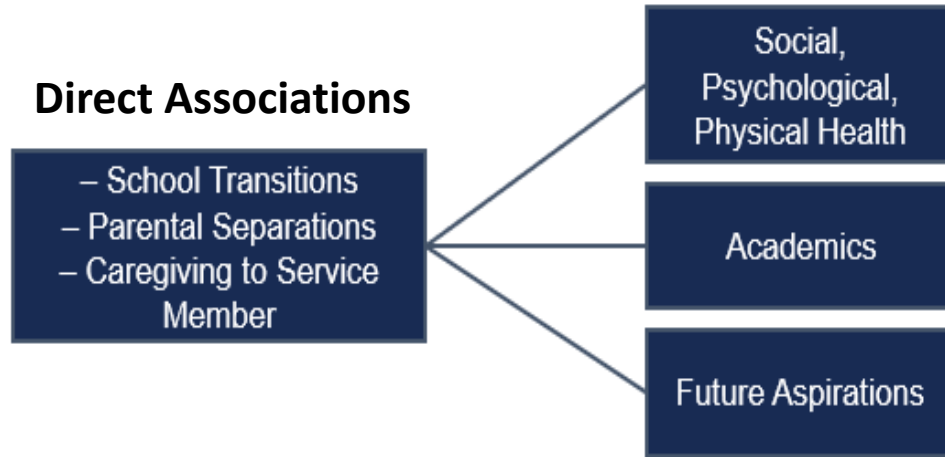
Nov 2022 – July 2023



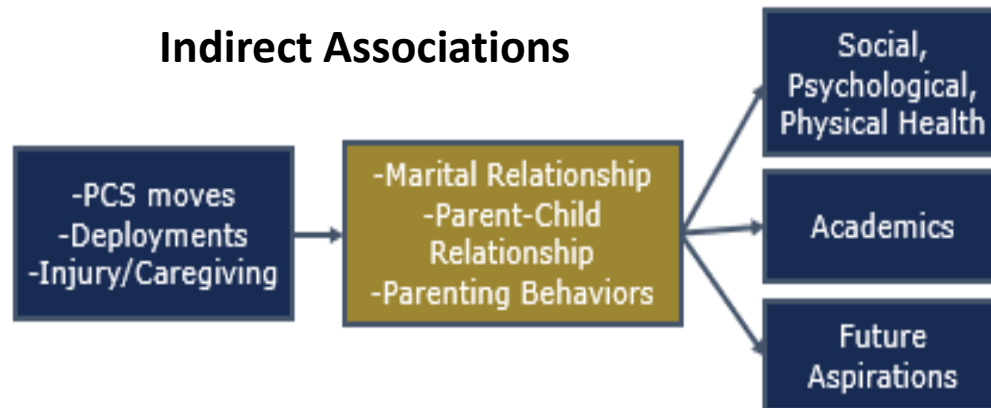


RESEARCH AIMS AND PLANNED ANALYSES

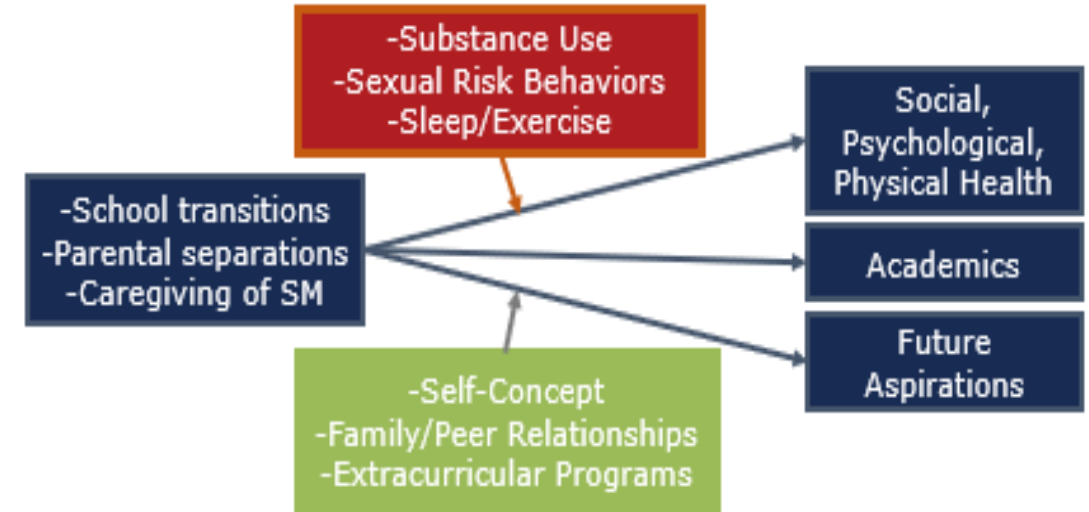
Direct Associations



Indirect Associations

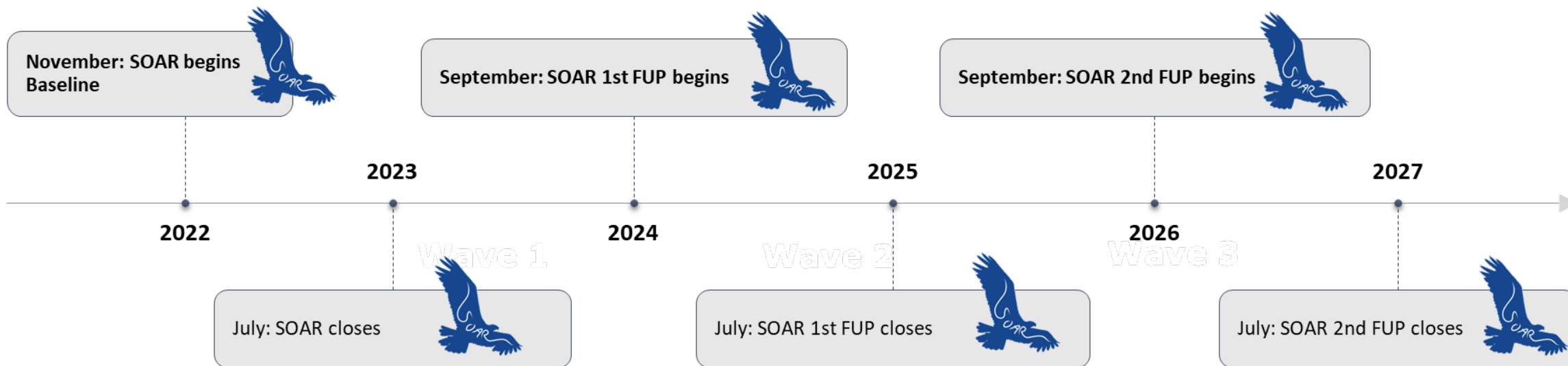


Modifiable Risk and Protective Factors





FUTURE DIRECTIONS: SOAR FOLLOW-UP SURVEY





KEY TAKEAWAYS

- ① The Millennium Cohort Program seeks to understand military life experiences and how they may impact children and adolescents in the family
- ① Factors such as deployment show inconsistent relations with child adjustment, though we continue to improve our research in this area
 - For whom and when? What areas of well-being?
- ① Promoting successful developmental transitions for kids, supporting their parents, and minimizing risk processes is likely advantageous for children in military (and non-military families)



MILLENNIUM COHORT PROGRAM TEAM



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QUESTIONS?



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2024 APR CCSS: Evidence-Based and Promising Practices in Pediatric Care for Military Children and Youth

Complete the course evaluation and posttest for the session(s) you attended by **11:59 PM ET on Thursday, April 18, 2024**, to receive CE/CME credit or a certificate of attendance.

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2. Go to the [main event page](#) and select the session you want to complete under the TAKE COURSE tab.
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4. Progress through the required course items by clicking START under the Course Progress menu tabs located on the left of the screen or by clicking Start Course at the bottom of the page.
5. Complete the evaluation and pass the posttest with a score of 80% or above to select your credits and download your certificate.

All completed courses and certificates are available in [your account](#). Refer to your [Pending Activities](#) for sessions you have yet to complete. You must complete the required course items by **Thursday, April 18**, to receive credit.

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