

PERCEIVED LOCUS OF CONTROL IN THE CHILDREN OF MILITARY AND
CIVILIAN FAMILIES AFFECTED BY DEPLOYMENT AND DIVORCE

BY

REBEKAH Z. KANEFSKY

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Psychology
in the College of Sciences
and in The Burnett Honors College
at the University of Central Florida Orlando, Florida

Fall Term 2015

Thesis Chair: Sandra M. Neer, Ph.D.

ABSTRACT

This study was designed to explore the differences between locus of control (LOC) in children from civilian and military families and to investigate whether military deployment is associated with an external locus of control more than other family dynamics. The literature has focused on the negative implications of external LOC for children's mental health and achievement as well as in childhood chronic illness, parental absence, and parental alcoholism. However, prior research regarding this construct related to children of military families is significantly lacking. In the present study, LOC was measured by the Nowicki-Strickland Locus of Control Scale for Children, a 40 question scale designed for individuals within the range of 3rd to 12th grade. The 54 participants in this study ranged in age from 7 to 17 and came from either a military family with a deployed parent, a civilian family with two caregivers in the home, or a divorced - separated civilian family. A univariate one-way ANOVA was conducted on the data. It was found that children of deployed military families did not score significantly different for mean locus of control than civilian separated/divorced families, or civilian intact families. A correlation comparing age and LOC scores found no significant relationship. Limitations of this study included a small sample size due to time restrictions, and subsequently reduced statistical power. Future investigations into LOC should continue to explore its relationship with children in military families, as future studies correcting for sampling may obtain significant results. Further research should also probe more deeply into the negative and positive consequences that external and internal attributional tendencies may have for children's development, academic performance, and overall well-being.

DEDICATION

For my mom and dad, who have provided me with endless support in all my endeavors. You are more appreciated than you'll ever know.

For Aaron Necaïse, thank you for your statistical expertise, great advice, and most of all for your continuous encouragement.

ACKNOWLEDGEMENTS

I would first like to express my appreciation for Dr. Sandra Neer. Her constant feedback and incredible attention to detail greatly helped my project to be the best it could be. I would also like to acknowledge my thesis committee members, Dr. Beidel and Dr. Hanlon, for their guidance and flexibility when faced with time constraints and the unexpected.

TABLE OF CONTENTS

DEDICATION..... iii

ACKNOWLEDGEMENTS iv

CHAPTER ONE: INTRODUCTION.....1

 Military Deployment and Children 2

 Locus of Control and Social Learning Theory..... 4

 Locus of Control and Attachment Theory..... 4

 Locus of Control and Chronic Illness 5

 Locus of Control and Parental Alcoholism 7

 Locus of Control and Parental Divorce / Absence 7

 Locus of Control and Implications for Health and Achievement 8

CHAPTER TWO: METHODS11

 Participants 11

 Measure 12

 Procedure..... 13

 Data Analysis..... 13

CHAPTER THREE: RESULTS14

CHAPTER FOUR: DISCUSSION.....15

APPENDIX A: TABLES 1-2.....18

APPENDIX B: Tables 3-520

APPENDIX C: Tables 6-724

APPENDIX D: N-SLCS SELF - REPORT26

REFERENCES.....29

CHAPTER ONE: INTRODUCTION

Locus of control (LOC) is a construct that describes how much an individual perceives events to be the result of his or her actions or as a result of forces independent to himself (Rotter, 1966). LOC has been shown to be related to children's behavior and how they interpret events around them, and can be described as either internal or external. Individuals with an internal locus of control typically believe that their own actions influence what they experience and what happens in their lives. Individuals with an external locus of control typically believe that fate and outward forces have more impact on their lives and experiences (Rotter, 1966). Knowledge of how family life can influence LOC (internal vs. external) is important in understanding children's reasoning and thought processes. Individuals with an internal locus of control tend to perceive events as occurring as a result of their own actions and abilities; therefore, they are likely to believe that they have the power to affect their own lives. Individuals with an external orientation, however, often feel less empowered and believe the events that happen to them are due to chance or fate.

Although research has been conducted on LOC with other family dynamics and situations, research regarding LOC has not been conducted specifically with the children of military families. This is disconcerting because there is a large number of children in military families in the U.S. In fact, in February of 2007, the APA Presidential Task Force disclosed that approximately 700,000 children in America had at least one parent deployed. Due to the many children experiencing parental deployment, the paucity of research regarding LOC in children from these families, and the negative implications that external locus of control may have for the

mental health of young children and adolescents, this is a worthwhile subject of research. Therefore, this study examined the differences in measured locus of control in military families with only one parent in the home as a result of deployment, civilian intact families with two parental figures, and divorced or separated civilian families with one caregiver in the home. It was predicted that children from military families with a deployed parent would demonstrate greater external (as opposed to internal) locus of control than children from intact civilian families and civilian separated/divorced families. Next, it was predicted that children of civilian intact families would be more likely to attribute experiences in their lives to internal factors. Additionally, it was predicted that while the civilian separated - divorced group would be less likely to make external attributions; these children would still exhibit more externality than the intact group. Last, due to previous research, it was predicted that age of the children and scores on the Nowicki-Strickland Locus of Control Scale would be related, with older children scoring more internally than younger children (Nowicki & Strickland, 1973).

Military Deployment and Children

Despite being aware that the stressors and uncertainties that may arise as a result of parental deployment could lead to issues in child development (Mulrooney, 2012), LOC has not been studied in children in these situations. Research with this population has primarily focused on risk and resiliency. Factors that could potentially cause harm to children of this population include frequent relocation, absence of the parent due to the deployment itself, uncertainty regarding the deployed parent's safety, and parental development of PTSD (Palmer, 2008; Riggs & Riggs, 2011). Factors that may contribute to the resiliency of children in military families

include attentive parenting, strong social support from the community and family and successful individual coping strategies.

It is also important to study locus of control in children due to its relation to other constructs such as depression, anxiety, and school performance. A study by Lester et al. (2010) examined depression, anxiety, and behavioral issues in grade school children with a deployed parent or recently returned parent involved in Operation Enduring Freedom or Operation Iraqi Freedom. The relationship between anxiety and deployment was significant with a third of the military children rating higher anxiety than civilian controls—as measured by the Multidimensional Anxiety Scale for Children. In addition, scores for depression and externalizing behaviors in military children were positively correlated with the length of the deployment (Lester et al., 2010). In a similar study by Chartrand and colleagues (2008), the impact of deployment on externalizing and internalizing behavioral issues in children aged 1 ½ to 5 years old was studied in comparison to their civilian peers. Externalizing behaviors are outwardly expressed behaviors of children and adolescents that result from an individual's negative perception of his or her environment and typically include aggression and other forms of acting out. Behavioral issues were measured through a parent completed evaluation of the child's behavior called the Child Behavior Check List (CBCL) and a teacher evaluation form called the CBCL- Teacher Report Form (TRF). Children from families with a deployed parent demonstrated significantly greater externalizing behaviors, as measured by the CBCL and TRF and greater total scores on the CBCL than children not experiencing parental deployment (Chartrand et al., 2008). However, clinically significant scores on the CBCL and TRF were only

noted for internalizing behaviors in children aged 3 and older from the military deployed group (Chartrand et al., 2008). Additionally, in this study the children's ratings were compiled by the parent who may also be experiencing stress related to spousal deployment. Due to the added stress the parent may be experiencing, they could inaccurately represent their child.

Locus of Control and Social Learning Theory

The construct of locus of control is based on the theoretical foundation of Social Learning Theory. In this theory, reinforcement encourages the belief that in the future a certain behavior will be followed by that reinforcement (Rotter, 1966; Bandura, 1971). A pattern of behavior consistently followed by reinforcement strengthens the expectancy of this behavior pattern occurring in the future. Similarly, depending on an individual's history of expectancies being met or not met, he or she will vary in the degree to which they attribute occurrences in their lives to their own behaviors. If a person expects that reinforcement is not contingent on their actions, they may believe that experiences in their life are "luck determined" or external (Rotter, 1966).

Locus of Control and Attachment Theory

A study conducted by Dan et al. (2011) examined the relationship between LOC, attachment in infancy, and maternal attention. This research is based on the idea that the development of perceived internal or external control may potentially occur in relationship to observed mother - child interactions beginning in the earliest stages of development. When an infant's mother is not consistently sensitive to her child's needs, it has been suggested that an infant lacks a sense of security and in turn, may not develop the proper parental trust that is related to greater internal locus of control (Dan et al., 2011). Attachment theory, which applies to

development in infancy and refers to the mother – child relationship, proposes the idea that infants can experience a sense of security due to attentive caregivers. This sense of security, or lack of it, can assist or impede a developing child in perceiving the world (Mulrooney, 2012). In a study conducted in 2011 by Dan and colleagues, it was reported that “...securely attached infants come to trust their own efficacy in eliciting well-attuned parental behavior and develop a stronger sense of perceived control.” Longitudinal research on 11 year old children reported lower perception of control when their mother – child relationship involved inconsistent parenting and insensitive mothers. This maternal relationship was evaluated at 6 months and 12 months of age through maternal sensitivity scores that were determined during observation of mother and child freely playing and the administration of the strange situation experiment (Dan et al., 2011). The strange situation experiment involves the observation of an infant’s behavior after the departure and subsequent return of the mother to and from the room. A secure attachment developed in infancy was shown to be related to a stronger perception of internal factors affecting outcomes in childhood (Dan et. al., 2011). The findings from this study support the idea that external or internal attribution is developed and not solely inherent in children. These results additionally support the idea that factors such as maternal attentiveness and the consistency of expectancies met during a child’s development could impact the way a child perceives the world.

Locus of Control and Chronic Illness

LOC has also been studied in individuals with chronic illness. In a study of children with Type 1 Diabetes Mellitus (T1DM), a perceived internal locus of control was suggested to be

related to lower (better) measured levels of HbA1c. HbA1c is a glycated hemoglobin indicative of blood sugar levels over an extended period of time. Also, children who were said to make external attributions had higher measured levels of HbA1c (Nabors et. al, 2010; O’Hea et al., 2005). In the case of chronic illness, patients who believe their illness to be out of their control (external) are less likely to maintain their necessary medical routines. It may also be that people who have a positive outlook and perceive themselves to be in control of their health (internal) are more likely to actively follow their medical routines. This may be due to the belief that they can influence and affect their own health outcomes and that fate or powerful others are not the primary controlling factors. An internal locus of control has been shown to be more beneficial for patients with chronic disease or pain, as these patients are empowered to adhere to health maintenance routines by their sense of effectiveness on their own health (Nabors et al., 2010; O’Hea et al., 2005).

Locus of control has also been shown to be related to severity and duration of chronic pain. Patients with the most severe and longest lasting lower back pain tended to exhibit more external beliefs regarding their condition (Härkäpää et al., 2010). In line with this notion of externality and severity, is the idea that individuals who less actively attempt to alleviate their lower back pain would theoretically perceive their pain as due to external forces. This concept was demonstrated in the study by Härkäpää and colleagues (2010), as patients who attempted back exercises were shown to have more internal perceptions of their illness and solutions for their illness.

Locus of Control and Parental Alcoholism

A study conducted by Post and Robinson (1998) showed that an external LOC was demonstrated more frequently in children with alcoholic parents. An alcoholic parent can be undependable and inconsistent, similar to an insensitive or inattentive mother in infancy. This uncertainty experienced by the child may leave him or her with feelings of powerlessness, which in turn may lead to an external locus of control. Because children of alcoholics tend to feel disempowered, they are more likely to perform worse in school and be less motivated towards achievement (Post & Robinson, 1998). Carrying into young adulthood, individuals with an alcoholic parent were shown to experience greater levels of externality than individuals without an alcoholic parent (Robinson & Goodpaster, 1991).

Locus of Control and Parental Divorce / Absence

The effect of divorce on the locus of control of children has also been studied. It has been suggested that children in divorced families may perceive control over their world to be external as a result of lack of control and uncertainty in the family's location, financial status, and parental presence (Kalter et al., 1984; Lancaster & Richmond, 1983). The absence of a father figure due to divorce or parental separation has also been shown to be related to children's locus of control. The lack of a present father has been implicated in children perceiving their lives to be affected by fate, chance, or powerful others, and therefore they are likely to develop an external locus of control (Lancaster & Richmond, 1983). The Nowicki-Strickland Locus of Control Scale for Children (N-SLCS) was administered to children who had a father present and to those that had an absent father (Lancaster & Richmond, 1983). In this study, children with an

absent father were prone to making external attributions. In comparison, children with an available father exhibited perceived internalization of control. Uncertainty in finances and residency can occur as a result of the absence of a father; therefore this could lead to children perceiving reduced control in their lives. However, there have been mixed results in studies examining the impact of divorce on children. In one study, there was no significant difference between the construct of locus of control in divorced families and intact families (Krakauer, 1993). Other research has shown that children from divorced homes perceive events through a more internal locus of control when compared with children from intact homes. This, in turn, could be a result of children from divorced homes accepting greater responsibility in response to the divorce (Kalter et al., 1984).

Locus of Control and Implications for Health and Achievement

Exhibiting tendencies toward external orientation may have negative implications for children's mental and physical health. For example, children with higher external locus of control also had higher levels of depression (Tesiny, Lefkowitz, & Gordon, 1980; Siegel & Griffin, 1984). A study by Holder and Levi (1988) showed that college students with higher anxiety and depression ratings were more likely to have an external locus of control. In contrast, lower levels of depression and anxiety have been measured in people who perceive consequences as a direct result of their own actions (Holder & Levi, 1988; Molinari & Khanna, 1981). Therefore, many concerns arise regarding development and the overall mental health of children who make external, as opposed to internal, attributions.

In addition to health concerns, performance in academics was found to be negatively affected when a child perceives that occurrences in life are due to external circumstances (Tesiny, Lefkowitz, & Gordon, 1980). Individuals who perceive that their actions do not affect their environment may adopt a passive role in their academic success by failing to study, pay attention in class, or complete their homework. It may be understood that individuals who make external attributions and do not actively and persistently invest in their academics would be low achieving and poor performing students (Rotter, 1966; Crandall, 1968). Research conducted on locus of control and academic performance was based on the assumption that children who perceive grades in school as a result of their own effort may be more likely to set high achieving goals for themselves. Children who make external attributions tend to believe that their academic triumphs or failures will occur regardless of their effort. Crandall (1968) also suggested that children who view their grades to be a result of luck or destiny may be less motivated to study and actively pursue achievement. The children who perceived their academic success to be determined by their efforts and abilities scored higher in academic performance (as measured by an achievement test and report cards) than children who externally attributed their successes to fate, luck, or powerful others (Crandall, 1968).

Research on LOC and learned helplessness further supports the relationship between external attribution and lower academic performance. Dweck and Repucci's study (1973) involved a performance task for fifth graders to complete. When the children consistently were unable to succeed at the task, some maintained their determination to continue trying their best and some of the kids went on to perform worse. The Intellectual Achievement Responsibility

scale, which attempts to determine where responsibility lies (external vs. internal) in regards to achievement was administered to children. The study showed that children who tended to take personal responsibility for their achievement were also the same students who kept trying their hardest with the task, whereas the children who did not see themselves as able to control their successes were the ones who were less persistent when exposed to failure. The concept of internality associated with motivation to achieve and externality associated with less motivation to achieve/perform has been consistently supported (Dweck & Repucci, 1973; Rotter, 1966). These findings further reinforce the notion that internal locus of control is more beneficial in the realm of achievement and performance; therefore, it is important to further explore knowledge of the potential impact of military deployment on locus of control.

CHAPTER TWO: METHODS

The current study is part of a larger, ongoing project “When Parents Go to War: Psychosocial Adjustment among the Families of Deployed OEF/OIF Service Members,” funded by a grant from The Department of Defense. This study was conducted in the clinic at the University of Central Florida’s UCF RESTORES (University Center for Research and Treatment on Response to Extreme Stressors) under the Principal Investigator, Deborah C. Beidel, Ph.D., ABPP. The IRB approval for the questionnaire used in this study was received on February 2, 2015.

Participants

The participating sample consisted of 54 children (ages 7-17) who were recruited for the larger study. Participants were either from (1) a military family with two caregivers in which one of the caregivers has been deployed for more than 30 days, n= 24; (2) a civilian intact family, n= 21; or (3) a civilian family in which the caregivers have been separated/divorced for at least 30 days, n =9. Participants were excluded from the study if they were:

- (a) psychotic, reported suicidal ideation, or suffered from deficits in intelligence,
- (b) experiencing a big life stressor in their family unit besides parental separation,
- (c) children who had an IQ score that fell below 80 as measured by the Block Design and Vocabulary components of the WISC-IV, or
- (d) using medication that was known to effect cortisol levels

Additionally, the larger study also included children from families in which a parent has been work deployed and children from intact military families. However, these two family groups were not included in the present study due to small sample sizes.

Measure

The construct of locus of control was assessed using the Nowicki-Strickland Locus of Control Scale for Children (N-SLCS) (Nowicki & Strickland, 1973). The questionnaire was created to measure whether children attribute events in their life to chance or to their own actions. This 40 - item scale includes “yes and no” questions, such as “Are some kids just born lucky?” and “Do you feel that most of the time parents listen to what their children have to say?” Children can receive a score that ranges from 0-40, with the higher numerical score indicative of an external locus of control. In the development of this scale, older participants demonstrated more internal scores than younger children (Nowicki & Strickland, 1973).

Using the split-half method, the test was found to have internal reliability; with Spearman’s correction they are $r = .63$ (for grade levels 3 through 5); $r = .68$ (for grade levels 6 through 8); $r = .74$ (for grade levels 9 through 11); and $r = .81$ (for grade level 12) (Nowicki & Strickland, 1973). Construct validity of the N-SLCS was further shown by its significant relationship with the Bialer - Cromwell Children’s Locus of Control Scale ($r = .41, p < .05$), when looking at children ages 9 through 11. Also, a significant relationship between the Nowicki – Strickland adult scales and the Rotter Scale for Locus of Control was shown on two separate studies of college students, with ($N = 76, r = .61, p < .01$; $N = 46, r = .38, p < .01$; Nowicki & Strickland, 1973). Nunn (1987) examined the concurrent validity between locus of

control—as measured by the N-SLCS— and children’s perception of their adjustment in the categories of home, peers, and school— as measured by the Behavior Rating Profile: Home, School, and Peer scales (BRPHSP). The N-SLCS was shown to have concurrent validity and significantly correlated with the constructs measured by the BRPHSP (Home: $r = -.49, p \leq .0001$; Peers: $r = -.55, p \leq .0001$; School: $r = -.42, p \leq .0001$).

Procedure

Prior to the family assessment, a packet of self-report forms (including the N-SLCS) was mailed to participating families and children. The packet was then either mailed back to the Psychology Clinic at the University of Central Florida or collected by a representative from the Military Families Project upon its completion.

Data Analysis

Descriptive statistics were conducted on the data for mean age and scores on the N-SLCS (See Tables 1-2). Histograms for the scores of each family group were created and the data was found to be normally distributed in terms of skewness, kurtosis, and the Shapiro-Wilk test (See Tables 3-5).

A univariate one-way ANOVA was conducted on the three family groups. A correlation between age and locus of control was performed in order to test for a possible relationship between the two variables.

CHAPTER THREE: RESULTS

A univariate ANOVA was conducted on locus of control scores of military deployed, civilian intact, and civilian divorced or separated family groups. No significant differences were found for locus of control, [$F(2,51) = 2.12, p = .13$; see Table 6], as measured by the Nowicki - Strickland Locus of Control Scale for Children. The civilian divorced group's mean score was the greatest ($M = 15.89, SD = 5.33$), followed by the deployed military family group's mean score ($M = 13.96, SD = 4.28$), and the intact civilian group's mean scores ($M = 12.29, SD = 4.40$). In addition, no significant relationship between age and scores on the N-SLCS was found (See Table 7).

CHAPTER FOUR: DISCUSSION

Contrary to our initial hypothesis, there were no significant differences in locus of control between children from military deployed families, civilian intact families, and civilian divorced families. A correlation between age and locus of control scores was conducted in order to determine if age was related to locus of control in each of the family groups. However, age did not have a significant relationship with locus of control scores as measured by the N-SLCS in this study. This finding is not consistent with previous research suggesting that locus of control is significantly related to an individual's age (Nowicki & Strickland, 1973).

In interpreting the results of this study, a few specific limitations should be kept in mind. Recruitment for this study was limited to the family groups and the number of participants that the larger study required. When data collection first started, the larger study's recruitment for the military intact family group was nearly complete. As a result, the number of participants in that group was small (n=4). Although data was collected from military intact families and work "deployed" civilian families in the larger study, we were unable to include that data in the analysis in the current study due to a small number of participants in comparison with the size of the other family groups.

This additional "work deployed" family group may be more similar in situation to the military deployed group. Without the work "deployed" civilian group, the military deployed group did not have a similar civilian counterpart. Had a more similar comparison group for the military deployed family been collected and included in the data analysis, a two-way comparison

between family status (intact or separated family groups) and family type (military or civilian) could have been made.

It may also be important to consider that it is uncertain at what point in time after the divorce or deployment a child may begin to exhibit a changed perspective regarding his or her locus of control. The amount of time that had passed since the divorce or deployment was not systematically collected for the participants of the current study. Thus, at the time that the N-SLCS was being completed it is uncertain exactly how long a family had been experiencing divorce or deployment. This inconsistency across participants raises the concern that the children from families experiencing deployment or divorce could have reported different answers and received a different score on the N-SLCS had they been questioned at a different time. It is also important to note that the power in the study was very low (power = 0.41) which may have affected the significance of the study. The initial power analysis reported that in order to have a moderate effect size of 0.25, and power = 0.95, the total sample size would need to equal 252. The small sample size of the present study caused the power of the overall study to be weak and may have affected the findings.

Future research questions may include the potential implications that external and internal locus of control could have on children and how different attributional styles could hamper or help children to cope with the stressors that divorce and separation present. Future research regarding locus of control in the military demographic may still be conducted with a similar premise to the current study; however, an additional group that consisted of children from family situations in which a parent is work “deployed” or works away from home for a certain

extended period of time should be added to the sample. This family group may be more similar and therefore a better comparison to the military deployed group than the civilian divorced or separated group.

This study's results indicated no significant difference in mean locus of control scores for military deployed, civilian intact, and civilian divorced - separated children and no significant relationship for age and scores on the N-SLCS. Study limitations prevented conclusive results regarding locus of control in children of military deployed families. However, if future research recruits a larger sample size of children from military families, perhaps significant findings may encourage researchers to further explore the circumstances around locus of control development and the positive and negative implications of internal and external attributional tendencies.

APPENDIX A: TABLES 1-2

Table 1: Descriptive Statistics for age of participants and scores on the N-SLCS

Descriptive Statistics				
	Mean	Std. Deviation	N	
Family_Group	1.0000	.00000	24	Family Group = A
ScoresOnNSLCS	13.96	4.278	24	
ParticipantAge	10.7500	2.90801	24	
Descriptive Statistics				
	Mean	Std. Deviation	N	
Family_Group	2.0000	.00000	21	Family Group = C
ScoresOnNSLCS	12.29	4.440	21	
ParticipantAge	10.5714	2.29285	21	
Descriptive Statistics				
	Mean	Std. Deviation	N	
Family_Group	3.0000	.00000	9	Family Group = D
ScoresOnNSLCS	15.89	5.326	9	
ParticipantAge	11.3333	1.80278	9	

Table 2: Descriptive statistics for family groups

Descriptive Statistics			
Dependent Variable: ScoresOnNSLCS			
Family_Group	Mean	Std. Deviation	N
A	13.96	4.278	24
C	12.29	4.440	21
D	15.89	5.326	9
Total	13.63	4.615	54

Group A = the military deployed family group

Group C = the intact civilian family group

Group D = the divorced – separated family group

APPENDIX B: Tables 3-5

Table 3: Test of the normality of the data looking at skewness and kurtosis

Descriptives						
	Family_Group		Statistic	Std. Error		
ScoresOnNSLCS	A	Mean	13.96	.873		
		95% Confidence Interval for Mean	Lower Bound	12.15		
			Upper Bound	15.76		
		5% Trimmed Mean		13.83		
		Median		13.00		
		Variance		18.303		
		Std. Deviation		4.278		
		Minimum		7		
		Maximum		23		
		Range		16		
		Interquartile Range		6		
		Skewness		.784	.472	
		Kurtosis		.120	.918	
		C	C	Mean	12.29	.969
				95% Confidence Interval for Mean	Lower Bound	10.26
	Upper Bound			14.31		
5% Trimmed Mean				12.21		
Median				11.00		
Variance				19.714		
Std. Deviation				4.440		
Minimum				5		
Maximum				21		
Range				16		
Interquartile Range				8		
Skewness				.173	.501	
Kurtosis				-.886	.972	
D	D			Mean	15.89	1.775
				95% Confidence Interval for Mean	Lower Bound	11.80
			Upper Bound	19.98		
		5% Trimmed Mean		15.71		
		Median		15.00		
		Variance		28.361		

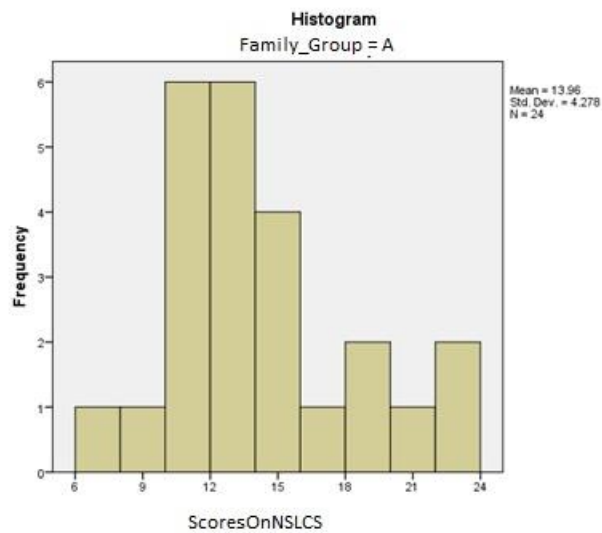
Group A = the military deployed family group
 Group C = the intact civilian family group
 Group D = the divorced – separated family group

Table 4: Shapiro-Wilk test for normality

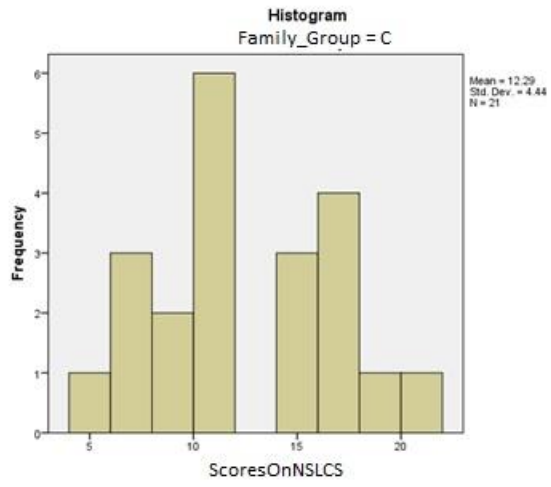
Tests of Normality							
	Family_Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
ScoresOnNSLCS	A	.172	24	.065	.922	24	.066
	C	.185	21	.058	.954	21	.397
	D	.269	9	.059	.868	9	.118

a. Lilliefors Significance Correction

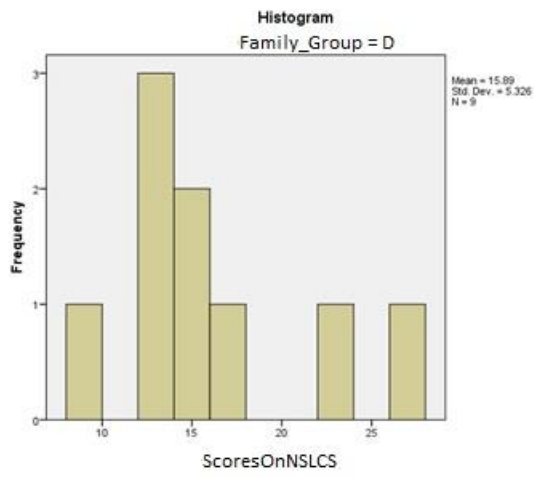
Table 5: Histograms showing the distribution of the data



A = Deployed military family group



C = Intact civilian family group



D = Civilian divorced family group

APPENDIX C: Tables 6-7

Table 6: Univariate One-Way ANOVA for family groups and scores

Tests of Between-Subjects Effects

Dependent Variable: ScoresOnNSLCS

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Corrected Model	86.460 ^a	2	43.230	2.116	.131	.077	4.231	.414
Intercept	8858.346	1	8858.346	433.511	.000	.895	433.511	1.000
Family_Group	86.460	2	43.230	2.116	.131	.077	4.231	.414
Error	1042.133	51	20.434					
Total	11160.000	54						
Corrected Total	1128.593	53						

a. R Squared = .077 (Adjusted R Squared = .040)

b. Computed using alpha = .05

Table 7: Correlation between age and locus of control scores as measured by the N-SLCS

Correlations

		ScoresOnNSLCS	Age
ScoresOnNSLCS	Pearson Correlation	1	-.070
	Sig. (2-tailed)		.617
	N	54	54
Age	Pearson Correlation	-.070	1
	Sig. (2-tailed)	.617	
	N	54	54

APPENDIX D: N-SLCS SELF - REPORT

N-SLCS

Please Circle Yes or No for each question as it applies to you

ID: _____ **G:** _____

Age _____ Gender _____

- Yes No** 1. Do you believe that most problems will solve themselves if you just don't fool with them?
- Yes No** 2. Do you believe that you can stop yourself from catching a cold?
- Yes No** 3. Are some kids just born lucky?
- Yes No** 4. Most of the time do you feel that getting good grades means a great deal to you?
- Yes No** 5. Are you often blamed for things that just aren't your fault?
- Yes No** 6. Do you believe that if somebody studies hard enough he or she can pass any subject?
- Yes No** 7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
- Yes No** 8. Do you feel that if things start out well in the morning it's going to be a good day no matter what you do?
- Yes No** 9. Do you feel that most of the time parents listen to what their children have to say?
- Yes No** 10. Do you believe that wishing can make good things happen?
- Yes No** 11. When you get punished does it usually seem it's for no good reason at all?
- Yes No** 12. Most of the time do you find it hard to change a friend's opinion?
- Yes No** 13. Do you think that cheering more than luck helps a team to win?
- Yes No** 14. Do you feel that it's nearly impossible to change your parent's mind about anything?
- Yes No** 15. Do you believe that your parents should allow you to make most of your own decisions?
- Yes No** 16. Do you feel that when you do something wrong there's very little you can do to make it right?
- Yes No** 17. Do you believe that most kids are just born good at sports?
- Yes No** 18. Are most of the other kids your age stronger than you are?
- Yes No** 19. Do you feel that one of the best ways to handle most problems is just not to think about them?
- Yes No** 20. Do you feel that you have a lot of choice in deciding who your friends are?
- Yes No** 21. If you find a four-leaf clover do you believe that it might bring you good luck?

N-SLCS

Please circle Yes or No for each question as it applies to you

- Yes No 22. Do you often feel that whether you do your homework has much to do with what kind of grades you get?
- Yes No 23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?
- Yes No 24. Have you ever had a good luck charm?
- Yes No 25. Do you believe that whether or not people like you depends on how you act?
- Yes No 26. Will your parents usually help you if you ask them?
- Yes No 27. Have you felt that when people were mean to you it was usually for no reason at all?
- Yes No 28. Most of the time, do you feel that that you can change what might happen tomorrow by what you do today?
- Yes No 29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?
- Yes No 30. Do you think that kids can get their own way if they just keep trying?
- Yes No 31. Most of the time do you find it useless to try to get your own way at home?
- Yes No 32. Do you feel that when good things happen they happen because of hard work?
- Yes No 33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?
- Yes No 34. Do you usually feel that it's easy to get friends to do what you want them to do?
- Yes No 35. Do you usually feel that that you have little to say about what you get to eat at home?
- Yes No 36. Do you feel that when someone that doesn't like you there's little you can do about it?
- Yes No 37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?
- Yes No 38. Are you the kind of person who believes that planning ahead makes things turn out better?
- Yes No 39. Most of the time, do you feel that you have little to say about what your family decides to do?
- Yes No 40. Do you think it's better to be smart than to be lucky?

REFERENCES

- APA (2007). American Psychological Association Presidential Task Force on Military Deployment Services for Youth, Families and Service Members: A preliminary report. Washington, DC: American Psychological Association.
- Chartrand, M., Frank, D., White, L., & Shope, T. (2008). Effect of parents' wartime deployment on the behavior of young children in military families. *Arch Pediatric Adolescent Medicine*, 162(11), 1009-1014.
- Dan, O., Sagi-Schwartz, A., Bar-Haim, Y., & Eshel, Y. (2011). Effects of early relationships on children's perceived control: A longitudinal study. *International Journal of Behavioral Development*, 35(5), 449-456
- Department of Defense (DOD). (2010). Report on the Impact of Deployment of Members of the Armed Forces on Their Dependent Children. Washington, DC: Department of Defense
- Dweck, C., & Repucci, N. (1973). Learned Helplessness and Reinforcement Responsibility in Children. *Journal of Personality and Social Psychology*, 25(1) 109-116.
- Härkäpää, K., Järvikoski, A., Hurri, H. (1989). Health locus of control beliefs in low back pain patients. *Scandinavian Journal of Behaviour Therapy*, 18, 107-118.
- Holder, E., & Levi, D. (1988). Mental health and locus of control: SCL-90-R and Levenson's IPC scales. *Journal of Clinical Psychology*, 44(5) 753-755.
- Lancaster, W., & Richmond, B. (1983). Perceived locus of control as a function of father absence, age, and geographic location. *The Journal of Genetic Psychology*, 143, 51-56.

- Lester, P., Peterson, K., Reeves, J., Knauss, L., Glover, D., Mogil, C., Duan, N., Saltzman, W., Pynoos, R., Wilt, K., & Beardslee, W. (2010). The long war and parental combat deployment: Effects on military children and at-home spouses. *Journal of the American Academy of Child and Adolescent Psychiatry, 49*(4), 310-320.
- Li, H., & Chung, O. (2009). The relationship between children's locus of control and their anticipatory anxiety. *Public Health Nursing, 26*(2), 153-160.
- Molinari, V. & Khanna, P. (1981). Locus of Control and Its Relationship to Anxiety and Depression. *Journal of Personality Assessment, 45*(3), 314-319.
- Mulrooney, K. & Williams, D. (2011). Increasing understanding of infants and young children in military families through focused research.
- Nabors, L., McGrady, M., & Kichler, J. (2010). Children's attitudes toward their diabetes, locus of control, and HbA1c levels. *Journal of Developmental & Physical Disabilities, 22*, 475-484.
- Nowicki, S., & Strickland, B. (1973). A locus of control scale for children. *Journal of Consulting & Clinical Psychology, 40*(1), 148-154.
- Nunn, G. (1987). Concurrent validity between children's locus of control and attitudes towards home, school, and peers. *Educational and Psychological Measurement, 47*, 1087-1089.
- O'Hea, E., Grothe, K., Bodenlos, J., Boudreaux, E., White, M., & Brantley, P. (2005). Predicting medical regimen adherence: The interactions of health locus of control beliefs. *Journal of Health Psychology, 10*(5), 705-717.

- Palmer, C. (2008). A theory of risk and resilience in military families. *Military Psychology, 20*(3), 205-217.
- Post, P., & Robinson, B. (1998). School-age children of alcoholics and non-alcoholics: Their anxiety, self-esteem, and locus of control. *Professional School Counseling, 1*(5), 36.
- Riggs, S., & Riggs, D. (2011). Risk and resilience in military families experiencing deployment: The role of the family attachment network. *Journal of Family Psychology, 25*(5), 675-687.
- Robinson, S., & Goodpaster, S. (1991). The effects of parental alcoholism on perception of control and imposter phenomenon. *Current Psychology: Research and Reviews, 10*(1 & 2), 113-119.
- Rotter, J. (1966). Generalized expectancies for internal versus external control of Reinforcement. *Psychological monographs: General and applied, 80*(1), 1-2.
- Tesiny, E., Lefkowitz, M., & Gordon, N. (1980). Childhood depression, locus of control, and school achievement. *Journal of Educational Psychology, 72*(4), 506-510.