Personality and Resilience as Determinants of Psychological Well-being among Military Children

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ABSTRACT

The military children are a population who are susceptible to psychological stress from the hardships of military life, such as frequent moves and separation from their parents during deployment. Military children are resilient as well as stress prone at the same time. While frequent moves build resilience, combat deployments of their parents makes them vulnerable to the risks associated with psychological and emotional health, attachment problems and coping while overcoming traumatic grief due to death of a family member. The risk is highest right after the military personnel leaves for deployment and immediately upon return. To understand the psychological health of children of military personnel, it is important to understand their resilience and personality in relation to psychological well-being. In addition to being a personal trait, resilience is a product of the relationships between children and the resources around them. Despite needs to better understand the impact of deployment on military children and families and to provide proper support for them, rigorous research is deficient. A comprehensive approach based on strengths and problems, of military children and families, with a focus on the prevention, is the need of the hour. The present paper focuses on study of personality and resilience as determinants of psychological well-being. The study was conducted on military children (N= 124) of Army Public School, using HEXACO-PI, Brief resilience scale and psychological wellbeing scale. The data was analyzed using descriptive and inferential statistics. Results and implications are discussed in the paper. Issues in need of further research are emphasized, especially research into programs that assist military children and families.

Keywords: Personality; Resilience; Psychological well-being; Military children

1. INTRODUCTION

Research on the development of military children has focused largely on the quality or function of their family systems and on the potential risks of a parent’s deployment to their well-being, but one needs to understand more about the strengths and resilience of these children, particularly as they face challenging circumstances. A few studies describe how a parent’s PTSD affects children, little is known about the effect on children of combat-related injuries and death.

Personality has been one of the important and consistent predictors of well-being with studies showing relationship between personality factors and components of psychological well-being. Evidence of a genetic link between personality and well-being is also drawn in some studies. Personality is consistent behaviour pattern and interpersonal processes originating within individual. A six-dimensional model of personality structure called HEXACO was proposed by Lee and Ashton after accumulating lexical and statistical validation from various languages and cultures. The six factors viz. honesty-humility (H), emotionality (E), extraversion (X), agreeableness (A), conscientiousness (C), openness (O)- became the basis for the development of the HEXACO personality inventory which has increasingly been used in personality research. Several research studies on lexical model of personality has examined the usefulness and possible validity of the test.

Resilience is the capacity to adapt well over time to life-changing or stressful situations and adjust positively in the face of adversity. It is the successful adaptation to adverse circumstances. Resilience is defined as the ability to bounce back and withstand disruptive life challenges. It involves the key processes that stimulate the strength to ‘struggle well’, to conquer obstacles and to live and love fully. Resilience is considered as a personality characteristic which balances the negative effects of stress and promotes adaptation. Resilience has immense utility for nursing, as various researches have been demonstrated that resilient individuals are the ones who have positive outcomes in the face of adversity. Adolescents who are supported under direct guidance and encouragement from their parents at the time of adversity often felt motivated, optimistic, and convinced that someone believed in their ability. Families that are resilient are able to adapt and function effectively in the circumstances of deployments and mobilization and they are able to handle challenges of military duty and family life.

Resilience allows people to recover successfully from trauma, or maintain appropriate or healthy functioning when...
they are under considerable stress. The relations between an individual and his or her context produce resilience; in other words, resilience involves a fit between a person’s individual characteristics (for example, health or talents) and supportive features of his or her environment (for example, family, school, or community). The stresses that military children face, and the contexts in which they face them, may sometimes be unique. With a large percentage of military officers deployed, increasing number of military spouses and children get impacted by deployments. These military families often get subjected to the stress and burnout that comes along with military deployments. Research studies show that there are many such military children who have a parent deployed in potentially dangerous situations. Resilience helps adolescents to accept the setbacks in their life and maintain effective social relationships with peers, school and neighbourhood. Resilience strengthens the ability of children and adolescents to deal more effectively with stress and pressure. As reported by Fredrickson, resilience was effective in improving adolescent’s psychological well-being. The study of Ruini concluded that the well-being enhancing strategy could play an important role in the prevention of psychological distress in school setting and in promoting optimal human functioning among children. People high on resilience are also seen as more optimistic when confronted with situations of adversities which in turn leads to a higher psychological well-being. Adolescents with positive emotions and well-being enhance their ability to become resilient and recover from their stress effectively.

Well-being is a varied concept that involves psychological, social and subjective dimensions of health related behaviours. It helps people to recognise their true potential and to explore the meaning and direction in their lives. Researchers asserted that the sense of well-being contributes to the efficient functioning of biological systems which prevents organisms from illness or adversities and promotes rapid recovery. WHO reported that the scales measuring well-being lead to the outcomes like physical health, criminality, drug and alcohol use, quality of life, longevity, employment and pro-social behaviour. Well-being had emerged as a significant concept in recent decades, which identifies its constituents, causes and consequences.

Psychological well-being refers to evaluating one’s own life. It is a fusion of feeling good and functioning effectively. This means that psychological well-being is being happy and satisfied with one’s own life. It claims that persons with high psychological well-being will have a good physical health. Researchers have shown that higher levels of psychological well-being are correlated with lower cardiovascular risk, better neuroendocrine regulation, and better immune functioning. Psychological well-being is the ability to solve problems, being autonomous, manage emotions, being resilient, attentive and experience empathy. Researchers have exhibited that many of the issues experienced by adolescents lead them to an unbalanced and unpleasant life. Adolescents having better psychological well-being have shown reduction in risk taking behaviour, reduced absence from school, low morality, increased community involvement, improved physical health, improved learning and academic learning. Researchers found that higher the level of resilience experienced by adolescents higher their ability to cope in various domains of human functioning and in scholastic context. Samuels and Pryce concluded that adolescents who recognised themselves as resilient despite being detached from others, were less lonely, less hopeless, and found to have fewer life threatening behaviour and a higher level of psychological well-being than those who recognised themselves as not being resilient. For healthy growth, development and the capabilities to achieve one’s innate potential, psychological well-being and resilience is fundamental in adolescents.

The lives of families of military personnel are unique in their own ways. Multiple and extended deployments are part of the life of military personnel which leaves their families to deal with various challenges and stress in their absence. Deployment is the time when the personnel are under various and stress and adjustment issues. However, social support from community and specifically peers acts as a protective factor. Deployment is the time when the personnel are under training or under any mission which may vary in length and location. Despite positive aspects like including sense of pride, increased camaraderie and financial benefits associated with deployment, they can still be seen as a stressful event by families who are concerned for the safety of their loved ones. Frequent deployments, deployment in hostile environment, separation from families for longer period of time are a few stressors experienced by military families. Particularly susceptible to these stressors are the children and youth struggling through parental absence or sometimes possible loss of parents, which can manifest into academic, social, emotional and behavioural challenges at school. Studies have shown that children’s age is an important factor that determines the level to which they get affected due to parental deployment. While younger children may not have full understanding of the parental deployment and reason for absence, older children have to learn to cope with parental deployment during the critical stage of social and emotional development which is a challenging task even in most stable and supporting environments. Some other studies explained how extended and multiple deployments hampered the ability of the children to cope with parental separations with the same level of emotional resolve. Apart from this, studies show that the deployment experiences in children is influenced by factors like gender, development stage of child, housing status, caregiver mental health, caregiver reports of child emotional difficulties and the number of months’ parents were deployed in past three years. Despite these concerns, there is little research on children and adolescents residing in military families. From the limited number of studies that exist, it is clear that there is a positive relationship between parental deployment and effect on psychological well-being.

2. RATIONALE OF THE STUDY

From the above mentioned studies it can be established that the military children have psychological and behavioural stress and adjustment issues. However, social support from community and specifically peers acts as a protective factor. The problematic issues with children of service personnel have been documented in various cultural contexts. The present study aims to explore the personality, resilience and psychological well-being of military children in Indian context. The results of this study may be useful for developing intervention programs.
for military children in order to optimize their mental health. Often the unanticipated experiences of military life make the transition of military children from adolescence to adulthood more dramatic. Therefore, an understanding of psychological predictors of the components of well-being can provide a framework for developing more effective interventions to enhance the effect of wellness.

3. **OBJECTIVES**

Based on the rationale presented above, the objectives of the study are as follows.

- To explore the correlation between six domains of personality, one domain of resilience and six domains of psychological well-being among military children
- To explore whether personality factors can predict psychological well-being among military children
- To explore whether resilience factor can predict psychological well-being among military children.

4. **METHODOLOGY**

4.1 **Participants**

A total sample of 124 (Males = 94 and Females=30) children of Army personnel was taken from Army Public School in India. The age range was 14 to 17 years, with mean age of M=16.2 years and SD=1.3. To identify the psychological predictors of well-being among military children the following measures were administered.

4.1.1 **Demographic Questionnaire**

A demographic questionnaire was prepared to collect the personal details of the participants along with their academic performance in last two years.

4.1.2 **HEXACO-PI**

Developed by Ashton and Lee\(^{37}\) comprised of 60 items measuring six dimensions of personality honesty-humility, emotionality, extraversion, agreeableness, consciousness and openness to experience. In the 60 items, each personality facet is measured with 4 personality items on a 5-point Likert scale. The total HEXACO scores are calculated as sums of ratings on associated items divided by number of items per scale. The Cronbach’s alpha reliability estimates of the 60 item form of HEXACO-PI-(R) obtained in a study are αH=0.84; αE=0.83; αX=0.82; αA=0.82; αC= 0.78; αO=0.84.\(^{38}\)

4.1.3 **Brief Resilience Scale**

Brief Resilience Scale (BRS) developed by Smith et al\(^{39}\), consists of 6 items. The brief resilience scale assesses the ability to bounce back. Out of 6 items, 3 items are negatively worded and reversed scored. The items are scored on a 5-point rating scale. The psychometric properties of the scale were evaluated in four different samples with good Cronbach’s alpha of 0.80 and above in all the samples studied\(^{39}\). It is a uni-dimensional construct with 6 indicators rating on 5-point scale ranging from 1, strongly disagree to 5, strongly agree. According to Salisu and Hashim\(^{40}\) the BRS may have an exceptional place in behavioural research because previous measures of resilience do not target resilience itself but also the personal characteristics that may promote positive adaptation.

4.1.4 **Ryff Scale of Psychological Well-being**

Ryff scale of psychological well-being (PWB) developed by Ryff & Keyes\(^{41}\) consists of 54 items, measuring six dimensions of psychological well-being i.e. self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth. Each dimensional scale consists of 9 items. Out of 54 items, 26 items were positively worded and 28 items were negatively worded. Items are scored on a 6-point rating scale ranging from strongly agreed to strongly disagree. A study investigating cross-sectional relationships between self-reported mindfulness, self-compassion, meditation experience and psychological well-being found a significant relationship between meditation experience and well-being by combination of mindfulness and self-compassion scores. It had an excellent internal consistency in this study (α = 0.94)\(^{42}\).

5. **PROCEDURE**

In order to gain an understanding of children of military personnel a correlational research design was adopted. The data was collected from Army Public Schools. The students were given demographic questionnaire, HEXACO-PI-R (60 items), Brief Resilience Scale (06 items) and Ryff’s Psychological Well-being scale (54 items) after taking informed consent and ensuring confidentiality. The data collected was scored based on the norms and then were subjected to descriptive and inferential analysis.

6. **STATISTICAL ANALYSES**

For the current study statistical analysis was done using SPSS version 21. Descriptive analysis comprising of means and standard deviations, skewness and kurtosis were computed to see the normalcy of the data. Pearson correlation was performed to explore the association between the predictors and the dependent variable. Hierarchical regression was used to evaluate the relationship between a set of independent variables and the dependent variable to find out the variance of predictors.

7. **RESULTS**

The total data (N=124) was subjected to normalcy check in order to ensure that the data is normally distributed. Mean, standard deviation, range, skewness and kurtosis were checked and all the descriptive statistical measures were found to be well within the acceptable range. Table 1 shows mean, standard deviation, range, skewness and kurtosis for the six dimensions of personality, resilience and six dimensions of psychological well-being among military children.

Table 1 shows the mean, standard deviation, skewness and kurtosis value of all the variables. Among the variables the highest mean value is of, autonomy (M=36.14, SD=5.04) followed by self acceptance (M=35.57, SD=4.64) followed by emotionality (M=33.92, SD=4.19), positive relations with others (M=33.61, SD=4.69) extraversion (M=33.30, SD=4.61), conscientiousness (M=32.29, SD=3.84), personal growth (M=32.25, SD=6.28), agreeableness (M=31.49,
SD=3.93), emotionality (M=31.07, SD=3.85), honesty-humility (M=31.06, SD=3.82), purpose in life (M=30.59, SD=4.27), openness to experience (M =28.86, SD=3.30) and resilience (M=19.28, SD=3.37). Skewness and kurtosis were also examined to check the normality of the data. It indicates that variables are reasonably close to normal as their skewness and kurtosis have values between –1.0 and +1.0.

Table 1. Descriptive statistics of study variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<tr>
<td>HH</td>
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<td>3.92</td>
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<td>0.28</td>
<td>0.62</td>
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<tr>
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<td>0.62</td>
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<tr>
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<td>WPL</td>
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<td>WSA</td>
<td>35.57</td>
<td>4.64</td>
<td>28</td>
<td>0.22</td>
<td>1.91</td>
</tr>
</tbody>
</table>

Note: HH= Honesty-Humility, HEMO- Emotionality, HEXT- Extraversion, HAG- Agreeableness, HCON- Conscientiousness, HOPN- Openness to Experience, RES- Resilience, WPR- Positive Relations with Others, WA- Autonomy, WEM- Environmental Mastery, WPG- Personal Growth, WPL- Purpose in Life, WSA- Self Acceptance.

Table 2. Correlations between Personality factors, Resilience and dimensions of Psychological wellbeing.

<table>
<thead>
<tr>
<th>Variables</th>
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<th>4</th>
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<tr>
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<td>.11</td>
<td>.27**</td>
<td>.00</td>
<td>.13</td>
<td>.04</td>
<td>.09</td>
<td>.04</td>
<td>-.11</td>
<td>-.03</td>
<td>-.3</td>
</tr>
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<td></td>
<td>.17</td>
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<td>-.01</td>
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<td>.22**</td>
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*p<.05, and **p<.01

As shown in Table 2, there is a significant correlation between dimensions of Personality factors and dimensions of Psychological Well-being at 0.05 and 0.01 levels of significance. Results show that Emotionality has a significant positive correlation with Autonomy (WA=.253) and Environmental Mastery (WEM=.283). Agreeableness is positively correlated with Positive Relations with Others (WPR=.242), Autonomy (WA=.214) and purpose in life (WPL=.215). resilience is positively correlated with self acceptance (WSA=.195).

As shown in Table 3, emotionality factor of personality is a significant predictor of autonomy dimension of psychological well-being (p<.01) among military children which is explained by 6.4 per cent variance.

As shown in Table 4, emotionality factor of personality is a significant predictor of environmental mastery dimension of psychological well-being (p<.001) among military children which is explained by 8.2 per cent variance.

Table 3. Regression results of personality factor-emotionality with psychological well-being dimension - autonomy

<table>
<thead>
<tr>
<th>Predictors</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
<th>F</th>
<th>p</th>
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<tbody>
<tr>
<td>Emotionality</td>
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<td>.056</td>
<td>8.241</td>
<td>.005</td>
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</table>

*p<.01

Table 4. Regression results of personality factor-emotionality with psychological well-being dimension – environmental mastery

<table>
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<tr>
<th>Predictors</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
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<tr>
<td>Emotionality</td>
<td>.286</td>
<td>.082</td>
<td>.074</td>
<td>10.819</td>
<td>.001</td>
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</table>

*p<.001

As shown in Table 5, agreeableness factor of personality is a significant predictor of positive relations dimension of psychological well-being (p<.01) among military children which is explained by 5.9 percent variance.

As shown in Table 6, agreeableness factor of personality is a significant predictor of personal growth dimension of psychological well-being (p<.05) among military children which is explained by 4.6 percent variance.

As shown in Table 7, agreeableness factor of personality is a significant predictor of purpose in life dimension of psychological well-being (p<.05) among military children which is explained by 4.6 percent variance.

As shown in Table 8, resilience is a significant predictor of self-acceptance dimension of psychological well-being (p<.05) among military children which is explained by 3.8 per cent variance.

Overall, the independent variables personality and resilience are significant predictors of psychological well-being among military children as explained by 33.5 per cent variance.
not indicate that Honesty contributes to children's well-being. Further, the results show a positive relationship between well-being and resilience. Resilience emerged as one of the important contributing factors to well-being of military children. These findings have been supported by various researches conducted by Jessor and Cobb and they found that Resilience predicates sense of self-control, self-worth, and self-reliance, positive approach to life, that enables a person to thrive in the face of adversity and achieve wholesome development. Lack of internal resilience factors has been consistently identified as a precursor to maladaptive behaviours that compromise adolescents' health and overall well-being. Thus the research findings show that persons with high resilience are more likely to engage in initiatives associated with psychosocial well-being.

The following recommendations can be made in accordance with the results obtained from this study. In this study, psychological well-being was examined by discussing personality and resilience. Other different variables can be studied apart from these. This study was performed over the students of a higher secondary school. Future investigations can be carried out with the students studying at different schools and in different age groups. Future research should focus on intervention that enhances military children's self-esteem and that will enhance their resilience. The primary limitation of this study was the relatively small sample that was drawn from only one school of Bhopal, India. The convenience sample may have limited the representation of participants due to the geographical sample restriction. Hence the generalization of results is confined to school children only. We can hope that future research takes into account a wider diversity of participants. To conclude, the findings of this research provide a better understanding of the personality and resilience as significant predictors of psychological well-being among military children. These findings may provide inputs for more robust studies in the area of military children's well-being.

### REFERENCES


13. Glicken, M.D. Learning from resilient people: lessons we can apply to counselling and psychotherapy. Sage, 2006


33. Lyle, D. Using military deployments and job assignments to estimate the effect of parental absences and household relocations on childrens academic achievement. *J. Labor Econ.*, 2006, 24, 32.

doi: 10.1016/j.jadohealth.2009.10.009

doi: 10.1542/peds.2009-1180

doi: 10.1002/per.417


doi: 10.1080/1070550802222972

doi: 10.9790/487X


doi: 10.1080/17439760.2012.674548

doi: 10.1037/0022-3514.57.6.1069

doi: 10.1016/j.paid.2015.06.043


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doi: 10.1002/j.1556-6678.2006.tb00430.x

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Her contribution in the current study is review of literature, collection of data, scoring of data, statistical analysis of data, results and discussion.

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