

**Addis Ababa University**  
**College of Education and Behavioral Studies**  
**School of Psychology**

Resilience and Attachment Patterns of Orphaned Children in Selected Orphan  
Homes in Addis Ababa

**By**

Asfaw Tsega Beshahured

**November , 2020**

**Addis Ababa, Ethiopia**

**Addis Ababa University**  
**College of Education and Behavioral Studies**  
**School of Psychology**

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Homes in Addis Ababa

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## **Declaration**

I, the undersigned, declare that the thesis entitled “Resilience and Attachment patterns of orphaned children among selected orphan homes in Addis Ababa” is my original work under the guidance of **professor Belay Tefera**, and the thesis contains no material previously published by any other person except where proper citation and acknowledgement has been made. I do further assure that this thesis has not been presented or being submitted for any academic degree as part of requirements.

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Signature\_\_\_\_\_

Date of submission\_\_\_\_\_

This thesis has been submitted for examination with my approval as university advisor.

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## Abstract

*The main purpose of this study was to investigate the relationship between resilience and attachment patterns of orphaned children among selected orphan homes in Addis Ababa. Across sectional research design was employed as a study design. Data were collected using adopted versions of Connor-Davidson resilience and Bifulco and colleagues vulnerable attachment style questionnaires with demographic questions as tools of data collection. A total of 255(140) males and (115) females) children selected through stratified random and purposive sampling, were participated in the study. Data analysis was using descriptive statistics (percentage, mean, SD) and inferential statistics ( $t$ -test, one way ANOVA, and multiple linear regression). The finding of the study showed that the majority of the participants scored above average on resilience and proximity seeking attachment pattern. There was no significant difference in female and male on resilience and both attachment patterns. On the other hand there was significant difference on the level of resilience based on age and grade level. The study further demonstrated the presence of statistically significant relationship between resilience and proximity seeking attachment pattern. However there was no statistically significant relationship between resilience and disorganized attachment pattern. In addition attachment patterns also predict 19(%) of orphaned children's level of resilience and proximity seeking pattern was found to be good predictor of resilience. However, the findings of the current study hold that attachment patterns were not the only factors that has to be taken as a measure of resilience among orphaned children. Finally the recommendations are forwarded based of the research findings.*

**Keywords:** Attachment patterns, Orphan children, Resilience,

## List of Acronyms

AAU:	Addis Ababa university
AF:	Attachment Figure
CD-RISC:	Connor Davidson resilience scale
FDRE:	Federal Democratic Republic of Ethiopia
HSD:	Honestly Significant Difference
OVC:	Orphan and vulnerable Children
SNNPR:	Southern Nation and Nationalities People Region
SFCR:	Son of our Father Children Residence
SVC:	Selam Children Village
TVET:	Technical and vocational Education and Training
VASQ:	Vulnerable Attachment Style Questionnaire
ZMCO:	Zewiditu Meshesha Charity Organization

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## I. Introduction

### 1.1. Background

An orphan is a child under the age of 18 and who has lost one or both of their parents as a result of multiple causes of death such as HIV/AIDS, natural disaster, conflict, and infectious diseases (UNICEF, 2006). According to Haile and Miller (2008), it is very difficult to get the exact number of orphaned children worldwide, as all nations have struggled to coordinate accurate and reliable census data. Despite its demographic variability, 153 million children are single orphan who have lost one of their biological parents world wide. Where as 17.8 million are double orphan who have lost both of their parents as mentioned by Christian Alliance for Orphan (2010).

Today, 8 million children have lost their biological parents and are orphaned by various GOs and NGOs worldwide. They lead their lives in institutionalized residential care. As a witness from Thiel man et al (2012), orphaned and neglected children need stable living atmosphere because their parents are unable to provide food, shelter and protection. According to UNICEF (2012) report, the majority of orphaned and vulnerable children live in South East Asia and sub-Saharan Africa countries known by their very low human development index.

Orphaned and vulnerable children in particular in Sub-Saharan Africa as UNAIDS (2010), are the key problems of developing countries. Fourteen million children in Sub-Saharan Africa have lost one or both of their parents. A statistical finding depicted by Thiel man et al, (2012) showed that countries with high orphan and vulnerable children rate are also poor, under-resourced and poorly equipped countries to meet orphaned and vulnerable children's social, educational, emotional and health care needs.

Tenagne(2006) as quoted in Yousif (2017 ) reported that most developing countries across the world have undergone man-made and natural events, including conflict, violence, disease, and HIV / AIDS, resulting in millions of children who have lost their parents and remain alone, experiencing serious psychological distress and other socio-economic challenges. Orphans are concentrated in certain regions of Sub-Saharan Africa and the highest proportion of OVC age from 0 to 17 years of age with high HIV / AIDS prevalence or continued internal conflict (UNICEF, 2002).

Ethiopia accounts for one of the world's largest orphaned children with an estimated 5.4 million orphans as a result of the death of one or both of their parents (Abebe & Asase, 2007), and HIV / AIDS was the main factor contributing to the country's growing number of orphans and vulnerable children (Haile, 2008). More than 83 percent of this OVC live in rural areas, 833,720 of which are orphaned children due to the deaths of one or both parents (Abashula et al, 2014). Similar to the concept of the United Nations Children's Fund (1995), orphan in Ethiopia is defined as a child under the age of 18 who have lost one or both of their parents due to HIV / AIDS, untreated disease, starvation, drought and man-made disasters such as war. The issue of orphan and orphanhood tends to dominate many of the Sub-Saharan Africa child protection narrative (Pells, 2011).

The 1995 FDRE constitution explicitly guaranteed the protection of orphans and vulnerable children in the Ethiopian context, and encourages institutions that facilitate their adaptation, welfare and education (Article 36, 5). Thus, according Tadele et al (2013), there were 354 estimated OVC institutions in Ethiopia, specifically in Addis Ababa, Amhara, Afar, and SNNPR. Among those orphan and vulnerable institutions, 63.8 percent were local institutions run by Ethiopian nationals where as much as 36.2 percent were international NGOs and are run by foreign nationals in Addis Ababa.

Tadele et al, ( 2013) also tried to claim that 85 percent of institutions were non-faith alternative family care institutions, while the remainder 14 percent were faith-based institutional community home for orphans and vulnerable children. Of course, it's true that most institutional homes worked hard to meet orphaned children's materialized needs such as housing, food, clothes, and education. Most non-materialized emotional and social needs remain neglected, or not responded. An investigation done Gibbon (2005) demonstrated that institutionally-reared orphaned and vulnerable children tend to develop psychological, social, and cognitive deficits.

Another research conducted by Fawzy and Fouad (2010) concluded that institutionalized children suffered from anxiety, depression, low self-esteem and are faced with prolonged inability to effectively adopt life in the institution. To date, most research has been conducted on orphanage-related economic and welfare needs of orphaned and vulnerable children. Some researchers have independently conducted resilience and attachment patterns as distinct concepts and this seems to contribute to a fragmented level understanding of institutionalized orphan psychosocial problems.

A research investigating the direct relation between resilience and attachment patterns would provide a more comprehensive understanding of orphans and vulnerable children in orphanage. Studies in Ethiopia explored the relationship between resilience and attachment patterns for orphaned institutionalized children not yet undertaken. Taking this gap, the present researcher thus attempted to study the resilience and attachment patterns of orphaned children.

## **1.2. Statement of the Problem**

Institutional care, which is the last resort, is offered to children without adequately exploring the availability of other alternatives. Institutional care stifles certain aspects of psychological development (UNICEF,2006) and linked with attachment disorder, developmental delay in social and cognitive functions. It seldom ensures holistic development of the orphaned children (Bienab et al, 2010). Children who have lost their parents are frequently suffering from emotional neglect, low self-esteem and rejection by caregivers in the institution. Their mental strain and social interaction has been left neglected by concerned bodies such as extended family members, national organizations, international organizations and the government as well (Hassanin,2018).

Care and support for orphans still focused on addressing needs like, nutrition, education and health care. For instance, Abashula, Jibat and Ayele (2014) carried out a study on the situation of orphan and vulnerable children and the finding assured that OVC severely vulnerable even to loss of nutrition, poor hygiene, and abuse and still were in difficult situation that need attention from concerned bodies. Thus, being orphan itself has long lasting effect on psychological health of children and it remains to be one of the most neglected areas of support and scientific investigations.

To date, many previous researches carried out in different parts of the world taking orphaned children as a participant include, psychological wellbeing of children orphaned by AIDS (Culver and Gardner,2006), subjective wellbeing, self-esteem, emotional intelligence, hope and resilience (Radhika,2019), resilience in orphan and non-orphan children(Kaytal,2015),assessing resilience of orphaned adolescents (Hassanin,2018), resilience between male and female orphan children(Sobana,2018), attachment to significant figures, resilience and delinquency among orphaned adolescents (Winarini,etal,2018), and self-esteem, hopelessness and resilience (Zeynep and Firdeus, 2011).

In Ethiopia, risk, protective factors and resilience (Belay and Missaye, 2014), depression and self-esteem (Eyerusalem, 2015), resilience of orphan as a function of gender, guardian behavior and peer relationship (Ebabush, 2009), attachment patterns, wellbeing and academic motivation (Zenebe,2015) and psychosocial problems, coping strategy and resilience (Yeshareg, 2018) are investigations related to resilience of orphaned children recently.

Much of the existing research on resilience and attachment were emphasizing role of differences in personality, institutional environment, and external supports in terms of their ability to explain individual differences in the extent to which orphaned children are able to overcome hardships (Masten et al.,1999; Werner & Smith, 2001).

Some studies are conducted in different corners of the world to reveal the relationship between resilience and attachment patterns, still now there is no agreement among the investigators, on method used and the results about the magnitude and direction of the relationship. No studies had examined the relationship between resilience and attachment patterns among orphaned children in Addis Ababa.

Thus, the area needs a further investigation on the relationship between resilience and attachment patterns taking only orphaned children as target population from Selam Children Village, Son of Our Father Children Residence and Zewiditu Meshesha Charity Organization. This study also explored the extent to which socio-demographic characteristics; specifically gender, age, grade level, and length of stay in orphanage can influence resilience levels beside attachment patterns of orphaned children by raising the following research questions.

### **1.3. Research Questions**

1. What is the level of resilience of Orphaned Children institutionalized in three selected orphan homes of Addis Ababa?
2. What patterns of attachment are to be commonly practiced by orphaned children among selected orphan homes?
3. Do resilience and attachment patterns vary as a function of selected demographic factors (Sex, age, grade level and length of stay)?
4. Is there a statistically significant relationship between resilience and attachment patterns of Orphaned children?

## **1.4. Objectives of the Study**

### **1.4.1. General objective**

The main objective of this study was to examine the relationship between resilience and attachment patterns of orphaned children in selected orphan homes in Addis Ababa.

### **1.4.2. Specific Objectives**

The study has the following specific objectives:

1. To examine the resilience level of orphaned children in selected orphan homes of Addis Ababa.
2. To assess the commonly practiced patterns of attachment among orphaned Children in selected homes of Addis Ababa.
3. To explore resilience and attachment patterns difference based on selected demographic factors ((sex, Age, Grade level, and length of stay).
4. To find whether there is an association between level of resilience and attachment patterns of orphaned children.

## **1.5. Significance of the Study**

The finding of the current study could serve as an input for orphan children to enhance their current and future level of competence which further helps to improve relationship with others. The study would equip orphaned children to learn attachment strategies and resilience that can foster their intellectual growth in their challengefull developmental phase of life transition. It would provide inputs to caregivers, teachers, counselors and other concerned bodies who are working close to orphaned children in residential care home to make their practice that foster attachment and resilience based practices.

The study would provide an important input for the existing literature on how resilience status associated with attachment patterns of orphaned children in orphan home settings. It would also serve as source of recommendation for policy makers and psychosocial programmers who are working for the betterment of orphaned children. Furthermore, it may serve as a stepping stone for those who are interested to undertake further research on attachment patterns and resilience on orphaned children who are at risk and need the support of concerned bodies.

## **1.6. Delimitation of the Study**

Orphaned children, in most case, are subject to multitude of complex psychosocial problems due to their loss of one or both parent(s). This investigation does not attempt to address all issues related to children orphaned in the country. Rather, the study delineates itself only to resilience and attachment patterns among orphaned children who have lost one both of their parents due to various case of death. In addition to this, there are many orphan institutions in Addis Ababa that have been supporting orphans in 10 sub-cities.

Thus, the investigation was further delimited itself only in three selected children homes that were found in Bole and Yeka sub-city orphan homes, specifically, orphans who were institutionalized in both Selam Children Villages, Son of our Fathers Residence and Zewiditu Meshesha Charity Organization and attending their education from elementary to high school with age ranges from 11 up to 17 years in 2020.

## **1.7. Limitation of the Study**

This investigation was limited to three orphan care homes that have selected purposefully and not conducted without some practical and theoretical drawbacks. To this end, lack of recent and up to date related literature on attachment in relation to orphan home caregivers was a prime bottle neck. The other limitation was taking relatively small number of research participants even though there were a huge numbers of orphaned children in Addis Ababa. The current study took only 278 participants were taken for this investigation.

Moreover, from 278 total participants, 23 participants did not complete the administered scaled questionnaires. Therefore, this might have an impact on the generalizability of the study. Further, this study used quantitative data only which were prone to response biased of respondents.

## **1.8. Operational Definition of Terms**

**1.Resilience:** the current level of capability of orphaned children to bounce back from adverse experience related to lose of parents measured by 25 items resilience scale.

**2.Attachment pattern:** in this study attachment pattern implies, as form of close relationship between orphaned children and their caregivers.

**2.1. Proximity seeking pattern:** a form of attachment pattern manifested by the extent of orphaned children's need to be close to preferred caregiver as measured by vulnerable attachment questionnaire.

**2.2. Disorganized pattern:** a form of attachment pattern by which orphaned children expresses odd or ambivalent behavior to ward caregivers as measured by vulnerable attachment questionnaire.

**3. Orphan:** Child who is in between 11-17 years, lost one or both of their parents and living in orphan homes.

**4. Orphan home:** an institution that provide temporary or permanent residence /home care/ for orphaned children.

**5. Age:** it is the self-reported age of participants as obtained from the demographic data part of the questionnaire.

**6. Length of stay:** the duration of time that orphaned children spent in orphan home as they reported on self reported questionnaire.

## **1.9. Thesis Organization**

The study was organized into five chapters. The first chapter was the introductory part of the study which contains background of the study, statement of the problem, objectives of the study, significance of the study, delimitation of the study, limitation of the study and organization of the study. The second chapter emphasized on the presentation of literature reviews and conceptual framework.

The third chapter deals with research method of the study which includes the research design, study area, study population, instruments and procedures of data collection, sample size, data analysis technique, validity and reliability, ethical considerations. The fourth chapter was the analysis and discussion of data collected. The final chapter concludes, summary, conclusion, recommendations, implications, and finally attached lists of references and annexes relevant for the study.

## **II. The Review of Related Literature**

### **2.1. The Concept of Resilience**

The term resilience comes from the Latin word 'resilire, meaning leap back, and used to describe substances' elastic quality (Joseph, 1994). Some English dictionaries defined resilience in relatively different ways, such as the Oxford Dictionary of English views resilience as being capable of resisting or quickly recovering from difficult conditions (Soanes & Stevenson, 2006). Webster's new English dictionary (1958) of the twentieth century also described resilience as the ability to bounce or spring back after stretching. Similarly, scholars like Fletcher and Sarker (2012) also defined resilience as the ability to recover or rebound after a setback.

Resilience has been described as a series of positive outcomes that occur amid significant threats to adaptation or growth, and as unique coping skills that are marshaled when we faced with challenges. The concept of resilience is often linked to the notion of sustainability, which refers to the ability in the face of prolonged adversity to continue and maintain equilibrium. It is associated with the ability to learn to live with ongoing fear, uncertainty and challenging life experiences after exposure to traumatic events. Some developmental science researchers have also identified resilience in terms of children who can meet the major expectations of a given society or culture in a historical context for the actions of children of that age and situation, such as achieving the requisite developmental tasks, expectations of the cultural age and competences (Masten, 2001).

Resilience also refers to an adaptation pattern in the sense of risk adversity and has been described as the ability to bounce back from adversities, bend but not break under intense stress, manage setbacks and persevere through continuing stress and even when things go horribly wrong. In it is often inferred that resilience may be a process by which an individual demonstrates over time. Luthar et al (2000) described resilience as a dynamic process that involves the adaptive capacity to the context of major adversity. The researcher also explained that to be resilient, two essential requirements must be met: exposure to major threat or extreme adversity, and achieving successful adaptation. Unlike other scholars, Luther argues that resilience isn't a private trait but a product of the environment and therefore, resilience to happen, there must be the interaction between the person and the surrounding environment.

### **2.2.1. Resilience in Orphaned Children**

Most definitions and investigations were made by taking western populations with instruments, methods and procedures that were validated in their own culture. However, very little was done in non-western poor and marginalized population Unger et al (2008) investigated the meaning of resilience in culturally and contextually through examining at risk and vulnerable adolescents from 14 different communities. The researcher concludes that resilience was understood in the context of exposure to significant adversity manifested in psychological and environmental experiences (p.225).

A research conducted by Dyregrov (1991) stated as orphaned children have an ability to show resilient behavior when they are facing adverse condition and use their inner potential that make them more adjusted if they get proper guidance. Another investigation conducted by Najama & Yasin (2019) illustrated that resilience among orphaned children was significantly high as compared to non-orphan counterparts.

The reason behind was having close relationship with non-parental figures and friends that may buffer the impact of stressful environmental factors. A study was conducted by Hassanin (2018) on resilience of adolescents who were raised in Orphanages. The finding of the study showed that, institutionalized adolescents had higher level of resilience. It also stated that having supportive relationship with peers, siblings and caring adults were found to be contributing factors of resilience. Daneshwari et al (2019) carried out a study on resilience among rural orphan. The finding revealed that majority of orphaned children had low level of resilience.

Some studies are conducted on resilience status of orphan and vulnerable children in Ethiopian context. For instance, Belay and Missaye (2014) conducted a study on risk, protective factors and resilience among orphan and vulnerable children. The finding reported that majority of orphan and vulnerable children scored above mean on resilience scale and observed almost equal resilience between male and female participants. Similarly, Omar (2018), also stated most orphan children are psychologically resilient and the finding also reported sex and age of participants were significantly affect their resilience score.

### 2.2.2. Resilience Theoretical Frameworks

It is true that as there is no single theory that can best fit with and explain the developmental process of resilience during childhood period. To this end, among several theoretical perspectives, ecological system theory and process interaction theory of resilience were selected as a framework of the present study.

### 2.2.3. Ecological System Theory

Ecological system theory was developed by American developmental psychologist Urie Bronfenbrenner in 1986 in Gregorian calendar. It can be defined as a systematic study of progressive and mutual interaction between an active growing being and the changing environment throughout the life course (Bronfenbrenner,1986). Ecological system theory was selected as a theoretical perspective of resilience as it explained resilience as the outcome of continuing interaction between the person and their surrounding natural, artificial and social environment. It also postulated the important contribution of qualities of personal resources and opportunities of the surrounding environment provide for the security, growth and development of an individual.

The environmental support systems include friends, peers, neighbors, schools, churches and children welfare systems emphasized on providing experience and knowledge (Saleebey, 2001). The theoretical perspective encompasses four layers (environmental system) of interaction between the person and the environment stated below from simple to complex.

**Micro system:** this layer system involves activities, roles and interpersonal relationships between the person in a particular settings and children's immediate interaction takes place. For instance, it involves direct and bidirectional influence and connection between children and parents, teachers and neighborhood.

**Meson system:** it is a link between elements in micro system with direct and bidirectional ways of interaction. It is the combination of two or more micro systems that are out of the person daily interaction but affect the person's life. For example, the bidirectional influence that can be seen between teachers and primary caregivers is parts of meso system.

**Exosystem:** it is the parts of the larger social system that the person cannot directly deal with it, but it has a profound effect on the development of an individual. For instance, parent's temporary loss of job or death of parents affects the development of children.

**Macro system:** the largest of all system that can influence the person's micro, meso, and exosystems interaction in unidirectional manner. It is also a cultural values, customs and laws and the persons reside in.

**Chrono system:** it is a time related nature of life events that interact and related to the person. It can influence life trough transitions. For instance, the time children lost parents, they experience traumatic events, and the time they spent in orphan homes influences their development. To sum up, this theory asserted that resilience is the function of the interaction between individual resources and supportive environmental systems. Therefore, this theory is the standing point for the present investigation.

#### **2.2.4. Interaction Process Theory**

As a theory of resilience, process interaction theory explained that personal attributes or assets alone cannot bring competence in the face of adversity, unless the important role of external resources are added as winger and varlsiner (1992). Based on this theory, the interaction of personal assets such as individual personal wellbeing and level of self-esteem with external resources like supportive environment, healthy relationship and opportunities contributed to resilience behavior. The theoretical perspective also postulated that the ability of bouncing back from adverse experience stem from children interaction with others around them. This means that the ability to access social support is significant in predicting resilience.

In the analysis of children in difficult situation, the availability of others like families, caregivers and community members have protective factors that enable them to cope better with adversities in life (Galen& Wilson, 2008). To sum up, this theory asserted that resilience is the function of the interaction between individual asset and supportive environmental resources. Therefore, this theory is the standing point for the present investigation.

#### **2.2.5. Risk Factors**

Risk refers to adverse circumstances and experiences that could interfere with or undermine adaptive functioning and development (Obradovi'c, Shaffer, & Masten, 2012). Adverse results on development may additionally end result from experiences that block, exhaust, or compromise the feature of adaptive structures that usually foster and defend development. Core adaptive processes, such as the natural predilection to seek protection and comfort from more powerful others in contexts of danger, maybe coped in these contexts.

As UNICEF (2016) indicated Orphaned children go through emotional distress, heightened stress, anxiety, and melancholy associated with the nerve-racking experience they faced after the death of their mother and father were dangerous factors in children of the orphan homes.

#### **2.2.6. Protective Factors**

Research has indicated that, not all children who suffer risks end up in maladaptive state, hence the presence of protective factors overcome those risks and avoided negative outcomes (Rak & Patterson, 1996). Protective factors are resources or individual assets such as self-esteem, wellbeing and coping skill (Kaytal et al, 2019). Among individual attributes in children are age, temperament, sense of humor, purpose in life, belief in bright future and spirituality all have significant impact on resilient behavior (Boyden & Mann, 2005). Protective factor also includes resources that are external to the individual and maintain development under stressful condition (p.2636). Among resources, healthy peer relationship, attachment with caregivers and adult monitoring are some of them.

According to the study conducted by Ethansois (2011) portrayed that forming good quality of relationship with caregivers who are really care about orphans and form emotional bond with them act as a protective factor against negative feelings like depression and sadness. Developing nurturing attachment relationship with caregivers who involves love, acceptance and positive guidance takes the lion share in making orphan children resilient despite adverse experience in orphan homes. For the current study, an attempt was made to navigate important resources and personal assets specifically attachment with caregivers and resilience would have emphasized.

#### **2.2.7. Resilience and Gender**

Gender is an important demographic factor in studying resilience. Most research findings show no significant resilience difference between boys and girls. However, some research findings regarding resiliency of orphaned children showed that, girls are found to be more resilient and better in their way of seeking support than boys despite being under similar stressful situation Bisrat (2005). Similarly, Omar (2018) stated that gender of orphaned children significantly associated with psychological resilience. According to this study, male orphaned children were more resilient in difficulties than female counter parts.

For instance, a study conducted by Sobana (2018) reported that the level of resilience among girls was higher as compared to male orphaned children. Girls' higher score on resilience was attributed to their inner strength and personal communication skill (p, 444). Similarly, another research conducted by Ebabush (2009) revealed that, girls mean score indicate that as they were relatively resilient than boys orphaned children.

### **2.2.8. Resilience and Age**

Age difference is another influential demographic factor that should be considered while investigating resilience among orphan and vulnerable children in orphanage. The difference believed to be developed at early age and continue to adolescence by affecting the manner and tempo of orphan children in attaining their level of resiliency as Steinberg and Eisengart as (cited in Sobana, 2018). As research finding on resilience comparison based on age indicated that majorities of older children showed higher level of resilience characteristics which far better than the younger one.

For instance, an investigation which was conducted by Ebabush (2009) summarized as there was a resilience difference among various age groups of orphaned adolescents. More specifically, late adolescents were more resilient than early and middle-aged orphaned adolescents. Another investigation conducted by Omar (2018) revealed that the age of orphan children significantly contributed to resilience score difference. The study further asserted that older children found to be less resilient as compared to younger orphaned children.

### **2.2.9. Resilience and Education**

Education sits at a nexus of process and outcome. Some evidence suggests that education provides accumulated financial and social resources, facilitating long-term resilience during disasters (Frankenberg et al, 2013). Related to this, some researchers found educational level as a direct predictor of resilience (Segerstrom, 2006;). Similarly, the evidence of a previous study (Ye, et al., 2015), found that educational level was the other direct predictor of resilience. On the other hand, some previous studies indicated that level of education did not relate to resilience (Matzka, et al., 2016). An other research carried out by Yeshareg (2018) found that educational level significantly affects the resilience score of orphan and vulnerable children.

### **2.2.10. Resilience and Length of stay in Orphanage**

Most orphan homes support long-term placement and support in orphan care homes that inhibit reintegration with the rest of the family members (Williamson & Greenberg, 2010). Institutional care lacks individualized care plan that facilitate reintegration with family members. Absence of individualized care and support plan with large orphan to caregivers' ratio increased the likelihood of orphaned children to longer stay in orphan care homes.

Besides, orphaned children experienced little or no continuity of care to enhance attachment with adult care providers. Thus, due to their deprived, developmentally inappropriate, and longer stay in an orphanage, orphaned children experienced negative social, psychological and academic lifelong impacts of institutionalization. It is true that length of stay in orphanage can influence the ability of orphan children to recover from adverse situation. A research conducted by Sobana (2018) indicated children length of stay in orphanage influence their level of resilience. The more children stayed in orphanage they develop maximum strength to face adverse condition in their life (p.444).

### **2.3. Concepts of Attachment**

Attachment is a deep and enduring affectionate emotional bond that connects one person to another person across time and place (Bowlby, 1969). Some people confuse attachment with dependency; they mistakenly assume that attachment must wane during adolescence. Research findings presented by Bowlby and Ainsworth (1969,1979) characterize attachment as a disposition by which an individual seek contact and proximity with another person, especially at the times of distress.

Attachment styles are primarily established in early infancy based largely on the promptness and responsiveness of caregivers most involved in childrearing. From this perspective, the attachment construct refers to an internal motivational behavioral system (pattern of behavioral responses) that is activated when an individual feels threatened (Bowlby, 1969). Attachment relationships are characterized by specific behaviors in children, like showing a preference for or retreating to the attachment figure when threatened or upset, and using the attachment figure as a secure base while exploring their world. Most children direct attachment behavior toward more than one preferred person.

However, children are highly selective about attachment figures, and so are likely to be attached to just a few (Ainsworth 1979). Usually, children are attached to the family members (such as mother, father, and siblings), but they may also be attached to non-family care providers such as caregivers when they reared in child care institutions.

### **2.3.1. Attachment in Orphan Children**

Children reared in orphan homes experience loss of parents and other care giving members of their biological family. Orphaned children of institutionalization often suffer from multitude of developmental delays and many of them follows deviant developmental pathways. An investigation conducted by Bowlby (1952) stated that, orphan and institutionalized children were suffered from the effects of institutionalized care, even though, their physical, economical and medical needs were adequately fulfilled.

Another research conducted by zeanach etal (2005) summarized that children reared under institutional care become deprived of opportunities to develop stable and continues patterns of attachment relationship due to limited and poor quality of contact with their caregivers. Thus, they have faced various types of attachment-based disturbance and develop insecurity specifically disorganized and anxious-proximity seeking or preoccupied types of attachment insecurity. Furthermore, due to the inability of institutions to ensure permanent placement, children have experienced multiple loss and separation which further worsen disturbed sense of self and other Janet et al (2006).

### **2.3.2. Attachment Theory**

In the present study, the researcher emphasized on Bowlby (1980) attachment theory. Bowlby was the first developer of attachment theory and asserted that children have a primary and essential need to be in relationship with their caregivers. This behavior also influenced by human evolutionary history that prepared human to seek closeness and proximity to their perspective caregivers. As Bowlby theorized that, children internalized representation about themselves and others works based on their attachment experience. This internal working model propagated in one way when the caregivers are available and well coming, seeking proximity is easy and children safety and security is maintained. While in other way round, caregivers' inconsistent responsiveness becomes a bottle neck for proximity seeking behavior and children's security.

### **2.3.2.1. Patterns of Attachment**

Attachment theory assumes that attachment patterns can endure across the life span. The adoption of specific pattern during infancy can predicts developmental trajectory that carries on throughout a person's life. Attachment frameworks are embedded in neurobiological circuits that evolve in response to the caregiver-child relationship. These attachment techniques are also influenced by cognitive approaches and environmental stimuli (Bowlby,1969; Ainsworth,1989). In this way, the contextual factors(e.g.,quality of care giving and responsiveness of attachment-figure) contribute to individual differences (such as cognitive appraisal of self or help-seeking behaviors) in attachment styles (Ainsworth, 1989). Various factors influence children's attachment development, such as the quality and consistency of parenting affect how the child responds to their caregiver (Bowlby, 1969; Ainsworth, 1989). Although the exposure to both positive and negative care giving experiences in early childhood will vary and impact attachment trajectory and a relatively stable pattern of attachment eventually forms (Bowlby, 1969).

### **2.3.2.2. Secure Attachment Pattern**

Securely attached children have likelihood to form persistent relationships with reliable and nurturing attachment-figure and take an interest in novel surroundings when the attachment figure is present. They show delight, positive, open, and engaging style of interaction with the attachment figures (Behrens et al. 2007). Decades of research have shown that the security of attachment is linked to a remarkable array of child outcomes over long periods of time, including success at school, while insecurity of children have the most negative outcomes.

### **2.3.2.3. Proximity Seeking pattern**

This type of attachment pattern was previously known as preoccupied attachment style. Children with this attachment pattern is better conceptualized interpersonal dynamics and desire to intimacy depend on other for their positive self-worth; they have negative view of one self. The study findings indicated that, this attachment pattern or style increased level of preoccupation for others in need of approval. As to Allen and Land (1999), children with preoccupied / proximity seeking/ style experience lower level of autonomy and tend to internalize problems. This behavior in turn leads to higher rates of depression and suicide. Children with attachment of this kind tend to have histories of negative life events, such as parental death, serious physical illness and childhood abuses.

#### **2.3.2.4. Disorganized Pattern**

Children of this types of attachment pattern show ambivalent behavior and lack an organized response to the caregivers. As toddlers their attachment behaviors are contradictory. They appear apprehensive, and their stress behaviors may intensify when they approach their caregivers. These behaviors are often fleeting and subtle. As older children, they may additionally take charge to un natural degree to limit uncertainty and may show up confident, but brittle and anxious (Stevenson-Hinde and Verschueren 2002).

They take on the guardian function through behaving in a solicitous way toward the adult attachment figure, or via making an attempt to punish or embarrass them (Behrens et al. 2007; Main and Cassidy 1988). Their play can also be characterized by violence and helplessness (Lyons-Ruth and Jacobvitz 1999). Children with this type of attachment often struggle to balance their attachment need to maintain state of closeness and distance. The study findings demonstrated that, disorganized attachment Patten associated with both desire for intimate relationship as well as uncomfortable with closeness (Hazan &shaver, 1990).

#### **2.4.4. Gender Difference in Attachment Patterns**

The basic tenants of attachment theory was not to predict gender differences in attachment styles and it was traditionally expected that males and females were equally likely to be either insecure or secure (Ainsworth, 1979). Research studies utilizing the interview-based assessments of attachment stated no gender variations in the distribution of attachment styles (Cyr, Euser, Bakermans, Kranenburg, & Van Ijzendoorn, 2010).

In contrast, research utilizing the Relationship Questionnaire developed through Bartholomew (1990) suggested the presence of gender differences; specifically, women were extra probable to be classified as preoccupied and men have been more in all likelihood to file brushing aside attachment patterns (Bartholomew & Horowitz, 1991). Research findings of gender variations in attachment patterns may additionally replicate the social and cultural views concerning social and emotional differences between genders. Shaver and colleagues (1991) observed impervious attachment correlated with both masculinity and femininity. Preoccupied attachment pattern also related to femininity and lastly while avoidant attachment seemed to be related to masculinity. Researchers suggest gender differences in attachment styles evident socially acceptable behavior in how males and females form relationships (Tamres, Janicki, & Helgeson, 2002; Reis, Senchak, & Solomon, 1985)

### **2.3.3. Age and Attachment**

Some studies have given primary emphasis on age-based difference of children who have been with their primary caregivers taking attachment with mother and father as first-hand interest. However, attachment patterns in the case of children of orphan villages were left neglected areas of research. For instance, as Stovall Mclough and Dosier (2004) orphan children relatively with younger age showed successful attachment relationship behavior within the first few months of placement in orphan homes. In contrary to this, children admitted to orphan homes while they are a little bite older manifested in secured patterns of attachment style (Smyke et al., 2010). Another research made by Terren (2008) portrayed older children were exposed to early adverse life trajectories that can further increases the tempo of insecurity than the younger orphan children.

### **2.3.4. Length of Stay and Attachment**

Length of time in orphan homes has significant positive relationship with attachment as (Howells & Sengel, 1993). As to this study, the longer children they stayed in orphanage become more likely to develop security of attachment. Another study conducted by Vorria et al (2003) indicated as there was no significant association found regarding length of stay in orphan homes and attachment security of relationship with caregivers in orphanage with low quality of care and support.

## **2.4. Resilience and Attachment Patterns**

Some investigation were made about the relationship between resilience and attachment patterns. For instance, a study conducted by Marriner et al (2014) indicated that as there was a strong positive relationship between resilience and secured attachment pattern. A research investigated by Sam, J (2014) showed that participants with secure attachment pattern attain higher level of resilience. The study also reported that participants with insecure attachment had relatively lower level of resilience.

An other investigation carried out by Kathleen (2015), indicated resilience was positively correlated with attachment in all subscales. Another investigation made by Jinka (2016) attachment style positively associated with level of resilience. Furthermore, an investigation which was made by Melissa (2019) declared that, there is a relationship between resilience and attachment patterns. This research addressed insecure attachment styles have association with resilience and yield unique recovery ability than secure attachment patterns. This implied there was an association between resilience and insecure attachment.

## **2.5. Impacts of Orphanhood**

Orphanhood is defined as state of children living without parents due to different causes of death and resides in orphan homes. Orphanage is an institution established by governmental, non-governmental or faith-based institutions to give care for orphaned children in a group living arrangement. Oxford advanced learners dictionary (1974) also defined it as a home for children whose parents are dead and left without support for living. Children care institutions may also referred to as orphanages, children's home or residential care institutions.

There are many orphan homes that have been serving orphan and vulnerable children. Surprisingly, only few of these orphan institutions make orphaned children to feel happy, well cared and experience better conditions of living. However, many orphanages are un regulated, staffs are poorly trained and recruited without appropriate background check (Dore et al, 2016). According to Csaky(2009) children who live in orphanage and other forms of residential care are among the most vulnerable group of children in the world.

Most institutional care are not capable of meeting the developmental needs of children as Faith to Action Initiative (2014) and lack the affection, attention, security and social connection from families and communities they belong. They are at risk of physical and psychological abuse and neglect due to poor standards of care they provided in homes. Most orphan homes have high orphaned children caregivers' ratio and lack developmentally appropriate care that have lifelong negative impacts. They exhibited psychological, social and academic related problems in orphan home.

For instance, as Cheney and Rotabi(2014), mentioned orphaned children manifest developmental delay, behavioral problems, attachment disorder, lack of life skills and inability of creating and mentioning relationship with others are most common impacts of orphanhood and living in orphan homes. The evidence suggests that most orphan home problems are attributed poor interaction between orphan and caregivers, lack of autonomy, poor provision books and play materials.

### **2.5.1. Psychological Impacts of Orphanhood**

Being orphaned children who lost one or both of parents and other relatives who take care of themselves have both psychological and social impacts. They often suffer from verities of psychological problems like anxiety, sense of failure, pessimism and suicidal thought (Benjamin & Hogan,2012).

As Fredriksson and Kandous (2004) stated orphaned children showed delayed emotional development and social skills like communication, higher cognitive process and negotiation skills. Further they also experienced hopelessness and low level of self-esteem (Kedisa, 2006). More importantly, reactive attachment disorder was evident in studies of orphaned institutionalized children. It's difficulty of forming emotional attachment and relationship that rooted from deficient care giving experience before five years old (Browne & Mulheir, 2005). In Africa, few studies are conducted on psychological conditions of orphaned children.

for example, research conducted by Atwine et al (2005) in Uganda revealed orphaned children showed higher level of depression and low optimism about their life as compared to non-orphan children. In Zimbabwe orphaned children reported high level of psychological distress like depression, anxiety, low optimism and disruptive behaviors (Nyamukapa et al 2008). Another research was by Wim Delva et al (2005) in Tanzania taking orphan and non-orphan children as a sample. The finding reported that, orphaned children had internalized psychological problems as compared to non-orphan children.

In Ethiopia, most work has centered mainly on the physical and materialized needs of orphaned children in reference to orphan and orphanhood status. For instance, Abushala et al (2014) conducted a study on matters of orphans and vulnerable children in selected woredas and towns in Jimma zone. The findings of the study revealed that, orphaned and vulnerable children are liable to malnutrition, poor hygiene, sex offense, drug use, child labor exploitation. Moreover, the findings also indicated OVC have little or no access essential social services like health and education.

### **2.5.2. Academic Impacts of Orphanhood**

As recent researches indicated, death of one or both parents create problems in orphaned children's wellbeing and to continue education in their future life (Mwoma & Pillay, 2016). When children are orphaned, they missed love, care and supports of their parental figures and they experience school dropout, low academic performance and develop juvenile delinquent tendency (UNICEF, 2009). A study conducted by Teresa and Norman (2019) indicated lack of physical and material resources contributed for irregular school attendance of orphaned children. The study also stated poor social and emotional care that caused school absenteeism. In sub-Saharan Africa, there is a tendency for orphan and vulnerable children to leave school prematurely and it causes many problems as children who do not attain school miss the opportunity to learn verities of important skills.

In Ethiopia, orphaned and vulnerable children experienced similar problems to orphans of other African countries. For instance, research conducted by Abebe and Aase (2007) reported that orphaned children missed and become absent from school due to economic hardship and the hardship forced them to engage prostitution. Another reason for high absenteeism orphaned and vulnerable children include fatigue from begging on the street. As Wood (2011) stated, lack of motivation, poor social relationship with other students and teachers because of stigma and discrimination was another critical academic impact of orphanhood.

### **2.5.3. Social Impacts of Orphanhood**

Ethiopia as one of the less developed country and most affected by AIDS and other natural and man-made disasters such as drought, malaria and internal conflict escalate the number of children who need immediate care and support due to parental death. As a result, this low socio-economic status and poor standard of leaving created many social impacts on orphaned and vulnerable children.

In Ethiopian, according to the study carried out by Save the Children Denmark (2002) OVC faced social challenges like, lack of health care, lack of education, early entry to labor, loss of family inheritance, early marriage and vulnerability to abuse. Another study conducted by Belay and Missaye (2014) on risk, protective factors and resilience among orphan and vulnerable children in Chilga woreda of Gondar town. The findings of the study indicated OVC faced community related problems such as negative discrimination, rejection and social isolation.

## **2.6. Nature of Institutional Care**

Institutional care is a group living arrangement establishment for the support of orphaned and vulnerable children. It is a widely practiced in many parts of the world with different social, cultural, and economic background. The nature of institutional care would be based on systematic assessments of the caring environment and classified based on the nature of care and support provide for children. As Gunnar (2001) categorized the nature of institutional care in to three levels based on the quality of care provided for orphaned and vulnerable children. The first care institutions are known by deprivation of children's health, nutrition, emotional stimulation, and relationship need of orphaned children. The second nature of institutions are characterized by the provision of adequate health and nutritional support while, stimulation and relationship needs are prohibited.

The last category of institutions is capable of providing all needs of orphaned children except the need to establish long term and lasting relationship with caregivers. Most institutions provide care for large number of children with small number of caregivers (Dozier, 2012). The care and support service are given in generalized manner without concerning individualized needs of each orphaned child. Staffs and caregivers also lack basic knowledge regarding care and support that can be provided to orphaned and vulnerable children in homes.

In Ethiopia, most orphan care institutions are unable to provide and maintain attachment, care and love for orphaned children's due to high children caregivers' ratio, high frequency of staff turnover, and the nature of shift work. Thus, children they failed to get affection, love, and stimulation of adult figures in order to develop secure base for other relationship they built (Abadir, 2015).

## **2.7. Summary of Literature Reviews**

This review emphasized on conceptualizing on basic concepts of resilience and attachment patterns regarding orphaned children. Thus, it was presented about previous research findings in relation to resilience and attachment patterns. Resilience is a dynamic procedure encompassing tremendous adaptation with the context of significant adversity (Luther et al, 2000). It is not a personal trait but a product of continues bidirectional interaction between the child and the environment. Research has indicated that, not all children who suffer risks end up in maladaptive state hence the presence of protective factors overcome those risks and avoid negative outcomes (Rak & Patterson, 1996). Protective factors are resources or individual assets such as self-esteem, wellbeing and coping skill (Kaytal et al, 2019).

Different previous studies indicate the level of resilience among orphaned children was relatively high when we compared to their non-orphan counter parts. For instance, a study conducted by Najama and Yasin (2019) showed that, majority of orphaned children had significantly high resilience level. Some studies were carried out on resilience of orphan in Ethiopian context. The study conducted by Ebabush (2009) on resilience as a function of age, sex and education.

The finding demonstrated the majority of orphaned adolescents were found to be high in their resilience score. Belay and Missaye (2014) also conducted a research on risk, protective factors and resilience among orphan and vulnerable children. The finding reported that, orphan and vulnerable children were scored above the mean level of resilience.

As ecological system perspective, resilience is the result of interaction between important qualities of personal resources or assets and opportunities the surrounding environment provide for the security, growth and development of an individual. Among individual attributes in children, age, temperament, sense of humor, purpose in life, belief in bright future and spirituality all have significant impact on resilient behavior (Boyden & Mann, 2005).

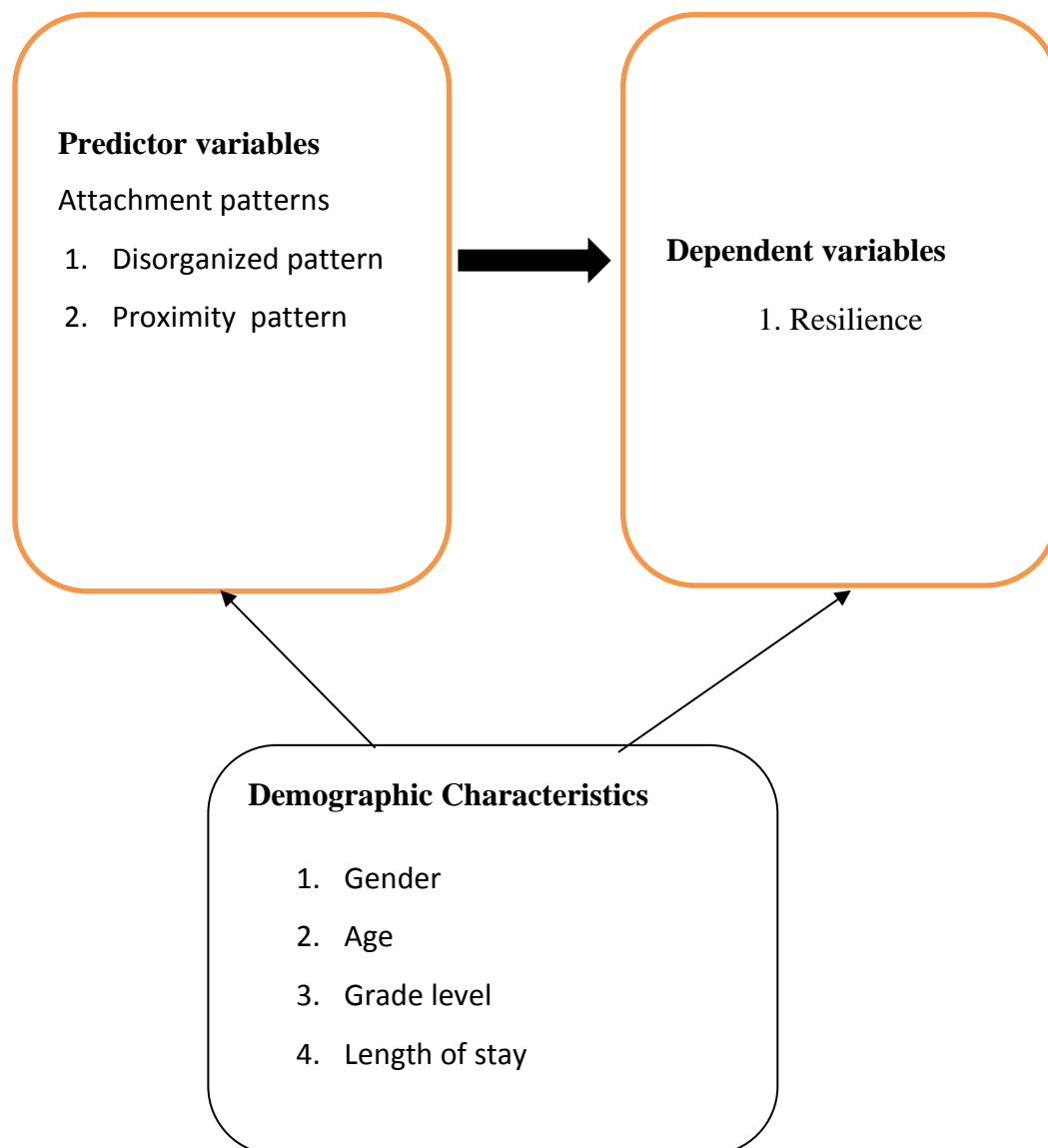
Protective factor also includes resources that are external to the individual and maintain development under stressful condition. Besides, some investigations were studied on the relationship between resilience and attachment patterns among orphan children taking non-Ethiopian samples. The findings of those studies showed that as there was a statistically significant association between resilience and attachment patterns. An investigation conducted by Barbier (2014) illustrated proximity seeking of attachment pattern. This implied that orphaned children need nearness to their caregivers, friends and peers in homes and outside the home environment.

Kathleen (2015) also declared that psychological resilience was positively related with attachment pattern. This finding also supported by Jika (2016) which further asserted as resilience was positively associated with attachment. Even though, aforementioned studies were emphasized on the relationship between resilience and attachment patterns of orphaned children, none of them were tried to examine resilience and attachment patterns in Ethiopian context. Therefore, the major purpose of the current study was to examine the relation between resilience and attachment patterns of orphaned children of selected orphan homes in Addis Ababa.

## **2.6. Conceptual Framework**

The following diagram depicted the relationship of variables and associated demographic factors. In this study taken resilience as dependent variables and sex, age, grade level and length of stay in orphan homes were as independent variables and attachment patterns also taken as predictor variable for resilience of the current study.

**Figure (1).** Proposed conceptual framework of the influence of predictor variables and demographic variables on the dependent variable



### **III. Research Methods**

Chapter three of this thesis was focused on describing study design, study area, participant of the study, population of the study, sample size and techniques, data collection instrument, pilot testing, data collection procedure, methods of data analysis and ethical consideration of the present investigation.

#### **3.1. Study Design**

The aim of this study was to examine the relationship between resilience and attachment patterns of orphaned children in three selected orphan homes in Addis Ababa. The study used correlation research design to examine how the independent variable (sex, age, grade level, and length of stay in orphanage) and predictor variable (attachment patterns) are correlated with the dependent variable (resilience). The logic behind using correlation research design, because it provides an opportunity to measure the degree of relationship between two or more variables (Crosswell, 2012). It can be used to assess behavior as it occurs in people's everyday life (Stangor, 2011). The study also used cross-sectional study that enabled to investigate population with different demographic characteristics' in the sometime. Therefore, it was suitable research method to the present study.

#### **3.2. Study Area**

The study was conducted in Addis Ababa, which is the capital city of Ethiopia and the home of many international organizations. Addis Ababa was chosen as a study area for the present investigation, because as compared to other cities in the country, majority of orphanhood was prevalent with sever social and psychological problems. There are 354 orphan institutions, from this orphan institutions, most of them are operating in the capital city (Tadele et al, 2013).

Among these orphan homes, Selam Children's Village, Son of our Father Children Residence Home, and Zewiditu Meshesha Charity Organization were selected as a research site. The reason why the current researcher chosen these three orphan homes were that, their physical proximity to the investigator and prior relationship with some professionals who have been working in the institutions. Due to this, the researcher assumed that the process of data collection would be relatively easy and supported by the staff members. All this institutions provide residential care, food; clothing, health and educational service for children admitted in their homes up to they reach 18 years of age and financial subside for those out of the institution after 18 years of age.

From three study areas, (SCV) is a huge orphaned children village devoted on improving the lives of OVC to become productive member of the society by providing different support like free education including educational materials, psychosocial support, health and hot meal service for orphaned and vulnerable children. It is found in Addis Ababa in Bole Sub city woreda 07 near Civil Service University.

The villages contain school system that has been nurturing orphaned children and non-orphan children coming from the community. Son of our Father Children's Residence also found in Addis Ababa Bole sub city woreda 09 around Beshale secondary and preparatory school. Orphaned children living in this institution reside in three selected orphan homes and attained public schools that are found around the orphan homes. Zewiditu Meshesha Charity Organization found in Yeka sub city woreda 11, near Amanuel Mental health Specialized Hospital.

In this physical year, SCV enrolled 807 students from grade 1 to grade 12 with the exception of kindergarten and TVET program students. From this 807 students, 391 students were orphaned children have been attending their education from grade 5 to grade 8 in two elementary schools and from grade 9 to 10 in one secondary and preparatory school. Similarly the rest two orphan homes namely Zewiditu Meshesha charity organization and Son of our father children residence have 165 and 137 orphaned children respectively with similar condition of orphanhood and services provided.

### **3.3. Population of the Study**

The current study targeted at children orphaned in care institutions and who were below 18 years old. In this investigation, a total of 693 orphaned children with age ranges from 11-17 year were taken from Selam Children Village (SCV), Zewiditu Meshesha Charity Organization (ZMCO), and Son of our Father Children Residence (SFCR) from Yeka and Bole Sub-city of Addis Ababa.

From this above maintained target participants, 157 sample participants were drawn Selam Children Village (SCV). From this participants, 84 were males and 73 were females. Zewiditu Meshesha Charity Organization (ZMCO), contributed 66 sample participants followed by Son of our Father Children Residence proportionally contributed 55 sample participants were drawn from 94 male and 43 female potential target population.

Table 1: Total number of participants in selected orphan homes

Orphan homes	male	Female	Total	Sample selected		
				Male	Female	Total
SCV	245	146	391	84	73	157
SFCR	106	59	165	35	31	66
ZMCO	94	43	137	37	18	55
	445	248	<b>693</b>	156	122	<b>278</b>

**Key:** SCV = Selam children's Village, SoFRC = Son of our Father Children's Residence  
ZMCO = Zewiditu Meshesha Charity Organization

### 3.3.1. Sample Size and Technique

For this study, the three orphan homes namely Selam Children Village, Zewiditu Meshesha Charity Organization and Son of our Father Children Residence were purposively selected based on their physical proximity to the investigator and prior relationship with some professionals who have been working in the institutions. Then stratified random sampling technique was used to proportionally allocate potential participants based on grade levels.

Therefore, by using stratified sampling technique orphaned children were categorized based on sex, grade level, and orphan home. Using proportional allocation technique, the sample size of a stratum was made proportional to the number of elements present in the strata. The sample size determined using Yamane's (1967) formula, it provides more sample size than the sample that would be caught using sample size determination table and online sample size calculator. Thus the sample size was calculated by adopting Yamane (1967) simplified formula for proportion with a confidence interval of 95% and 0.5% of the level of precision. (Yamane, 1967) as illustrated below;

$$X = N / (1 + N(e)^2) = 693 / (1 + 693(0.05)^2) = 253$$

Where, n = sample size, N = population size, e = Marginal error/ the level of precision, 5 percent, and x = calculated sample size

Therefore, using the formula the calculated sample size is X = 253. Thus, according to Yamane (1967), a sample size of 253 would be representative of 693 populations with a confidence interval 95%. In addition 10% (25) of the sample size was taken as a reserve for non-response questionnaire added and 278 respondents were taken for this investigation.

Table 2: Sample size by grade levels, sex, and orphan homes

Serial Number	Selected Orphan Village (SCV)	Categories Grade levels	Sex		Sample
			Male	Female	
1.	Selam children's Village (SCV)	5 <sup>th</sup>	23	18	41
		6 <sup>th</sup>	16	17	33
		7 <sup>th</sup>	14	9	23
		8 <sup>th</sup>	14	10	24
		9 <sup>th</sup>	8	14	22
		10 <sup>th</sup>	9	5	14
		Total	84	73	157
2.	Son of our Father Children's Residence (SFCR)	5 <sup>th</sup>	6	3	9
		6 <sup>th</sup>	15	7	22
		7 <sup>th</sup>	8	7	15
		8 <sup>th</sup>	5	3	8
		9 <sup>th</sup>	5	-	5
		10 <sup>th</sup>	5	2	7
		Total	35	31	66
3.	Zewiditu Meshesha Charity Organization (ZMCO)	5 <sup>th</sup>	10	7	17
		6 <sup>th</sup>	9	5	14
		7 <sup>th</sup>	7	3	10
		8 <sup>th</sup>	5	2	7
		9 <sup>th</sup>	4	1	5
		10 <sup>th</sup>	2	-	2
Total	37	18	55		
4.		Grand total	<b>156</b>	<b>122</b>	<b>278</b>

### **3.3.2. Inclusion and Exclusion Criteria**

The present study included only orphaned and institutionalized children whose age falls between 11 and 17 years old. Orphaned children who are below 11 and above 17 years are not the concern of this investigation. Because, children below 11 years may not be capable of appropriately responding self-administrated scaled questionnaire while those who are above 17 years old are living out of the orphanage and leading independent life. Therefore, both age groups were not the interest of the investigation being conducted.

### **3.4. Research Variables**

Research variables are variables of interest that can be verified during the research process and treated as dependent and independent group.

#### **3.4.1 Independent Variables**

- ✓ Gender
- ✓ Age
- ✓ Orphaned children grade level
- ✓ Orphaned children length of stay
- ✓ Attachment patterns

#### **3.4.2 Dependent Variables**

- ✓ Resilience

### **3.5. Data Collection Tools**

In the present investigation, data from the respondents was collected using self-administered questionnaire that could be rated and responded by the respondent themselves. The questionnaire had three parts; demographic questions, resilience scale and vulnerable attachment questionnaire presented from part one to part three respectively.

#### **3.5.1. Demographic Data**

The data about demographic variables was collected from participants. The demographic variables of participants included sex; age, grade level, and length of stay in orphanage were socio-demographic variables that had been emphasized in the present investigation.

#### **3.5.2. Connor-Davidson Resilience Scale 25-Item Version**

Resilience is polysemous construct (strunz, 2012) with having numerous similar meanings that share similarities and differ among places, contexts and nature of treat.

Thus it becomes very hard to scholars to develop a single model of measurement that will suite all contexts, places and events. To this end measuring resiliency comes up with various scales having some challenges in their psychometric properties. The primary interest in this study was to measure level of resiliency among orphaned children using 25 item resilience scales.

Resilience scale with 25 items was developed by Wangild and Young (1993) and validated in residential care adolescents of white and black communities. It had a high internal consistency with (Cronbach's alpha = 0.925). Later resilience scale was revised and prepared as self-administered scale consists of 25 items by Connor & Davidson (2003) following exploratory factor analysis by the authors of the scale. The major advantage of Connor- Davidson resilience scale (CD-RISC) is its simplicity to translate from original English version to Amharic language and Vis versa and showed high psychometric properties.

It also minimizes potential items miss understanding that would happen due to cultural difference. Most importantly, the instrument has been developed recently in 2003 with the necessary amendment on the earlier version in non-clinical sample across many countries of 12 and above years of age (Connor and Davidson (2003). The original scale consists of 25 items and is structured as a 5-point Likert-type cumulative instrument (0 = not true to 4 = true nearly all the time).

A summation of the response to each scale's item yields a score that ranges from a minimum of 25 to a maximum of 100 that signifies the highest level of resilience. In the present study, this instrument adopted and adjusted with 25 items and 4 points Likert type scale value ( 1= not true to 4 = true all the time) and summation of the response to each scale yielding ranges from minimum 25 to maximum 100 that signifies the highest level of resiliency.

### **3.5.3. Vulnerable Attachment Style Questionnaire (VASQ)**

Vulnerable attachment style questionnaire is a self-report measure that has been used to measure attachment style of young people in residential care institutions. The VASQ was originally developed by Bifulco et al (2003) with 22 original items which measure a score of insecure attachment pattern in high risk orphaned children. The instrument has two subscales reflecting disorganized and proximity seeking patterns. The instrument focuses on current attachment style and cognitive affective attitude to close relationships and autonomy as Bifulco et al (2008).

Items also reflect behavior, emotions and attitude related to attachment in highly risk population that can be scored in five point Likert type scale from 1= strongly disagree to 5= strongly agree. As subscale, disorganized and proximity seeking pattern each takes 12 and 10 respectively in the original items. Finally, the scale modified and validated into 21 items with five point Likert type scale valued from (1= strongly disagree to 5= strongly agree) has used in the final investigation, while, one item was genuinely excluded from the scale during pilot study.

### **3.6.Instrument Validation**

At the the beginning, scaled instruments previously developed by the filed experts were adopted by the current researcher based on critical evaluation of the best fit of the items with current research objectives, operational deffination, and usability in previous investigation by researchers in local context. Then, the scales were evaluated by one Developmental Psychology PhD holder who have been working in Debre Markos University and one English language MA student of Addis Ababa University. They examined the instruments emphasizing on items adequecy and match in addressing the research objectives, construct going to be measured, cultural desirability for Ethiopian Orphaned Institutionalized Childern and finally approved for translation.

#### **3.6.1. Instrument Translation**

The original English version of scaled instruments were translated in to Amharic language by the researcher and edited and backward translated by English language teachers who are teaching in secondary and preparatory school. Finally, the original version and backward translated instruments were triangulated and prepared for pilot study.(English and Amharic version instruments are presented ( in appendix A1 and B1 respectively).

#### **3.6.2. Pilot Testing**

The purpose of conducting pilot study was to solve ambiguity of instrument, feasibility, and relevance in order to make the necessary amendment before the final data collection. Thus, prior to the pilot study was under taken, the original English version instruments were adopted and forward and backward translation in to Amharic version. The content validity and appropriateness of the scales namely (25 item resilience scale and 22 attachment style questionnaires) were checked by two field experts.

The one PhD holder of developmental psychology from Debre Markos University and assistant professor of psychology and the other was a MA student from foreign language and literature of AAU. Those experts commented that researcher to change the resilience scale rating value from five to four point (1=not true to 4 = true all the time) and attachment style questionnaire from seven point to five point scale (1= strongly disagree to 5= strongly agree) as originally scored based on instrumental scoring criteria.

Finally, the Amharic versions of all instrument was administered to 30 randomly selected participants (five male and five female from each 6, 7 & 8 grade of Selam Children Village elementary school no.1. All distributed questionnaires were collected back from participants. Responses were scored and reliability of the two instruments that means 25 item Resilience scale and 21 Attachment style questionnaires were computed using SPSS version 25. Thus, the Cronbach's alpha coefficient of (n=30 was 0.732 and 0.834) observed for resilience and attachment questionnaire respectively( refer Appendix C1, & C2).

Based on Devellis (2012) stated that, Cronbach's alpha coefficient below 0.6 is considered as unacceptable, alpha level between 0.7 and 0.8 recommended as acceptable, and above 0.8 is very good. Thus, alpha level 0.7 is acceptable as (Nun ally, 1978).Therefore,the Cronbach alpha level of all piloted instruments' was above 0.7 which indicated an acceptable and recommended for data collection of the main investigation. Final data collection, 25 items of resilience scale and 21 item attachment style questionnaires were employed.

### **3.7. Data Collection Procedure**

At the start, data collection instruments (demographic questionnaire, resilience and attachment style questionnaire) were translated into Amharic language by the field experts and language professionals. The detail of study participation was explained fully in Amharic language. The administration of the questionnaire was done by securing the letter of support from Addis Ababa University School of psychology to get the cooperation of the orphan homes after checking number of items printed for each questionnaires and clarity.

The data administration and collection were made by assistant collectors who were trained prior to the actual data collection conducted, about purpose of the study, sampling procedure, methods of data collection and ethical issues while data collection. The participants were informed that they had the option to participate or not in the study. Finally the data was collected after coordinators approval by the assistants using self-reported questionnaires after obtaining informed consent from respondents.

### 3.7.1. Scoring

After the data was collected, incomplete questionnaires were identified and mean replacement technique was used to deal missing values. Reversed and negatively stated items were appropriately arranged. Then, the data carefully encoded in to the statistical package for social science (SPSS) and items measure the same domain or subscales were encoded continuously and participants' response for each item were encoded based on the scale value. To this end, the present study used two scale instruments. The final scale for resilience contains 25 items scale. The scale highest score was 100 ( $25 \times 4$ ) and the lowest score was 25 ( $25 \times 1$ ). The expected mean was 75 ( $25 \times 3$ ) indicates above average level of resilience and 75 and less is levelled as below average level of resilience score.

For vulnerable attachment style questionnaire, the instrument measured two subscales (disorganized and proximity seeking pattern) with 12 and 9 items respectively for each subscale. The cut-off score for disorganized attachment pattern was 30. The mean of 30 and above indicated high insecurity of attachment. The score of 29 and less indicate low insecurity of attachment. The cut of score for proximity seeking (enmeshed) was 27 which delineate highest and 27 and below indicated lowest points. Highest score of it indicate high level of proximity seeking.

## 3.8. Data Analysis

### 3.8.1. Preliminary Tasks of Data Analysis

As a rule, prior to conducting multiple linear regression analysis, inappropriately filled and incomplete questionnaires were excluded from the study, data were entered and cleaned through SPSS version 25. Then the researcher conducted preliminary test of four statistical assumptions. To this end, the collected data was checked against the assumptions such as test of normality of the data, test of linearity, test of homoscedasticity (equality of variance) and test of multi collinearity.

#### *Test of normality*

Multiple linear regression requires the normal distributions of the independent variables. Thus, in order to verify the normality of the data, skewness and kurtosis tests were employed using the measure of normal probability plot.

The results showed that the score of independent variables( sex, age, grade and length of stay) and the predictor variables( disorganized and proximity seeking ) were found to be normally distributed with their measure of skewness and kurtosis between (-1) to (+1) was acceptable for analysis of parametric tests (Appendix D1 & D2).

#### *Test of linearity*

The second assumption for computing multiple linear regression was testing linear relationship between the dependent variable (resilience) and the independent variables. Thus, test of linearity was checked using spss version 25 and the visual inspection of the scatter plot shows as there was a linear relationship (see Appendix D5 & D6).

#### *Test of homoscedasticity( equal variance)*

The third assumption for computing multiple linear regression was test of equal variance. This test was conducted to see the consistency of the variance across all predictor variables. This assumption was checked and found to be acceptable by observing the standardized residual plot of the data ( see Appendix D4).

#### *Multicollinearity test*

Here, to test Multicollinearity effect of independent variables, variance inflation factor (VIF) test was conducted and the result indicated all independent variables had a value of less than 10 which was acceptable for analysis of regression as collinearity statistics indicated ( see Appendix D3) .The independence of the residuals also measured by Durbin-Watson statistics. The value of Durbin-Watson was 1.979 indicates that there is no correlation among the residuals and found to be in acceptable between 1.50-2.50 ( see Appendix D5).

### **3.8.2. Data Analysis Techniques**

Data was analysed using Statistical Package for Social Sciences (SPSS), version 25. Descriptive statistics (percentage, mean, and standard deviation) were used in order to compute demographic variables. Descriptive statistics also used to check the general patterns of resilience and attachment patterns with respect to age, sex, grade level, and length of stay in care homes of orphaned children with test of significance at alpha 0.05 for all statistical processes. Independent samples t-test was employed in order to see resilience and attachment patterns difference based on sex and age of participants.

One way analysis of variance (ANOVA) also computed to see if there was significant mean difference in resilience and attachment patterns based on demographic variables ( grade and length of stay) of orphan children. Finally, multiple linear regression analysis was employed to predict resilience from attachment patterns.

### **3.9. Ethical Considerations**

In this investigation, the researcher was highly emphasized to the ethical issues that have been involved in doing a research. Before moving forward to the main data collection, the researcher formally contacted all selected orphan homes representatives by submitting letter of support given from Addis Ababa University, school of psychology.

Then, discussion was held with homes representatives about the research interest to be conducted, instruments to be used and institutional ethical guidelines to be followed. The researcher also presented the objectives of the study and then instruments were checked as they have no psychological harm on participants by social workers of the hosting institutions within a week. Finally approval was obtained from orphan homes administrators and assured that researcher can collect the proposed research data as per the schedule with possible staff support.

Participants were also orally informed about the purpose of the study and assured about the information they were going to provide would be confidential and used only for a research purpose. After the full consent of participants was obtained, classes were arranged, participants were stratified and randomly selected based on their grade level, questionnaires were distributed, and direction was given on the way they fill the administered questionnaires. At the end, the distributed instruments were collected back by assistant data collectors with oral gratitude to participants by the researcher.

## IV. Results

The purpose of the present study was to investigate the resilience and attachment patterns of orphaned children. To this end, scaled quantitative data was performed and sequentially presented in line with research questions. Hence, descriptive statistics (frequency, mean and standard deviation) and inferential statistics (independent sample t-test, one way ANOVA, pearson product moment correlation coefficient and multiple linear regression analysis techniques were employed.

### 4.1. Demographic Information of Participants

From the total of 255 orphaned children who participated in the study and properly filled the instruments, 140 (54.9%) males and 115 (45.1%) were females. The case of participants age, 11-14 years account 178 (69.80 %) while the rest of participants whose age ranges from 15-17 years took 77 (30.19%) of the study participants. Their grade level, 113 (44.70), 91 (35.30%) and 51 (20%) of participants were grade 5-6, 7- 8 and 9-10 students respectively. Most of the participants 131 (51.3) stayed 5 – 8 years in orphan homes followed by 74 (29.01%) and 50 (19.60) who have stayed 1-4 and 11 and above years in orphan homes.

Table 3: Demographic information of participants

Variable	Category	Frequency	Percent(%)
Sex ratio	Male	140	54.90
	Female	115	45.10
Age Category	11 – 14	178	69.80
	15 – 17	77	30.19
	Total	255	100
Grade level	5 – 6	113	44.70
	7 – 8	91	35.30
	9 – 10	51	20
	Total	255	100
Length of stay	1 – 4	74	29.01
	5 – 8	131	51.37
	9 and above	50	19.60
	Total	255	100

## 4.2. Resilience status of Orphaned Children

As described below in Table 4, descriptive statistics were used to assess the resilience status of orphaned children. As the finding indicated, 191(74.90%) participants scored above the mean and the rest 64 (25.09%) of participants were below the mean. Based on sex, from the total of 140 male participants, 105(75%) and 35(25%) were above and below the mean score respectively with mean score of male participants ( $M = 80.36$ ,  $SD = 7.90$ ).

Further more, the finding indicated, from the total of 115 female participants, 86(74.78%), 21(18.26%) scored above and below the mean on their resilience score respectively with their mean score ( $M = 79.83$ ,  $SD = 7.26$ ). The (obtained) mean of resilience scale score was ( $M = 80.12$ ,  $SD = 7.61$ ). The mean expected was 75 based on instrument scoring criteria. Thus, the obtained mean was greater than the expected mean.

Table 4: summary of orphaned children resilience status

Variables	Max.	Above	%	Below	%	M	SD
Resilience	100	191	74.90	64	25.09	80.12	7.61
Male	100	105	75	33	25	80.36	7.90
Female	100	86	74.78	21	18.26	79.83	7.26

### 4.2.1. Resilience and Sex

An independent sample t-test was carried out to see if there was a difference in resilience score between male and female respondents. The result showed that there was no statistically significant difference between male and female respondents in their level of resilience with ( $M = 80.364$ ,  $SD = 7.907$ ) and ( $M = 79.834$ ,  $SD = 7.89$ ),  $t(253) = 0.552$ , at  $p = 0.480$  for males and females respectively. These results implied that, being male or female is not substantially differ in status of resilience (see table 5: below).

Table 5: summary of t-test, resilience difference based on sex

Variables	Groups	N	M	SD	df	T	p-value
Sex	Male	140	80.364	7.907	253	.552	.480
	Female	115	79.834	7.269			

\*. The mean difference is significant at the 0.05 level.

#### 4.2.2. Resilience and Age

As it can be observed on table (6) below, descriptive statistics showed that the two mean were significantly different from each other. Orphaned children whose age range from 15-17 years had significantly higher mean score on resilience rating with (M = 84.42, SD = 5.82) as compared to the age of 11-14 years with (M = 78.26, SD = 7.55). This means that orphaned children age from 15-17 years (M = 84.42) reported higher resilience level than 11-14 years did.

Table 6: Mean and standard deviation of resilience and age

Age Category	N	Mean	Std. Deviation	Std. Error Mean
11-14	178	78.2640	7.55791	.56649
15-17	77	84.4286	5.82515	.66384

\*. The mean difference is significant at the 0.05 level.

An independent sample t-test was conducted to see the resilience score difference between 11-14 and 15-17 years orphaned children. As the finding indicated there was a statistically significant mean difference between two groups of age (11-14 with M=78.26) and (15-17 with M=84.42;  $t(255) = 6.382$ ,  $p=.00$  on their resilience score taking age as a function. The magnitude of the differences on the mean (mean difference = .966, 95% CI: -8.066 to -4.262). This means, the students found at the two age groups varied in their level of resilience status.

Table 7: Summary on resilience difference by age of participants

Age	Equality Variances	Levine's test of Equality of Variances					95% Confidence Interval Difference	
		F	T	Df	Sig.	Mean d/ce	Lower	Upper
11-14	variances assumed	6.538	6.382	253	.000	.966	-8.066	-4.262
15-17	equality not assumed		7.064	184.89	.000	.872	-7.886	-4.442

\*. The mean difference is significant at the 0.05 level.

### 4.2.3. Resilience and Grade level

List significant difference value comparison revealed statistically significant mean difference in orphaned children resilience score due to difference in their educational level. The finding revealed that grade 9 and 10 participants had significantly higher resilience score (M= 84.58, SD= 6.22) followed by grade 7 and 8 participants with (M= 82.92, SD, 7.68) and grade 5 and 6 participants (M= 78.18, SD= 7.36).

Table 8: Mean and standard deviation of resilience and grade level

Grade level	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
5-6	113	78.1842	7.36697	.69303	76.9012	79.6475
7-8	91	82.9231	7.68148	.80524	78.3233	81.5228
9-10	51	84.5882	6.22311	.87141	82.8380	86.3385
Total	255	80.1255	7.61577	.47692	79.1863	81.0647

\*. The mean difference is significant at the 0.05 level.

As showed below on table (9), one way analysis of variance (ANOVA) was conducted to explore the impact of grade level (educational level) of participants on their resilience scores. There was a statistically significant difference in their resilience scores for three groups of participants based on grade level, ( F, (2,254), = 13.301, p=.000). This implied that, the levels of resilience showed significant variation due to grade levels of participants.

Table 9: Summary of resilience level by grade levels of participants

Group	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1406.674	2	703.337	13.301	.000
Within Groups	13325.310	252	52.878		
Total	14731.984	254			

\*. The mean difference is significant at the 0.05 level.

Post-hoc comparisons using the Tukey HSD test indicated that, grade 9 and 10 participants ( $M= 84.58$ ,  $SD= 6.22$ ) was significantly higher than other grade level participants on their resilience score followed by grade 7 and 8 participants ( $M= 82.92$ ,  $SD, 7.68$ ).

Table 10: Summary of Tukey HSD multiple comparison test

(I) grade	(J) grade	Mean Difference (I-J)	Std. Error	Sig.
5-6	7-8	-1.64874	1.02422	.243
	9-10	-6.31390*	1.22669	.001
7-8	5-6	1.64874	1.02422	.243
	9-10	-4.66516*	1.27197	.001
9-10	5-6	6.31390*	1.22669	.000
	7-8	4.66516*	1.27197	.001

difference is significant at the 0.05 level.

#### 4.2.4. Resilience and Length of Stay in Orphan homes

List significant different value comparison showed that the three means were not significantly different from each other. Resilience has statistically significance difference with length of stay ( $M=78.77$ ,  $SD=6.78$ ), ( $M=81.25$ ,  $SD=7.65$ ), and ( $M=79.16$ ,  $SD= 8.34$ ) for 1-4, 5-8 and 9 and years of stay in orphan homes respectively. This implied that, the levels of resilience showed no significant variation due to length of stay in orphan homes.

Table 11: Mean and Standard deviation of Resilience and length of stay in orphan homes

Length of stay	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
1-4	74	78.7703	6.78344	.78856	77.1987	80.3419
5-8	131	81.2595	7.65063	.66844	79.9371	82.5820
9 and above	50	79.1600	8.34550	1.18023	76.7882	81.5318
Total	255	80.1255	7.61577	.47692	79.1863	81.0647

\*. The mean difference is significant at the 0.05 level.

As showed below on table 12, One way ANOVA was computed to explore resilience score difference of participants based their grade level. The finding revealed as there was no statistically significant difference in resilience score for three groups of length of stay in orphan homes:  $F(2,252) = 3.075, p = .048$ .

Table 12: Summary one way ANOVA resilience by length of stay in homes

Group	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	350.994	2	175.497	3.075	.0488
Within Groups	14380.990	252	57.067		
Total	14731.984	254			

\*. The mean difference is significant at the 0.05 level.

### 4.3. Attachment Patterns of Orphaned children

As described below in Table 13, descriptive statistics used for participants (N = 255) for attachment patterns subscales. Participants 148(58.04%) were scored below average and 107(41.96%) above average on a disorganized subscale. In the case of proximity seeking subscale, 207(81.17%) of Participants were scored above average. The rest 48(31.43%) scored below average on proximity seeking subscale. The result indicated that there was difference between male and female participants on proximity seeking sub-scale (M = 33.83, SD = 8.47) and (M = 35.57, SD = 5.11) respectively. Participants showed variation on proximity seeking subscales and it implied female participants scored relatively higher mean than male participants.

Table 13: Summary of attachment patterns of orphan children

Variables	Max.	Above	%	Below	%	M	SD
Disorganized	55	107	41.96	148	58.04	33.84	8.47
Male	55	59	42.14	75	65.22	33.90	8.45
Female	55	48	41.73	73	63.48	33.77	8.49
Proximity	45	207	81.17	48	31.43	33.57	5.11
Male	45	123	87.85	19	12.15	33.05	5.01
Female	45	104	96.52	27	3.48	35.09	4.59

\*. The mean difference is significant at the 0.05 level.

### 4.3.1. Sex Difference in Attachment Style

An independent t-test was conducted to see whether males and females differ in their attachment style. The finding indicated that there was no significant difference between male with ( $M = 33.90$ ,  $SD = 8.48$ ;  $t(253) = .125$ ,  $p = .901$ ) and female participants ( $M = 33.77$ ,  $SD = 8.49$ ;  $t(253) = .125$ ,  $p = .901$ ) on disorganized sub scale. However, there was a difference between male participants ( $M = 36.52$ ,  $SD = 4.94$ ;  $t(253) = -2.28$ ,  $p = .008$ ) and female participants ( $M = 34.80$ ,  $SD = 3.51$ ;  $t(253) = -2.28$ ,  $p = .008$ ) based on sex on proximity seeking subscale.

Table 14: Summary of independent sample t-test of sex difference in attachment style

Variables	Group	N	M	SD	Df	T	p-value
Disorganized	Male	140	33.90	8.48	253	.125	.901
Pattern	Female	115	33.77	8.49	253		
Proximity	Male	140	34.80	3.51	253	-.260	.008
Seeking	Female	115	36.51	4.94	253		
Total		255					

\*. The mean difference is significant at the 0.05 level.

### 4.3.2. Attachment Patterns and Age

As presented on table 15 below, t-test mean value comparison showed that their means were not significantly different from each other. There was no statistical significance difference ( $M=33.62$ ,  $SD=8.97$ ), ( $M=34.35$ ,  $SD=7.20$ ) for disorganized attachment pattern and ( $M=34.80$ ,  $SD= 5.03$ ) for proximity seeking pattern respectively.

Table 15: Mean and standard deviation of attachment patterns and age

Variables	Age	N	Mean	Std. Deviation	Std. Error Mean
Disorganized	11-14	178	33.6292	8.97817	.67294
Pattern	15-17	77	34.3506	7.20337	.82090
Proximity	11-14	178	34.8034	5.03104	.37709
Seeking	15-17	77	35.7013	4.24594	.48387

\*. The mean difference is significant at the 0.05 level.

Independent sample t-test indicated that, there was no statistically significant difference between disorganized and proximity seeking patterns of attachment as a function of age at  $t(253) = .623, p = .534$  and  $t(253) = 1.369, p = .172$  respectively. The magnitude of the difference in the mean (mean difference = .721, 95% CI: 3.00 to 1.557) for disorganized and (mean difference = .897, 95% CI: 2.19 to .3923) for proximity seeking pattern.

Table 16: t-test summary of attachment patterns by age of participants

	Age	Equality of Variance	Levine's test of Equality of Variances				95% Confidence Interval Difference		
			F	T	Df	Sig.	Mean difference	Lower	Upper
Disorganized	11-14	Equal							
	15-17	variances assumed	4.935	.623	253	.534	.721	3.000	1.557
		variances not assumed		.680	177.95	.498	.721	2.816	1.373
Proximity	11-14	Equal							
	15-17	variances assumed	1.734	1.369	253	.172	.897	2.189	.393
		variances not assumed		1.464	169.50	.145	.897	2.108	.313

\*. The mean difference is significant at the 0.05 level.

#### 4.3.4. Attachment Patterns and Grade level

List significant different value comparisons on the table 17 below indicated that there was no statistically significant mean difference between disorganized and proximity seeking patterns of attachment due to grade levels of participants with ( $M = 33.69, SD = 8.97$ ), ( $M = 33.80, SD = 8.18$ ) and ( $34.27, SD = 7.97$ ) for each grade levels respectively on disorganized and proximity seeking attachment patterns.

Table 17: Mean and standard deviation of attachment patterns and age

	Grade	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower	Upper
Disorganized Pattern	5-6	113	33.6903	8.97226	.84404	32.0179	35.3626
	7-8	91	33.8022	8.18565	.85809	32.0975	35.5069
	9-10	51	34.2745	7.97516	1.11675	32.0315	36.5176
	Total	255	33.8471	8.47391	.53066	32.8020	34.8921
Proximity seeking	5-6	113	35.2301	4.72457	.44445	34.3495	36.1107
	7-8	91	34.5385	5.22028	.54723	33.4513	35.6256
	9-10	51	35.6863	4.22606	.59177	34.4977	36.8749
	Total	255	35.0745	4.81696	.30165	34.4805	35.6686

\*. The mean difference is significant at the 0.05 level.

One way (ANOVA) was employed to investigate attachment patterns difference as a function of participants' grade level. The findings indicated as there was no statistically significant difference among participants based on their grade level with ( $F, (2, 252) = .085, p = .919$ ) and ( $F, (1, 252) = 1.034, p = .357$ ) for disorganized and proximity seeking attachment patterns respectively.

Table 18: summary of attachment as function of grade level

Variables	Group	Sum Squares	Df	Mean Square	F	Sig.
Disorganized pattern	Between Groups	12.280	2	6.140	.085	.919
	Within Groups	18226.756	252	72.328		
	Total	18239.035	254			
Proximity seeking	Between Groups	47.971	2	23.985	1.034	.357
	Within Groups	5845.613	252	23.197		
	Total	5893.584	254			

\*. The mean difference is significant at the 0.05 level.

#### 4.3.5. Attachment Patterns and Length of Stay in Orphan homes

Descriptive statistics obtained from one way analysis of variance(ANOVA) indicated that the mean score of participants on disorganized attachment pattern was (M= 27, SD = 8.49), (M=35.00, SD=8.35) and ( 33.16, SD= 8.47) respectively for three categories of years of stay in homes. The finding also showed that Participants score on proximity seeking attachment pattern ( M=34.62, SD= 5.09), (35.35,SD=4.88 ) and (M= 35.02, SD= 4.21) respectively for each length of stay in homes. There was no statistically significant mean difference between disorganized and proximity seeking patterns of attachment due to participants length of stay in orphan homes .

Table 19: Mean and Standard deviation of attachment patterns as a function of length stay

Length of Stay	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower	Upper
1-4	74	32.2703	8.49867	.98795	30.3013	34.2393
5-8	131	35.0000	8.35096	.72963	33.5565	36.4435
9& above	50	33.1600	8.47411	1.19842	30.7517	35.5683
Total	255	33.8471	8.47391	.53066	32.8020	34.8921
1-4	74	34.6216	5.09553	.59234	33.4411	35.8022
5-8	131	35.3511	4.88628	.42692	34.5065	36.1957
9& above	50	35.0200	4.21121	.59555	33.8232	36.2168
Total	255	35.0745	4.81696	.30165	34.4805	35.6686

\*. The mean difference is significant at the 0.05 level.

As described in the table 20 below, one way ANOVA was computed to examine attachment patterns difference as a function of participants' length of stay in orphan homes. The finding showed that there was no statistically significant difference on participants attachment patterns due to their variation of stay in orphan homes at (F, (2, 252) = 2.693, P = .070) for disorganized attachment pattern and (F, (2, 252) = .544, P = .581) for proximity seeking patterns respectively.

Table 20: summary of ANOVA on attachment and length of stay

Variable	Group	Sum Squares	Df	Mean Square	F	Sig.
Disorganized attachment	Between Groups	381.721	2	190.860	2.693	.070
	Within Groups	17857.315	252	70.862		
	Total	18239.035	254			
Proximity seeking	Between Groups	25.352	2	12.676	.544	.581
	Within Groups	5868.233	252	23.287		
	Total	5893.584	254			

\*significant  $P < 0.05$ \*

#### 4.4. The Relationship among Resilience, Demographic, and Predictor variables

As per objectives of the current study, Pearson product moment correlation coefficient was carried out to examine relationship among the dependent variable (resilience), independent demographic factors (Sex, Age, Grade level, and Length of stay in orphan homes) and predictor variables (disorganized and proximity seeking attachment patterns). The results were presented in Table( 21) below.

The finding demonstrated that, resilience has statistically significant relationship with age(  $r = .372, n = 255, p < 0.05$  ), grade level  $r = .199, n = 255, p < 0.05$ ) and length of stay of participants ( $r = .107, n = 255, p < 0.05$ ) respectively. There was a statistically significant relationship between proximity seeking pattern with ( $r = .149, n = 255, p < 0.05$ ). However, resilience has also weak and no statistically significant relationship with disorganized attachment pattern sub scale and sex of participants.

Therefore, from independent demographic variables participants higher age, grade level and length of stay of children in orphan homes associated with higher level of resilience. Higher level of resilience also associated with higher level proximity seeking pattern. Whereas sex and disorganized pattern of attachment made no contribution to resilience score.

Table 21: Correlation summary resilience independent and predictor variables

Variables	Correlations	Resilience (DV)
1. Demographic variables (IV)		
Sex	Pearson Correlation	-.035
	Sig. (2-tailed)	.291
	N	255
Age	Pearson Correlation	.372**
	Sig. (2-tailed)	.000
	N	255
Grade level	Pearson Correlation	.199**
	Sig. (2-tailed)	.001
	N	255
Length of stay in homes	Pearson Correlation	.107
	Sig. (2-tailed)	.044
	N	255
Predictor variables (PV)		
Disorganized pattern	Pearson Correlation	.056
	Sig. (2-tailed)	.187
	N	255
Proximity seeking pattern	Pearson Correlation	.149*
	Sig. (2-tailed)	.009
	N	255

\*correlation is significant at 0.05(2-tailed)

\*\*correlation is significant at 0.01(2-tailed)

#### 4.5. The Predictive power of Predictor Variables on Resilience

As it can be inferred from table (22) below, Multiple linear regression was conducted to examine the effect of predictor variables (disorganized and proximity seeking attachment patterns) and independent demographic variables (sex, age, grade, and length of stay in orphan homes) on resilience level. The overall model explained 40.3 percent of variance in overall resilience, which was found to be statistically significant,  $F(6,248) = 8.009$ ,  $p < 0.05$ . Individual demographic predictor variables revealed that age (Beta = .338,  $p < 0.05$ ), grade level (Beta = .181,  $p < 0.05$ ).

Individual predictor variable contributed proximity seeking attachment pattern (Beta = .145,  $p < .05$ ) are significant predictors of overall resilience score. However, disorganized attachment pattern was not a statistically significant predictor of resilience level. Both Predictor variables in nexus (disorganized and proximity seeking patterns) contributed 19(%) of the variance on the dependent variable (resilience). To sum up, higher age, higher grade and proximity seeking attachment levels were associated with higher levels of overall resilience score of orphaned children.

Table 22: Regression analysis summary of resilience of orphaned children (N = 255)

Variables	Unstandardized		Standardized	Sig.				
	Coefficients		Coefficients					
	B	Std. Error	Beta					
1.(constant)	69.725	2.684	-	.000				
Sex	-.280	.894	-.018	.754				
Age	5.602	1.037	.338	.000				
Grade	1.531	1.175	.181	.013				
Length of stay	1.531	.908	.034	.575				
2.(constant)	70.717	3.846	-	.000				
Disorganized	.040	.056	.045	.475				
Proximity seeking	.229	.099	.145	.021				
Mode	R	R <sup>2</sup>	Adjusted R Square	Std. Error	Change Statistics			Sig.
					F	df1	df2	
1a	.383 <sup>a</sup>	.164	.133	7.09233	10.719	4	250	.000
2b	.155 <sup>b</sup>	.024	.016	7.55337	3.107	2	252	.045
1a+2b	.403	.162	.142	7.05415	8.009	6	248	.000

a. Predictors: (Constant), sex, age, grade, length of stay

b. Predictors: (Constant), disorganized pattern, proximity seeking pattern

c. Dependent Variable: resilience

## **V. Discussion**

The main purpose of this study was to examine the relationship between resilience and attachment patterns of orphaned children in selected orphan homes of Addis Ababa. In this chapter, the researcher discussed the findings of the current study in line with the previous studies. To this end, the status of resilience among orphaned children discussed first followed by sex difference on resilience, resilience difference based on age, resilience and grade level, resilience and length of stay in orphan homes presented respectively. Then, attachment patterns of orphaned children discussed as a function of participants sex, age, grade level, and length of stay in orphanage explained one followed by others. At the end, the relationship between resilience and attachment patterns and the predictive power of predictor variables were discussed respectively.

### **5.1. Resilience level of Orphaned Children**

The aim of this study was to examine the relationship between resilience and attachment patterns of orphaned children in selected orphan villages in Addis Ababa. Accordingly the quantitative findings presented to answer the basic research objectives. The finding of the current study suggested that participants scored above the mean on resilience scale. Descriptive statistics indicated that the level of resilience of 191(74.90%) participants were above average and 64(25.09%) of participants scored below average.

Participants obtained ( $M = 80.12$ ,  $SD = 7.90$ ) on overall resilience score. As a result, the obtained mean score was greater than the hypothesized mean score (75) for resilience. This result implied that participants were capable of withstanding adversities; find creative solution, hoping bright future and determination were more evident.

The finding of the current study is consistent with previous researches. For instance, Kaytal (2015) implied orphans had moderate and high level of resilience and it attributed to the development of close and warm social bond with peers. An other investigation indicated that orphan children had significantly higher resilience as compared to non-orphan children (Najama & Yasin, 2012). Local investigation made by Ebabush (2009) confirmed that two- third (69.60%) of orphans were found to be resilient and it indicated their coping and functioning status based on quantitative and qualitative data.

The rest one-third (30.40%) orphans were non-resilient and at risk of developing psychosocial problems. An other local study carried out by Omar (2018) also portrayed that most orphan children were psychologically resilient. In contrary to the present study, Daneshwari et al (2019) revealed that majority (61.3%) of orphaned children had low level of resilience, while only (12.9%) were found above average in their resilience.

### **5.3. Sex Difference on Resilience**

The present study finding revealed that, there was no statistically significant difference on the level of resilience based on sex. The present study was consistent with previous studies. For instance, Belay and Missaye (2014) portrayed as they observed almost equal resilience score between male and female participants. This implies that, there was no statistically significant resilience difference between male and female participants. The current study also supported a research conducted by Daneshwari (2019) implied that resilience level showed no difference due to sex of participants.

In opposite to the current study findings, a study conducted by Widom (2001) reported that females showed a higher level of resilience, individual functioning, and success as compared to males who are at risk due to their ability of securing social support of others. Research conducted by Solomon (2008), illustrated that, males were more resilient than female participants. The reason behind the difference was males were more likely to get the support of family members to ensure recovery and success in life. However, females were likely to sacrifice their education and confined in household chores that leads lower status.

A study which also conducted by Yeshareg (2019) indicated that there was statistically significant difference between male and female orphaned children on their resilience level. According to this study, female participants had relatively higher resilience than their male counterparts. A study conducted by Sobana (2018) stated there was higher level of resilience among female participants than males. The research also indicated high resiliency of female participants was attributed to their inner strength and interpersonal skills. Another investigation conducted by Radhika (2019) asserted there was significant sex difference on resilience.

### **5.4. Resilience difference based on Age, Grade level and Length of stay.**

This section deals resilience difference with age, grade level and length of stay of orphaned children in orphan villages is discussed in relation to the present and existing scientific literature.

In order to meet the research objectives, whether or not resilience score vary based on age, grade and length of stay. One way ANOVA was computed to compare resilience difference based on grade level of the participants. The result obtained showed that there was statistically significant resilience difference between two age groups (11 – 14 & 15 – 17) years of age. The result of this study is consistent with Sun and Stewart (cited in Sobana, 2018) stated as resilience vary a long with participants age.

Majority of the older children exhibited better resilienc score than younger one, because, older orphaned children showed more positive connection with inmates, teachers and others found outside the orphan institutions. Another investigation conducted by Ebabush (2009) believed resilience level vary as a function of age. A study conducted by Solomon (2008) demonstrated that, younger orphaned children were found to be more resilient than relatively older children. The logic behind their higher level of resiliency was their ability to easily adjust care and support provided by non-family members.

The Participants of this study showed level of resilience that could vary based on grade level. The result showed that, as there was statistically significant difference between each grade level. Furthermore, post-hoc multiple comparison using Tukey HSD tests were conducted and the findings indicated that there was significant resilience difference among the three categories of grade levels. More specifically multiple comparison tests identified, participants from grade nine and ten had higher resilience level than elementary school participants. This indicated that when participants of this study pass from lower grade level the next upper grade level, they showed more resilient character.

Inconsistent to this study, Belay and Missaye (2014), found as there was no statistically significant resilience difference between illiterate, 1 up to 4, and 5 to 10 grade orphaned and vulnerable participants. Another point of discussion was the length of stay of orphaned children in homes. The finding of the current study indicated there was no statistically significant resilience score difference between the three groups of orphaned children who have stayed ( 1 – 4, 5 – 8 & 9 and above years) of stay in orphan homes.

### **5.5. Attachment Patterns of Orphan Children**

In the current study, Participants 148(58.04%) were scored below average and 107(41.96%) above average on a disorganized subscale. In the case of proximity seeking subscale, 207(81.17%) of Participants were scored above average.

The descriptive statistics result indicated that there was mean difference ( $M = 33.83$ ,  $SD = 8.47$  and  $M = 35.57$ ,  $SD = 5.11$ ) between males and females on proximity subscale respectively. Participants showed variation for the subscales and it implied as there was a difference in style of attachment of participants having relationships with caregivers when they have been in care homes. In support of the current study, the research conducted by Barbier (2014) noticed that orphaned children mostly seek proximity to their caregivers, most of them have visual contact with their caregivers while the rest explore their surrounding environment. This investigation also asserted contradicting finding, concluding as orphaned children display no sign of insecure pattern of attachment such as avoidance, resistant or disorganized clearly.

### **5.6. Sex difference on Attachment Patterns**

The findings of the current study indicated as there was no significant difference between male and female participants attachment patterns based on sex as obtained. This implied that, being male or female could not be taken as a source of difference in relationship that orphaned children formed with caregivers. In addition, both boys and girls scored relatively higher on proximity seeking subscale than disorganized attachment style subscale. However, girls scored relatively high on proximity seeking subscale than boys.

The current study is consistent with the research carried out by Vorria et al, (2003), which stated that as there was no statistically significant difference between male and female orphaned children on their types of attachment style. In contrary to the current study, an investigation conducted by Ozlem and Nagihan (2008) indicated, dismissive and secure attachment styles were more common in both boys and girls. But, fearful attachment pattern was less frequent in both sex. The study further discussed as there was a difference on attachment style and males were more securely attached than females. However females were fearful in their attachment style.

### **5.7. Attachment Pattern difference by Age, Grade and Length of stay in Orphanage**

The findings of the current study indicated there was no statistically significance attachment pattern difference based on participants' age and grade level. However, participants showed significant attachment difference when they more stayed in orphan homes as compared to newly admitted orphaned children. To date, there was no related scientific literature found by the current researcher regarding attachment difference as a function of age and grade level of participants conducted by local researchers.

Therefore, the discussion made up on this section of the current study emphasized on scientific investigation conducted in other parts of the world. The current research is consistent with investigation conducted by Vorria et al (2003), portrayed no significant difference was found regarding length of stay of placement in orphanage and security in the institution with low quality of care. However, inconsistent with the current study, Howe's and Sengel (1993) stated length of time in orphan home have a significant positive relationship with attachment. As to this study, the longer orphaned children stayed in orphan homes, they become more likely to develop security of attachments.

### **5.8. The Relationship between Resilience and Attachment Patterns**

The finding of the present study demonstrated significant positive relationship between resilience and proximity seeking attachment patterns. Thus, the result indicate, being resilient is associated with proximity seeking attachment patterns of participants have with their caregivers. However, there was no association between resilience and disorganized attachment pattern. As far as the researcher navigated, no local investigations were made related to resilience and attachment relationship of orphaned children in orphan villages.

Thus this part of discussion was made emphasized on researches made by foreigners. The finding of the current study is consistent with some previously conducted researches. For instance, a study investigated by Kathleen (2015), indicated resilience was positively correlated with attachment in all subscales. Another investigation made by Jinka (2016) attachment style positively associated with level of resilience. Furthermore, an investigation which was made by Melissa (2019) declared that, there is a relationship between resilience and attachment patterns. This research addressed insecure attachment styles have association with resilience and yield unique recovery ability than secure attachment patterns.

## VI. Summary, Conclusion, and Recommendation

### 6.1. Summary

The present study was carried out for the purpose of examining the relationship between resilience and attachment patterns of orphaned children in selected orphan homes in Addis Ababa. In order to respond the basic research questions, related literature was reviewed, two theoretical frame works were used; namely ecological system and interaction process theory was used. The study used 25 item resilience scale and 21 item vulnerable attachment style questionnaire validated and adopted from the original scale instruments.

Prior to the main data collection was conducted, pilot study was conducted by taking 30 participants from grade six, seven and eight and based on the findings, validity and reliability were checked with the necessary amendments needed for final data collection. Then after, instruments were distributed to randomly select 278 participants of three purposefully selected orphan homes that have found in Addis Ababa. The main data sample participants were 156 male and 122 female participants were selected using stratified random sampling and involved in the study. After the data was collected, manual inspection carried out to count properly filed questionnaires.

Thus, 255 questionnaires were filed properly, returned and used for final data analysis with no missing value found, while 23 instruments were partially filed and not returned. The collected data was analyzed using both descriptive and inferential statistics for the purpose of describing and checking statistical significance of testes respectively. To this end, independent t-test was used to investigate both resilience and attachment pattern difference based on participants sex, and age. In case, there was significant resilience difference due to the difference of age. However, there was no statistically significant difference between male and female participants.

One way ANOVA was also computed to see resilience and attachment pattern difference as a function of grade level, and length of stay in care homes. Finally Pearson moment correlation and linear regression was used respectively. The result of the study indicated that, 191(74.90) participants scored above average, while 64(25.09%) were below average in overall resilience score. This implies that the status of resilience of current research participant was high. Findings also showed from 115 female participants (73.79% & 25.21%) were above and below the average score respectively .while (75 %) of male participants were above the mean.

Therefore, there was no statistically significant resilience difference of male and female participants of the study. Resilience also showed no difference between participants who have stayed 1 up to 4, 5 up to 8 years and those who have stayed 9 and above years in orphanage. However, resilience statistically significantly differs based on age and grade levels of participants.

This means when the participants' age and grade level increases they become competent, withstand adversity, bounce after traumatic experience and maintain positive growth. The result of the study also demonstrated attachment patterns as a function of sex, age, grade, and length of stay in homes. Participants 148(58.04%) were scored below average and 107(41.96%) above average on a disorganized subscale. In the case of proximity seeking subscale, 207(81.17%) of Participants were scored above average. Female participants preferred proximity seeking patterns of attachment than disorganized patterns. In addition female orphan children need more intimacy, closeness and approval than boys.

There was no significant attachment pattern difference based on length of stay. Finally, Pearson product moment correlation showed that, there was statistically significant positive relationship between resilience and proximity attachment pattern. Multiple linear regression analysis portrayed disorganized and proximity seeking attachments (predictor variables) predict 4.5(%) and 14.5(%) of the change on resilience level. Based on this findings, proximity seeking pattern was better predicts resilience than disorganized attachment pattern of participants.

## **6.2. Conclusion**

The current study has drawn the following conclusions based on the results obtained:

5. The majority of orphaned children who participated in this study found to be above the mean on their resilience score, while the rest were below the mean.
6. There was no significant resilience difference between male and female orphaned children based on their sex.
7. There was a statistically significant difference among two groups of age categories of orphaned children. Orphaned children whose age ranges from fifteen to seventeen years old were more resilient than eleven to fourteen years category of age.
8. There was significant resilience level difference between elementary school orphans and high school orphaned children.
9. Resilience was significantly and positively correlated with proximity seeking attachment patterns of orphaned children had with caregivers in orphan homes.

But, resilience had statistically weak positive significant correlation with disorganized attachment subscale. Both attachment patterns predicated 19% orphan level of resilience.

To sum up, the study genuinely concludes that as there was statistically significant relationship between resilience and proximity seeking attachment pattern of orphaned children. Furthermore, it is possible to infer that proximity seeking attachment can predict and has significant and positive effect on orphaned children level of resilience. However, the findings of the current study hold that attachment patterns were not the only factors that has to be taken as a measure of the level of resilience among orphaned children.

### **6.3. Recommendation**

Based on the findings and conclusions of the current investigation, the following recommendations are forwarded

1. Orphan children care institutions and other stakeholders have to consider rehabilitation and psychosocial programming that enhance current and future level of children's competence beyond basic and survival support.
2. Professionals who are working in orphan care homes need to integrate attachment and resilience on their practices in order to bring the whole development and fulfill the developmental needs of children.
3. Social workers and psychologist should provide training for caregivers and others who have been involving in orphan care institutions and need to know the attachment need of orphan children and provide love, care and support that can boost their attachment security.
4. Further investigations have to be undertaken for more in-depth understanding resilience and attachment patterns of orphan children. In addition, future investigations having both quantitative and qualitative nature will be better to emphasize on resilience and attachment of institutionalized children.

## **6.4. Implication of the Study**

### **6.4.1. Implication for Developmental Psychology Professionals**

As the findings of the current study indicated, majority of male orphaned children score below the mean on proximity seeking attachment pattern. This implied that male orphaned children become unable to form healthy relationship with caregivers, friends and school peers. Thus, developmental psychology professional obliged to provide training on how orphaned children seek care, protection, love and approval of caregivers and form healthy relationship with other in orphan homes. In line with the findings of the current study, developmental psychology professional can also plan, facilitate and follow up psychosocial intervention programs targeting orphaned children in orphan homes.

They conduct pre and post intervention assessment of psychosocial programs to integrate developmental needs based on age of orphaned children. They can also provide education and training for caregivers and other staff members on how to care and support orphaned children who are living on orphan institutions. Furthermore, they can provide professional consultation as orphan care and support should emphasizes on fostering children attachment security and future level of competence.

### **6.4.2. Implication for Orphan care Professionals**

The research findings showed that resilience and attachment patterns are very much important for successful development of orphaned children. Higher level of resilience and secured attachment patterns work as protective factors for psychological problems such as depression, hopelessness and suicidal tendency in orphan children. Findings of the study would further contribute to those psychologists and social workers who are involved in counseling and training of this population.

These results are very important for professionals to find out and deal the problems of orphaned children and to take corrective measures to solve their difficulties concerning high level of attachment insecurity and low level of resilience. Findings are also helpful for teachers and authorities of orphan homes to identify what problems are faced by these orphaned children so as to make them capable of withstanding their problems through proper counseling and guidance services.

### **6.4.3. Implication for Future Research**

The finding of the current study indicated that as there was no statistically significant difference on study variables due selected demographic factors such as length of stay in orphan homes and sex of participants and it is entirely different from most previous studies. Therefore, future research should be studied by considering other demographic variables such as types of orphanhood, times of entry, and number of siblings that can be correlated with resilience and attachment patterns.

Secondly, respondents were taken only from Addis Ababa city and limited number of orphan institutions took part in the study which would have restricted the generalizability of results. Therefore, further studies in this dimension should carry out research taking diversified and larger sample size from different parts of the country.

Fourth, the finding of the current study also demonstrated as there was statistically weak relationship between dependent and predictor variables. Thus, future research better to investigate taking other predictor variables employing Cross-sectional research design along with qualitative measures such as in-depth interview and focus group discussion which would permit the respondents greater liberty to share their insights, problems, interest, views about their feeling and perceptions which would ultimately produce broader and detailed of the research area.

## References

- Abadir ,S.(2015). The psychological wellbeing of AIDS orphans and vulnerable children in three different orphanages in Addis Ababa. Unpublished MA thesis, Addis Ababa University.
- Abushala,G, Jibat,N,&Ayele,T.(2014). The situation of orphan and vulnerable children in selected woredas and towns in Jimma zone . *International journal of Sociology and Anthropology* ,6(9),246-249).
- Abebe,T.& Aase,A.(2007). Children, AIDS and politics of orphan care in Ethiopia. The extended family revised, social science and medicine: 64 (10) 2058-2069.
- Ainsworth,M,S.(1969). Object relations, dependency, and attachment; A theoretical review of infant- mother relationship. *Child development*, 1969-1025.
- Ainsworth,M,S.(1979). Infant- mother attachment, *American psychologist*, 143(10), 932.
- Ainsworth,M,S.(1989). Attachment beyond infancy, *American psychologist*, 44(4) 709.
- Allen, J., & Land, D. (1999). Attachment in adolescence. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 319–335). New York: Guilford.
- Atwine ,B., Cantor- Grade,E.,& Banjunirwe,F,(2005). Psychological distress among AIDS orphans in rural Uganda. *Journal of social science and medicine* 61 (3) : 555-564.
- Barber, B. K. (Ed.). (2009). *Adolescents and war: How youth deal with political violence*. New York, NY: Oxford University Press.
- Barier, C.(2014). Assessing attachment process among early institutionalized orphan in Burkina Faso, Africa, scholar commons. University of Florida.

- Beasley, M., Thompson, T., & Davidson, J. (2003). Resilience in response to life stress: The effects of coping style and cognitive hardiness. *Personality and Individual Differences, 34*, 77-95.
- Behrens, K. Y., Hesse, E., & Main, M. (2007). Mothers' attachment status as determined by the adult attachment interview predicts their 6-year-olds' reunion responses: A study conducted in Japan. *Developmental Psychology, 43*(6), 1553–1567.
- Belay, T. (2005). Resilience and Coping among War-affected children and implications for caring HIV /AIDS-affected children: Analysis of children's experiences in selected Eastern and central African countries. Unpublished Research Report t: Submitted to Bernard Van Leer foundation, the Netherlands .
- Benjamin, M. & Hogan, N.(2012). The prevalence of posttraumatic stress disorders and associated mental health problems among institutionalized orphans in Dares Salaam.
- Bifulco, A.Thohan, J,Horan ,p.and Jacobs.(2003). The vulnerable attachment style questionnaire; an interview derived measure of attachment style that predicate depressive disorderPsychological medicine ,1099-1110.
- Bifulco, A. (2008). Reisk and resilience in young Londoners. London Rutledge.
- BiombaJ,Beard et al .(2010).The scale, impact and scope of alternative care for ovc in developing countries ,review of related literature.
- Bisrat Markos.(2005). Resilience status, risk and protective factors of AIDS orphaned adolescents in 12 kebeles of Addis Ababa. Unpublished MA thesis, Addis Ababa University.
- Bogels, S. M., & Brechman-Toussaint, M. L. (2006). Family issues in child anxiety: Attachment, family functioning, parental rearing and beliefs.*Clinical Psychology*

*Review*, 26, 834-856.

Bonnano, G. A., & Mancini, A. D. (2008). The human capacity to thrive in the face of potential trauma. *Pediatrics*, 121, 369-375. doi: 10.1542/peds.2007-1648.

Bottonari KA, Roberts JE, Kelly MA, Kashdan TB, Ciesla JA. A prospective investigation of the impact of attachment style on stress generation among clinically depressed individuals. *Behav Res Ther*. 2007;45(1):179-88.

Bowlby, J. (1962). Loss, detachment and defense; unpublished manuscript. Child development research unit.

Bowlby, J. (1969). Attachment (vol. I). New York: Basic Bretherton, I., & Munholland, K.

(1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical practice*.

Bowlby, J. (1980). Attachment and loss, vol. 3: loss, sadness, and depression. New York; basic books.

Brody, G. H., Yu, T., Chen, E., Miller, G. E., Kogan, S. M., & Beach, S. R. H. (2013). Is resilience only skin deep? Rural African Americans' socioeconomic status-related risk and competence in preadolescence and psychological adjustment and allostatic load at age 19. *Psychological Science*, 24(7), 1285–1293, doi:10.1177/0956797612471954.

Bronfenbrenner. (1967). Ecology of the family as a context for human development: Research perspectives. *Developmental psychology*, 22, 723 - 747

Browne, K., & Hamilton. Giachrities, C. (2005). *deinstitutionalizing and transforming children's service- a guide to good practice*. Birmingham, UK.

- Brumariu, L., Kerns, K.A., & Seibert, A. (2012). Mother-child attachment, emotion regulation, and anxiety symptoms in middle childhood. *Personal Relationships, 19*, 569-585. New York: Guilford.
- Buist, K. L., Dekovic, M., Meeus, W., & van Aken, M. A. G. (2004). The reciprocal relationship between early adolescent attachment and internalizing and externalizing problem behaviour. *Journal of Adolescence, 27*, 251-266.
- Carle, A., & Chassin, L. (2004). Resilience in a community sample of children of alcoholics: Its prevalence and relation to internalizing symptomatology and positive effect. *Applied Developmental Psychology, 25*, 577-595.
- Cheney, Kristen, E., & Karen Smith Rotabi. (2014). Addicted to orphans: how the global orphan in industrial complex jeopardizes local child protection system. In conflict, violence and peace of children and youth people. Singapore, Springer : vol.11.
- Christian alliance for orphan. (2010). Understanding orphan statistics Cicchetti D. (2010) Resilience under conditions of extreme stress: A multi-level perspective. *World Psychiatry 9*(3): 145–154.
- Connor, K.M. & Davidson, J.T. (2003). The development of new resilience scale; the Connor Davidson resilience scale (CD-RISC).
- Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CDRISC). *Depression and Anxiety, 18*, 76-82.
- Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. (C. Robb & K. Mason, Eds.) (fourth ed.). New York: Pearson Education, Inc.
- Crittenden, P. M. (1992). Quality of attachment in the preschool years. *Development and*

- Psychopathology*, 4, 209–241. doi:10.1017/S0954579400000110.
- Csaky,C.(2009). Keeping children out of harmful institutions. Why we should be investing in family- based care. Published by save the children, London.
- Daneshwari,O. & Sunanda.I.(2019). Resilience among rural orphans. *The pharma innovation journal*; 8(6): 396-399.
- Hamarta E, Ari R. (2005). An investigation of social skills and loneliness levels of university students with respect to their attachment styles in a sample of Turkish students. *Social Behavior and Personality: an international journal*. 2005;33(1).
- Devilis, R.F.(2012). Scale development theory and application. United States of America: sage publications. Inc.
- Dore, Silvers, & Ochsner. ( 2016). To wards a personalized science of emotion regulation . *social and personality psychology*: 10(4) 171-187.
- Dozier M, Zeanach CH, Wallin AR, shauffer C.( 2012). Institutional care for young children: review of literature and policy implications. *The society for the psychological study of social issues*.
- Dozier, M., Stovall, C., Albus ,K., & Baltes, B. ( 2004). Attachment for infants in foster care: the role of caregivers state of mind. *Child development*, 72(5) , 1467 – 1477.
- Deyegrov,Atle.(1991).Greif in children :A handbook for adults. London, Jesica kengsley Publisher.
- Ebabush. (2009). Resilience as a function of sex, age and guardians support among orphan and Vulnerable adolescents. Unpublished MA thesis, Addis Ababa University.
- Elshestawy, E. A., Abo-Elez, W. F., Ashour, H. S., Farouk, O., & El Zaaferany, M. I.(2014). Coping strategies in Egyptian ladies with breast cancer. *Breast Cancer*, 8, 97-102.

- Essau, C. A. (2004). The association between family factors and depressive disorders in adolescents. *Journal of Youth and Adolescence*, 33, 365-372.
- Ethnasios, R., A. *Describing the Care and Treatment of Orphans in Egypt through the Perspectives of Residents, Caretakers and Government Social*. Diss. University of Southern California, 2012.N.p.: ProQuest, 2012.
- Fawzy, N., Fouad, A. (2010). Psychosocial and Developmental Status of Orphanage Children: Epidemiological Study. *Current Psychiatry* 17 (2),41-48.
- Fletcher, D., &Sarkar, M. (2012). A grounded theory of psychological resilience in Olympic 12champions. *Psychology of Sport and Exercise*, 669-678.
- Frankenberg et al.(2013). Education , vulnerability and resilience after natural disaster. National library of Medicine, doi: 10,5751/Es-05377-180216.
- Gibbons, J.A. (2005) Orphanages in Egypt. *Journal of Asian and African Studies* 40, 261-285.
- Gilligan.R.(1999). Enhancing the resilience of children and youth people public care by mentoring their talents and interests ; child and family social work, 187-196.
- Glen,B.L&Wilson.k,p.(2008). African – American adolescent perception of vulnerability and resilience.
- Gunnary , M.R.(2001). Effects of early deprivation. Inc .A, Nelson &M.Luciana (eds).Handbook of developmental neuroscience (pp.617-629). Cambridge, MA: MIT press.
- Hassanin,N,E.(2018). Assessing the resilience of Adolscents who were raised in orphanages in Cairo, Egypt.
- Kathleen,A.m. ( 2015). The relationship of attachment to resilience and their impact to stress. research gares.
- Katyal,S.(2015). A study of resilience in orphan and non-orphan children; *International Journal of multidisciplinary research and development* ,2(7) 323-327, Development Psychology, 25, 343-354.
- Kerns, K.A., Brumariu, L., & Seibert, A. (2011). Multi-method assessment of mother-child

- attachment: Links to parenting and child depressive symptoms in middle childhood.
- Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental view.
- Kruger, L. and Prinsloo, H. (2008). Appraisal and Enhancement of Resilience Model Life's in Middle Adolescents with in school context.
- Lawrence, S. (2006) . The Skills of Helping: Individuals, Families. Groups and *Attachment and Human Development*, 13(4), 315-333. doi: 10.1080/14616734.2011.584398.
- Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine*, 55, 234-247.
- Lewis. (1974). Oxford advanced learners dictionary of current English .(7<sup>th</sup> .ed). London oxford university press.
- Losel F (2012a).Towards a third phase of what works in offender rehabilitation. In: Loeber R and Welsh BC (eds) *The Future of Criminology*. New York: Oxford University Press, 196–203.
- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti& D. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (2nd ed., Vol. 3, pp. 739–795). Hoboken, NJ:Wiley.
- Luthar SS, Cicchetti D and Becker B (2000) The construct of resilience: A critical evaluation and guidelines for future work. *Child Development* 71(3): 543–562.
- Lyubomirsky, S. & Della Porta, M.D. (2010). Boosting happiness, buttressing resilience: Results from cognitive and behavioral interventions. In J.W. Reich, A.J. Zautra, & J.S Hall (Eds.).*Handbook of adult resilience*. (pp. 450-464). New York:Guilford.
- Main, M. (1999). Attachment theory: Eighteen points with suggestions for future studies. In

- J. Cassidy & P.
- Main, M., & Cassidy, J.(1988).Categories of response to reunion with the parent at age 6:Predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology*, 24, 415– 426. doi:10.1037/0012-1649.24.3.415.
- Mariner,P.J, Cacioli,J-P,& Moore, K.A.,(2014). The relationship of attachment to resilience and their impact on stress. Application to social and environmental treat. *Developmental psychology* : Berlin , logos publisher.
- Martin, A. (2002). Motivation and academic resilience: Developing a model for student enhancement. *Australian Journal of Education*, 46, 34-49.
- Maruna S (2001) *Making Good: How Ex-Convicts Reform and Rebuild Their Lives*. Washington, DC: *American Psychological Association*.
- Masten, A. S., Burt, K. B., &Coatsworth, J. D. (2006). Competence and psychopathology in development. In D. Cicchetti& D. Cohen (Eds.), *Developmental psychopathology* (2nd ed., Vol. 3, pp. 696–738). Hoboken, NJ:Wiley.
- Masten, A.S. (2001). Ordinary magic: Resilience processes in development. *America Psychologist*,56, 227-238.
- Masten,A. S. (2014). Global perspectives on resilience in children and youth. *Child Development*, 85(1), 6–20.
- Masten,A. S. (2013). Risk and resilience in development. In P. D. Zelazo (Ed.), *Oxford handbook of developmental psychology:Vol. 2. Self and other* (pp. 579–607).NewYork, NY: OxfordUniversityPress.
- Masten, A. S. 2007. Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, 19, 921-930.

- Masten, A.S. 2001. Ordinary magic: resilience processes in development. *American Psychologist*, 56(3):227-238.
- Matzka M., Mayer H., Köck-Hódi S., Moses-Passini C., Dubey C., et al. (2016). Relationship between Resilience, Psychological Distress and Physical Activity. A Cross-Sectional Observation Study. *PLoS One* 11: e0154496.
- McGloions, J.M., & Widom, C.S.(2001). Resilience among abused and neglected children grown up. *Developmental and psychopathology*, 13(4) 1021-1038.
- Miller C.H.(2008). Educational access for orphan and vulnerable children. Woliso Ethiopia
- Moskowitz, J.T. (2010). Positive affect at the onset of chronic illness: Planting the seeds of resilience. In J.W. Reich, A.J. Zautra & J.S. Hall (Eds.) *Handbook of adult resilience*. (pp. 465-483). New York: Guilford Press.
- Muraven, M. & Baumeister, R.F. (2000). Self-regulation and depletion of limited resources: Does selfcontrol resemble a muscle? *Psychological Bulletin*, 126, 247-259.
- Mwoma, T. & Pillay, J.(2016). Educational support for orphans and vulnerable children in primary schools , challenge and intervention issues in educational research : 26(1).
- Nada-Raja, S., McGee, R., & Stanton, W. R. (1992). Perceived attachments to parents and peers and psychological well-being in adolescence. *Journal of Youth and Adolescence*, 21, 471-485.
- Najama, I & Yasin, G.(2012). Resilience and self-esteem and delinquent tendencies orphan and non-orphan adolescents.
- Nunnally, J.C.(1978). *Psychometric theory* (2<sup>nd</sup>ed). In R.F. DeVellis *Scale development theory and application* ; united states of America: sage publications.
- Nyamukapa C., Monash R, Greeson , S., & Watts, H.(2008). HIV associated orphan hood and

- children's psychological distress theoretical work tested with data from Zimbabwe. *AMJ public health* 98 (1): 133- 141.
- Obradović, J., Shaffer, A., & Masten, A. S. (2012). Risk and adversity in developmental psychopathology: Progress and future directions. In L. C. Mayes & M. Lewis (Eds.), *The Cambridge handbook of environment in human development* (pp. 35–57). New York, NY: Cambridge University Press.
- Omar, S.(2018). Psychological resilience of orphans lost their parents by armed conflict in Somali region. Unpublished MA thesis, Bahirdar university.
- Papini, D. R., &Roggman, L. A. (1992). Adolescent perceived attachment to parents in relation to competence, depression, and anxiety: A longitudinal study. *Journal of Early Adolescence*, 12, 420-440.
- Radhik.B. (2019). Orphan and non-orphan adolescents in relation to subjective wellbeing, self- esteem, emotional intelligence and resilience.
- Rak,CF&Patterson,LE. (1996).promoting resilience in at risk children. *Journal of counseling and development* 74(4)368-373.
- Renschler, C.S., A.E. Frazier, L.A. Arendt, G. Cimellaro, A.M. Reinhorn, and M. Bruneau, 2010, *A Framework for Defining and Measuring Resilience at the Community Scale: The PEOPLES Resilience Framework*, U.S. Department of Commerce National Institute of Standards and Technology, NIST GCR 10-930.
- Richardson, G.E., Neiger, B.L., Jensen, S., &Kumpfer, K.L. (1990). The resiliency model. *Health Education*, 21(6), 33-39.
- Rose, A., 2009, *Economic Resilience to Disasters*, CARRI Research Report 8. Available at [http://www.resilientus.org/library/Research\\_Report\\_8\\_Rose\\_1258138606.pdf](http://www.resilientus.org/library/Research_Report_8_Rose_1258138606.pdf),

accessed on November 2, 2010.

- Rosember,M.(1965). Society and adolescent self-image. Princeton, NJ; Princeton University press. Shaver (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 845– 887). New York: Guilford.
- Rutter, M. 2006.Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences*, 1094, 1-12.
- Rutter, M. (2012) Resilience as a dynamic concept. *Development and Psychopathology* 24(2): 335–344.
- Rutter, M. 2013. Annual research review: Resilience - clinical implications. *The Journal of Child Psychology and Psychiatry*, 54, 474-487.
- Saleebey, D.(2001). Human behavior and social environments: A bio psychosocial approach
- Sam, J.( 2014). The relationship between attachment style and resilience during adolescence. University of British Columbia, Vancouver.
- Save the children Denmark. (2002). HIV/AIDS and its effect on the right of children in Ethiopia, Addis Ababa: save the children.
- Segerstrom SC. (2006). Breaking Murphy’s law: how optimists get what they want from life-and pessimists can too. In: Is an optimist born or made?: the optimistic character revisited. NewYork: *Guilford*; 2006. p. 154–71.
- Sengendo , James & JN.( 1997). The psychological effects of orphan hood : a study of orphan in Raki district. *Heal transit. Rev.* 105-124.
- Shaver (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 395– 433). New York: Guilford. doi:10.1037/0012-1649.35.3.737.
- Smyke ,A.T.,Zeach, C.H., Fox,N.A., Nelson,.C.A.,& Guttrie ,D.(2010). Placement in foster

- care enhance quality of attachment among young institutionalized children. *Journal of child development*, 81(1), 212 – 223.
- Soanes, C., & Stevenson, A. (2006). *Oxford dictionary of English* (2nd Ed). Oxford, UK: Oxford University Press.
- Sobana, R.M. (2018). Comparison of resilience between male and female orphan children. *International journal of research in social science*, 8(5).
- Solomon, W.A. (2008). Resilience among children exposed to traumatic loss. A study of children orphaned by AIDS in Addis Ababa, Ethiopia, retrieved from <http://www.duo.uio.no>.
- Sroufe, A. L., & Waters, E. (1977). Attachment as an organizational construct. *Child Development*, 48, 1184-1199.
- Stangor, C. (2011). *Research methods for the behavioral sciences*. Laureate Education, Inc., custom (4ed). Boston: Houghton Mifflin Company.
- Steinberg, L. and Eisengart. (2009). Pattern of competence and adjustment among adolescents replication in sample of service for juvenile offenders, *journal research*, 1;16(1).
- Stevenson-Hinde, J., & Verschueren, K. (2002). Attachment in childhood. In P. Smith & C. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 182–204).
- Stright, A. D., Gallagher, K. C., & Kelley, K. (2008). Infant temperament moderates relationships between maternal parenting in early childhood and children's adjustment in first grade. *Child Development*, 79(1), 186–200.
- Taddele, Ayode & Kile. (2013). Assessment of community and family based alternative child care service in Ethiopia.
- Taddesse, Dejene and Belay. (2014). Psychological wellbeing of orphan and vulnerable

- children in orphanage in gender town, North West Ethiopia. *Journal of public health and epidemiology* ,6(10), 293-301.
- Tarren–Sweeney, M. ( 2008). Retrospective and concurrent predictor of the mental health children in care. *Children and youth service review*, 30(1), 1 – 25.
- Tefera,B.,& Mulatie,M.( 2014). Risk, protective factors and resilience among orphan and vulnerabl children (OVC) in Ethiopia: implication for interventions. *International journal of psychology and counseling*, 6(3), 27-31.
- The Faith to Action Initiative.(2014). Children, orphanage and families: a research summary to help to guide faith based action. Retrieved from [http:// fathaction.org/wp-content/upload/2014/03/research guide –v9-wte pdf](http://fathaction.org/wp-content/upload/2014/03/research_guide-v9-wte.pdf).
- Tenagne Almu. (2006). Practice of inter country adoption in Ethiopia. Unpublished MA thesis collage of education and behavioral studs, Addis Ababa University.
- Teresa ,A.,& Norman,M.(2019). Accountability of school stakeholders in ensuring orphan children’s school attendance . *south Africa journal of education* : 9(1) 1- 11.
- Thornton, A. (2004). *The Wellbeing of Children and Families*.USA University of Michigan
- Ungar, M., Ghazinour, M., & Richter, J. (2013). Annual research review: What is resilience? within the social ecology of human development. *Journal of Child Psychology and Psychiatry*, 54(4), 348–366.
- Unger, M., Liebenberg, L., Boothroyd, R., Kwong, W., Lee, Leblanc, J., Duque, L. &Makhnach, A. 9 2008) .The Study of Youth Resilience Across Cultures: Lessons from a Pilot Study of Measurement Development. *Research in Human Development*, 5:3, 166-180, DOI: 10.1080/15427600802274019.
- Unicef.(2012).the state of the worlds of children; urbanization. Geneva,swizerland.

UNICEF. (2006). Africans orphaned and vulnerable generation; children affected by AIDS.

New York, USA.

UNICEF. (2014). The orphan crisis in ethiopia & Unaid, (2010). report on the global AIDS

, Geneva, UN.

UNICEF. (2009). Promoting quality education for orphans and vulnerable children. A source

book program exercise in eastern and south Africa, unicef, Zambia, network.

Unicef. (2002). African orphan generation & Unicef. (2006). Children without parental care;

child protection information sheet.

Waller, E., Scheidt, C. E., & Hartmann, A. (2004). Attachment representation and illness

behavior in somatoform disorders. *Journal of Nervous and Mental Disease*,

192, 200–209.

Wanild, G. M., & Young, H.M. (1993). Development and psychometric evaluation of

resilience scale. *Journal of nursing measurement*.

Wenz Gross, M., Siperstein, G. N., Untch, A. S., & Widaman, K. F. (1997). Stress, social

support, and adjustment of adolescents in middle school. *Journal of Early*

*Adolescence*, 17, 129- 151.

Willimson, J., & Greenger, A. (2010). Families not orphanages: better care network working

paper Win Delva, Vercoure, Isablla D, Sarra W, Marteen T, & Lieven A. (2005).

Thinking Ahead: the rising tide of AIDS orphans. *South Africa med J* 95(9) :

656-657.

Winger, L.T, and varlsiner, J. (1992). Children's development with in social context .USA,

Lawrence erbium associates. Inc.

Wolin, S.J. & Wolin, S. (1993). *The resilient self: How survivors of troubled families arise*

- above adversity*. New York, NY: Villard.
- Wood, L. & Goba, L. (2011). Care and support of orphan and vulnerable children at school south Africa. *Journal of education* : 31(2) 275-290.
- Workye ,T.(2015). Psychological wellbeing between institutional and non institutional orphan children in Gulele sub city, Addis Ababa. Unpublished MA thesis, Addis Ababa university.
- Yamane , Taro.(1967). *Statistics : an introductory analysis* , 2<sup>nd</sup> edition, new York: Harper and Span J Psychol. 2010;13(01):210-9.
- Yates, T. M., & Grey, I. K. (2012). Adapting to aging out: Profiles of risk and resilience among emancipated foster youth. *Development and Psychopathology*, 24, 475–492.
- Yeshareg,A.(2018). Psychological problems, coping strategy and resilience of orphaned and non-orphaned vulnerable children in selam childrens village primary school. Unpublished MA thesis, addis ababa university.
- Ye ZJ, Guan HJ, Wu LH, Xiao MY, Luo DM, Quan XM. (2015). Resilience and psychosocial function among mainland Chinese parents of children : a cross-sectional survey. 2015;38(6):466–74.
- Zeanah, C.Smyke,A and Carlson.(2005). Attachment in institutionalized and community children in Romania. *Child development*, 76, 1015-1028.
- Zenebe.(2015). Patterns of attachment, psychological wellbeing and achievement motivation of foster care children in SOS infants of Ethiopia, Un published MA thesis, Addis Ababa university.

## Appendixes A

### Appendix A1 English version survey questionnaire

Addis Ababa University

College of Education and Behavioral Studies

School of Psychology

#### Questionnaire to be filled by respondents

Dear respondents!! I am a postgraduate student at Addis Ababa University School of psychology developmental psychology department. This year, I am doing my master's thesis entitled: resilience and attachment patterns of orphaned children among selected orphan homes in Addis Ababa. And the purpose of this study is to investigate the relationship between resilience and attachment patterns. Thus, any data collected using this questionnaire will be used only for the research purpose. Whatever you will give in this instrument will be kept secret. **Thank you for your cooperation!!!!**

#### Guide

1. On this questionnaire , there is no yes or no question, you choose only what you feel
2. No need of writing your name
3. If you are not comfortable to continue in this study, you can withdraw at any time
4. This instrument contains three parts includes background information, resilience scale, and vulnerable attachment style questionnaire.

#### **I. part one: Background information of participants**

1. Age \_\_\_\_\_

2. Sex    1. Female        2. Male   

3. Grad level \_\_\_\_\_

4. How many years stayed in orphanage? \_\_\_\_\_

## II. Part two: Resilience scale

**Key:** put (X) mark on your choice below?

1. Rarely true 2. Sometimes true 3. True nearly all the time 4. True all the time

S.N	Items	Scales			
		1	2	3	4
1	I am able to adopt changes				
2	I am firm, strong and can withstand adversity				
3	I believe that God can help me				
4	I can deal with whatever comes				
5	I believe that things happen for a reason				
6	I can see the humorous side of things				
7	I believe that coping with stress strengthens a person				
8	I tends to bounce back after grief				
9	I put in my best effort no matter what happens				
10	When things look hopeless , I don't give up				
11	I am able to depend on myself more than any one else				
12	I usually take things in my pride				
13	I believe problems are temporary and will be solved by thinking good in front of me				
14	I know when to turn for help				
15	Under pressure I can think clearly				
16	I prefer to take the lead in problem solving				
17	I am not easily discourage by failure				
18	I take myself as a strong person				
19	My life has meaning				
20	I don't dwell things that I can't do anything about				
21	I have enough energy to do what I have to do				
22	It is okay if there are people who don't like me				
23	I can handle un pleasant feelings				
24	I like challenges				
25	I work to attain my goal				

#### IV. Part three: Vulnerable Attachment style Questionnaire

**Key: put (X) mark on your choice below?**

1.Strongly disagree 2.Disagree 3.Undecided 4. Agree 5. Strongly agree

S,N	Items	Scales				
		1	2	3	4	5
	<b>Disorganized</b>					
1	I take time in getting to know my caregivers					
2	My caregivers let me down a lot					
3	It is best not to get emotionally very close to my caregivers					
4	When my caregivers close to me, I feel un comfortable					
5	I get nerves when my caregivers close to me					
6	I feel my caregivers are against me					
7	I often get in to argument with my caregivers					
8	I feel un easy when my caregivers tells me a secrete					
9	I find it hard to trust my caregivers					
10	I feel my caregivers haven't done enough for me					
11	I find it difficult to confide in my caregivers					
12	Having my caregivers around me can be annoying					
	<b>Proximity seeking</b>	1	2	3	4	5
13	I rely on my caregivers to make decision					
14	I miss the company of my caregivers when I am alone					
15	I usually relay on advice from caregivers when I have got a problem					
16	I worry about things happening to my caregivers					
17	I feel as I am dependent on my caregivers					
18	I look forward to spending time by my Own					
19	I like making decision by my self					
20	I feel anxious when my caregivers get close to me and away					
21	It is important to have my caregivers around me					

**Thank you very much!!!!!!!!!!**

# Appendix B

## Appendix B 1 Amharic version survey questionnaire

### አዲስ አበባ ዩኒቨርሲቲ

### የሰነድ-ትምህርትና ባህሪ ጥናት ኮሌጅ

### የሰነድ-ልቦና ትምህርት ክፍል

ውድ የዚህ ጥናት ተሳታፊዎች!! እኔ በአዲስ አበባ ዩኒቨርሲቲ በሥነ-ልቦና ትምህርት ክፍል የእድገት ስነ-ልቦና የድህረ-ምረቃ ተማሪ ስሆን የዚህ ጥናት ዋና አላማ በመቋቋም ችሎታ እና በአዳጊ ልጆች እና በአሳዳጊዎቻቸው መካከል ያለው የእርስ በርስ ግንኙነት ዝምድና ማጥናት ነው። በዚህ የፅሁፍ መጠይቅ የሚሰበሰበው መረጃ ለመመረቂያ ፅሁፍ መሙያ ብቻ የሚያገለግል ሲሆን የምትሰጡት ማንኛውም ዓይነት መረጃ ለዚህ ጥናት አላማ ብቻ የሚውል እና ሚስጥራዊነቱ የተጠበቀ ይሆናል። ስለትብብራችሁ በቅድሚያ አመሰግናለሁ!!!!

#### ማሳሰቢያ

በመጠይቁ ውስጥ ትክክል ወይም ትክክል ያልሆነ መልስ ባለመኖሩ ከመጠይቁ ካሉት አማራጮች በምትስማሙበት ላይ (X) ምልክት በማድረግ መልስ ስጡ።

1. ስማችሁን መጻፍ አይጠበቅባችሁም።
2. በፈለጋችሁት ጊዜ ተሳትፏችሁን ማቋረጥ ትችላላችሁ

ይህ መጠይቅ ሶስት ክፍሎች አሉት። እነሱም ክፍል አንድ አጠቃላይ መረጃ፣ ክፍል ሁለት ችግሮችን ስለመቋቋም እንዲሁም ክፍል ሶስት በአዳጊ እና አሳዳጊ መካከል ስላለ ትስስር ይሆናል።

#### I. ክፍል አንድ: አጠቃላይ መረጃ

መመሪያ: መልሳችሁን ከስር ባለው ሣጥን ውስጥ የ(X) ምልክት እና በተጨማሪም በክፍት ቦታው ውስጥ መልሳችሁን አስቀምጡ፣ የተቀረውን በጽሁፍ ግለጹ

1. የታ: 1. ወንድ.  2. ሴት
2. እድሜ: \_\_\_\_\_
3. ያንተ/ቺ የትምህርት ደረጃ \_\_\_\_\_
4. ከአሳዳጊዎችህ/ሽ ጋር ምን ያክል ወራት ቆይተህል/ሻል \_\_\_\_\_

**II. ክፍል ሁለት፡ ቸግርን ስለመቋቋም የሚመለከቱ ጥያቄዎች**

ከከተዘረዘሩት አማራጮች በመምረጥ በእያንዳንዱ ጥያቄ ፊት ለፊት የ(x) ምልክት በማረግ መልስዎን ይግለጹ፡፡

መግለጫ፡ 1=እውነት አይደለም 2=አንዳንድ ጊዜ እውነት ነው 3=አብዛኛውን ጊዜ እውነት ነው 4=ሁልጊዜ እውነት ነው

ተ.ቁ	ጥያቄዎች	መለኪያዎች			
		እውነት አይደለም	አንዳንድ ጊዜ እውነት ነው	አብዛኛውን ጊዜ እውነት ነው	ሁልጊዜ እውነት ነው
1	ከለውጦች ጋር እራሴን በቀላሉ ማላመድ እችላለሁ				
2	ጽኑ ፤ጠንካራ እና ቸግርን የምቋቋም ነኝ				
3	ፈጣሪ እንደሚረዳኝ አምናለሁ				
4	ማንኛውንም ሁኔታ ተቋቁሜለ መኖር ዝግጁ ነኝ				
5	ነገሮች በምክንያት እንደሚከሰቱ አምናለሁ				
6	አብዛኛውን ጊዜ የቸግርን ጥሩ ጎን ማየት እችላለሁ				
7	ውጥረትን መቋቋም ሰዎችን ጠንካራ እንደሚያደርግ አምናለሁ				
8	ከሀዘን ቶሎ መመለስ እችላለሁ				
9	ምንም ነገር ይምጣ የራሴን ጥረት ከማድግ ወደኋላ አልልም				
10	ነገሮች ተስፋ አስቆራጭ ቢሆኑም እንኳ እኔ መስራቴን አላቆምም				
11	ከሌሎች በበለጠ በራሴ እተማመናለሁ				
12	በአብዛኛው ጊዜ ነገሮችን ከራሴ በኩል አያቸዋለሁ				
13	ከፊቴ መልካም ነገር እንዳለ በማሰብ ቸግሮች ጊዜዎ እንደሆኑ እና እንደሚፈቱ አምናለሁ				
14	በቸግር ጊዜ ወደ ማን እንደምሔድ አውቃለሁ				
15	በቸግር ውስጥ እያለሁ እንኳን በትክክል አስባለሁ				
16	ቸግሮችን በመፍታት እረገድ እራሴን ቀዳሚ አድርጌ እወስዳለሁ				
17	በውድቀቴ በቀላሉ ተስፋ አልቆረጥም				
18	እራሴን ጠንካራ ሰው አድርጌ እወስዳለሁ				
19	የኔ ህይወት ትርጉም እንዳለው አምናለሁ				
20	ከአቅሜ በላይ ለሆኑ ነገሮች ብዙ እጨነቃለሁ				
21	መስራት የምፈልገውን ለመስራት የሚያስችል በቂ አቅም እንዳለኝ አምናለሁ				
22	የማይወዱኝ ሰዎች ቢኖሩ አያስጨንቀኝም				
23	ጥሩ ያልሆኑ ሰዎችን በቁጥጥሬ ስር ማድረግ እችላለሁ				
24	ፈተናዎችን / ውጥረቶችን/ እንደ መልካም አጋጣሚ እወስዳቸዋለሁ				
25	በማንኛውም ገዜ አላማዬን ለማሳካት እሰራለሁ				

**IV. ክፍል ሶስት፡ የአዳጊ ልጆችን ትስስር የሚመለከቱ ጥያቄዎች**

ከተዘረዘሩት አማራጮች በመምረጥ በእያንዳንዱ ጥያቄ ፊትለፊት የ(x) ምልክት በማረግ መልስዎን ይግለጹ፡፡

መግለጫ፡ 1= በጣምአልሰማምም 2= አልሰማምም 3=በእርግጠኛአይደለሁም 4= አሰማማለሁ 5= በጣምአሰማማለሁ

ተ. ቁ	ጥያቄዎች	በጣምአልሰማምም	አልሰማምም	እርጋጠኛአይደለሁም	አሰማማለሁ	በጣምአሰማማለሁ
1	አሳዳጊዎቼ በጣም ሲቀርቡኝ ምችት አይሰጠኝም					
2	ከአሳዳጊዎቼ ጋር በስሜታዊነት አለመቀራረቤ በጣም ጥሩ ነው					
3	አሳዳጊዎቼን ለመረዳት ጊዜ ይወስድብኛል					
4	አሳዳጊዎቼ እንዳፍር ያደርጉኛኝ					
5	አሳዳጊዎቼ ሲቀርቡኝ ስሜታዊ እሆናለሁ					
6	አሳዳጊዎቼ እኔን የሚቃወሙኝ ይመስለኛል					
7	ብዙ ጊዜ ከአሳዳጊዎቼ ጋር ክርክር ውስጥ እገባለሁ					
8	አሳዳጊዎቼ ሚስጥር ሲያጋሩኝ ይጨንቀኛል					
9	በአሳዳጊዎቼ ለመተማመን ይከብደኛል					
10	አሳዳጊዎቼ ከኔ ጋር መኖራቸው የመረበሽ ስሜት ይፈጥርብኛል					
11	አሳዳጊዎቼ በቂ ነገር እንዳላደረጉልኝ ይሰማኛል					
12	ለአሳዳጊዎቼ ሚስጥር መግለጽ ይከብደኛል					
13	ውሳኔዎችን ስወስን የአሳዳጊዎቼ ድጋፍ ያስፈልገኛል					
14	ብዙ ጊዜ ችግር ሲገጥመኝ የአሳዳጊዎቼን ምክር እሻለሁ					
15	አሳዳጊዎቼ ስለሚሆኑት ነገሮች እጨነቃለሁ					
16	አሳዳጊዎቼ ጋር ጥገኛ እንደሆንኩ አስባለሁ					
17	የራሴን ጊዜ እንደማሳልፍ አመኛለሁ					
18	ውሳኔዎችን በራሴ መወሰን እወዳለሁ					
19	አሳዳጊዎቼ ከቀረቡኝ በኋላ ሲርቁኝ ፍርሀት ይሰማኛል					
20	አሳዳጊዎቼ ከኔ ጋር ሳይሆኑ ሲቀሩ ይናፍቁኛል					
21	አሳዳጊዎቼ ከኔ አጠገብ መሆናቸው ለኔ አስፈላጊ ነው					

**እጅግ በጣም አመሰግናለሁ!!!!!!**

## Appendix C Pilot study result

### Appendix C1 Cronbach's Alpha and item total statistics of resilience scale

Cronbach's Alpha	N of items
.732	25

#### Item-Total Statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	72.8000	138.234	-.031	.851	.741
Item 2	72.6333	127.413	.428	.870	.715
Item 3	72.5000	130.259	.334	.924	.721
Item 4	72.7333	124.547	.517	.907	.709
Item 5	72.9667	119.206	.674	.936	.696
Item 6	73.3333	120.713	.591	.864	.701
Item 7	72.9000	128.921	.325	.951	.721
Item 8	73.1667	122.489	.517	.968	.706
Item 9	72.4000	130.110	.391	.895	.719
Item 10	72.7667	119.357	.752	.880	.694
Item 11	72.3667	135.344	.143	.852	.731
Item 12	72.9667	133.137	.192	.879	.729
Item 13	72.7333	129.720	.355	.793	.720
Item 14	73.1333	128.464	.307	.726	.721
Item 15	73.2000	121.959	.580	.951	.703
Item 16	72.9333	135.030	.105	.979	.733
Item 17	72.8333	130.971	.243	.851	.726
Item 18	72.6667	135.057	.107	.827	.733
Item 19	72.5667	132.737	.169	.861	.730
Item 20	73.1000	140.507	-.122	.781	.747
Item 21	73.1667	133.385	.151	.864	.731
Item 22	73.1333	128.120	.320	.810	.721
Item 23	73.1333	133.775	.151	.911	.731
Item 24	72.4000	112.386	.168	.937	.784
Item 25	72.2667	135.582	.121	.675	.732

## Appendix C2 Cronbach's Alpha and item total statistics of Attachment style questionnaire scale

Cronbach's Alpha	N of items
.834	21

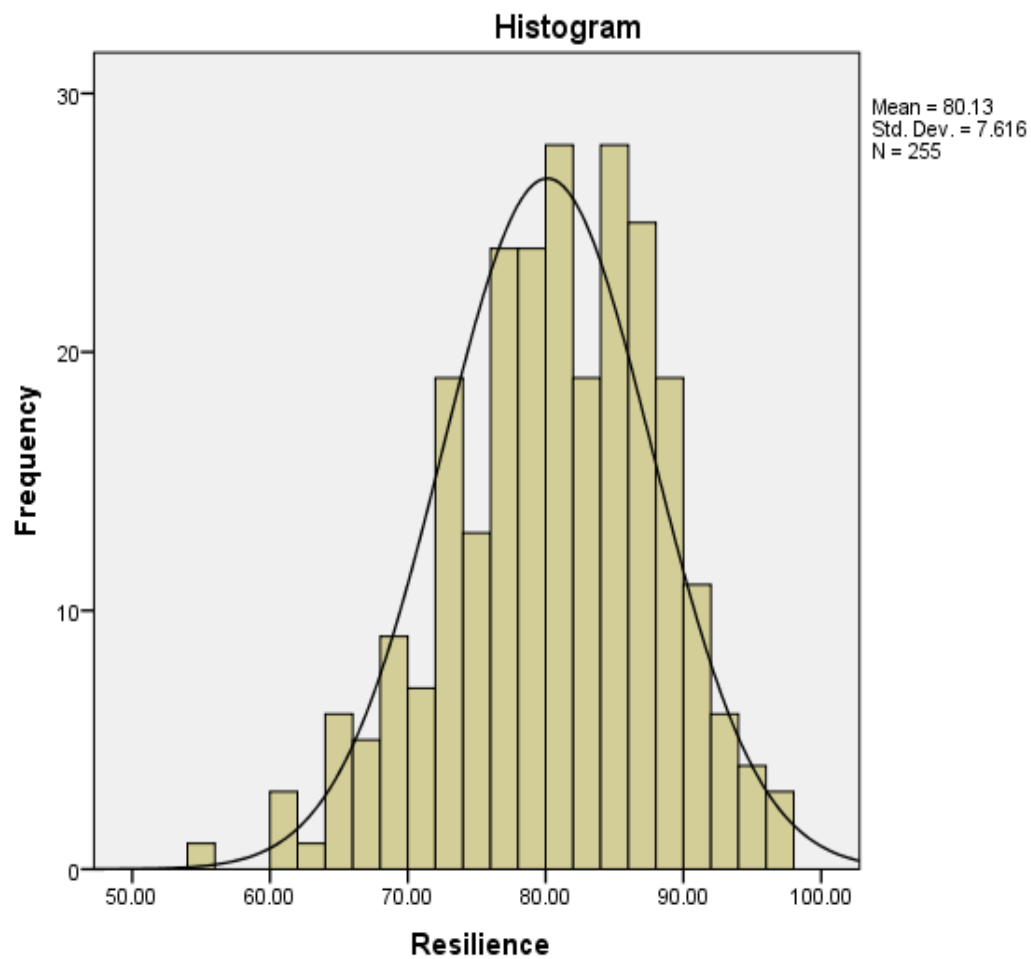
Item-Total Statistics					
Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	66.4333	156.944	.286	.797	.832
Item 2	66.8667	154.878	.276	.906	.833
Item 3	66.8000	153.476	.281	.924	.834
Item 4	67.0333	157.895	.220	.777	.835
Item 5	67.5333	151.016	.389	.644	.828
Item 6	66.9333	172.340	-.217	.830	.855
Item 7	66.8000	162.510	.050	.659	.844
Item 8	67.3667	153.344	.305	.687	.832
Item 9	67.1333	161.223	.101	.779	.841
Item 10	67.6333	138.861	.817	.995	.807
Item 11	67.6000	139.352	.826	.997	.807
Item 12	67.6000	139.352	.826	.991	.807
Item 13	67.4667	139.982	.755	.924	.809
Item 14	67.4667	143.292	.744	.939	.812
Item 15	67.5000	151.224	.478	.848	.824
Item 16	67.5667	150.323	.495	.897	.823
Item 17	67.4000	158.869	.242	.824	.833
Item 18	67.1333	153.844	.414	.885	.827
Item 19	67.1000	153.059	.458	.904	.825
Item 20	66.9667	151.689	.533	.932	.823
Item 21	67.0000	152.207	.433	.866	.826

## Appendix D Test of statistical assumptions Appendix

### Appendix D1 normal distribution measure of skewness and kurtosis

Variables	N	Skewness	Kurtosis
Sex	255	.198	-1.976
Age	255	.007	.353
Grade level	255	.445	.169
Length of stay	255	.385	.761
Disorganized	255	.354	.302
Proximity seeking	255	.683	.357

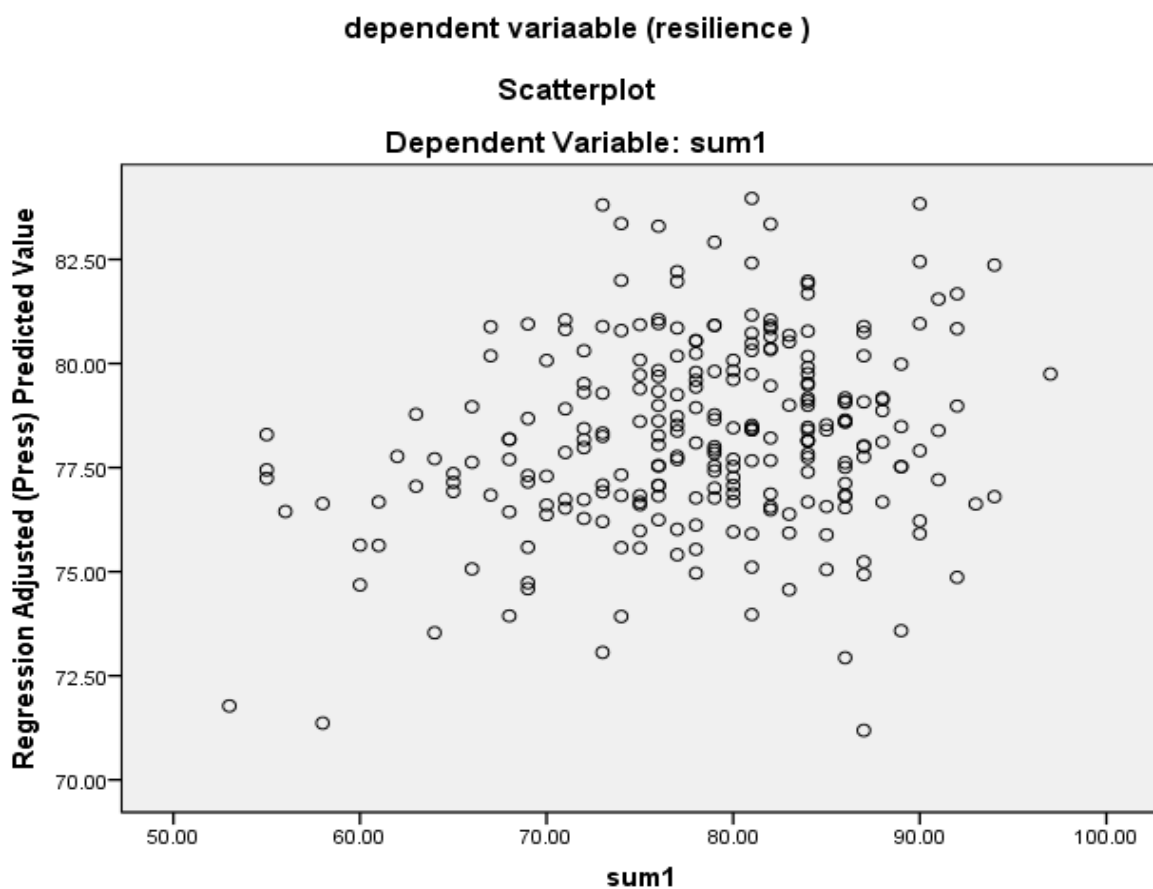
### Appendix D2 Normal probability plot



### Appendix D3: Variance Inflation Factor test result for Assessing Multi collinearity

Model	Independent variables	Collinearity Statistics	
		Tolerance	VIF
1	Sex	.997	1.003
	Age	.861	1.162
	Grade level	.874	1.145
	Length of stay	.953	1.050
2	Disorganized pattern	.990	1.010
	Proximity seeking pattern	.980	1.021

### Appendix D4 Scatterplot of the data ( Homoscedasticity Measures)



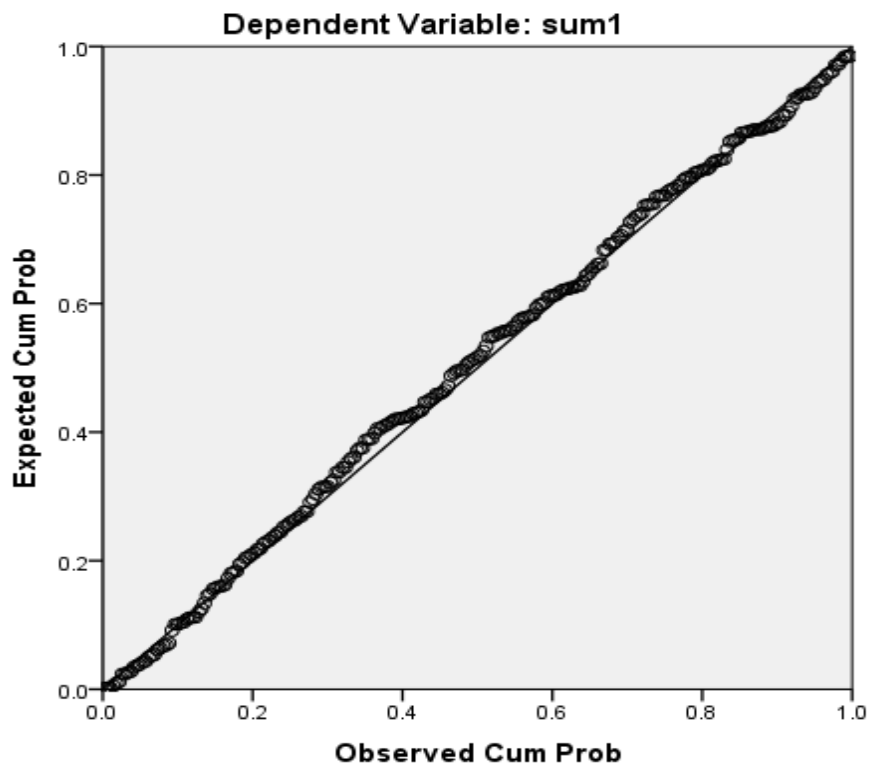
Sum 1= resilience

## Appendix D5 Independent of Residual assumption test using Durbin Watson

Model Summary										
Model	R	R <sup>2</sup>	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.383 <sup>a</sup>	.164	.133	7.092	.164	10.719	4	250	.000	<b>1.979</b>
2	.155 <sup>b</sup>	.024	.016	7.553	.024	3.107	2	252	.045	<b>1.903</b>
a. Predictors: (Constant), sex, age, grade level, length of stay										
b. Predictors: (Constant), disorganized pattern, proximity seeking pattern										

## Appendix D6 Normality Distribution Measures by normal P-P plot of Regression Standardized Residuals

Normal P-P Plot of Regression Standardized Residual



Sum1= resilenc