

Childhood Separation Trauma as a Predisposing Factor to Adult Depression

Michelle Blaeser and Nicole Burgmer

Department of Psychology

University of Cape Town

Supervisor: Professor Mark Solms

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Abstract

Research shows that childhood adversity plays a predisposing role in later depression. However, the association between *childhood separation trauma* and adult depression is not clearly defined within the literature. Studies are either over-inclusive in their definition of trauma, or overly narrow in the selection of highly specific forms of separation. The aim of this study was to determine which forms of childhood separation trauma are the strongest predictors of adult depression. A variety of sources were used to create a scale to measure the construct of *childhood separation trauma*. A pilot version of the scale (Separation Trauma Questionnaire; 45 questions) was administered to a sample of university students between the ages of 18 and 25 years, in conjunction with the Beck Depression Inventory-II (BDI-II). A Principal Components Analysis was used to refine the number of items according to their relative contribution to the scale. A final scale, the Separation Trauma Scale (STS; 19 items; 3 subscales) was derived from the pilot questionnaire. A multiple regression analysis was run on the 3 subscales, as well as the overall scale. The results indicate that the three subscales of separation trauma significantly predict depression scores on the BDI-II ($R = .38$, $R^2 = .15$, $F(3, 271) = 15.36$, $p < .001$). Thus, the subscale scores account for 15% of the variance seen in the BDI-II Total Scores. Furthermore, the results show that the overall STS scale can be used to significantly predict depression ($R = .36$, $R^2 = .13$, $F(1, 273) = 41.75$, $p < .001$). Therefore, the overall STS scale accounts for 13% of the variance seen in BDI-II Total Scores. Further studies are needed to test and validate the final version of the scale.

Keywords: childhood separation trauma, adult depression, separation distress, separation trauma scale, psychological separation, parental loss

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Background

Depression is a common mental illness that affects around 4.4% of the global population – a total 322 million people (World Health Organization [WHO], 2017). Depression and dysthymia are the largest cause of non-fatal health loss in the world, with 80% of this burden falling on low to middle income nations (WHO, 2017). The contemporary understanding of depression has a long history that has significantly evolved throughout time. The earliest concept of depression can be traced to Ancient Greek times, where it was initially known as melancholia (Walker, 2008). The understanding of its aetiology has evolved tremendously since then, and it has gone from being considered as a religious punishment for misdeeds (Walker, 2008) to being understood as a mental disorder with various contributing factors (American Psychiatric Association, 2013). However, even ancient Greek philosophers such as Plato postulated causal factors that remain relevant today, such as family dynamics and events occurring in childhood (Walker, 2008). Towards the beginning of the 20th century, the study of depression shifted from philosophers to psychologists. Freud (1917/1950) published his seminal work, *Mourning and Melancholia*, wherein he proposed that melancholia mimics grief. He stated that grief is triggered by the loss of a “loved object” (p. 154), which (a) does not have to be a person, but can be an ideal, a familiar place, or a form of freedom, and that (b) the object does not have to be dead, but merely lost as an object of affection. Furthermore, he states that loss of affection *from* the “loved object” can trigger grief, even when the person is not consciously aware of “what has been lost” (p. 155).

Since this classic publication, melancholia has been newly conceptualized as depression, and extensive research into its aetiology has continued. Many modern researchers have explored the connection between the early loss of a loved object and later depression. The loss of a loved object was initially operationalized as the loss of a parent, due to bereavement (e.g.: Brown, 1961) or physical separation (Brown, Harris, & Copeland, 1977). Later researchers have also conceptualised loss as a separation in the parent-child relationship, even in the absence of physical separation (e.g.: Oakley-Browne, Joyce, Wells, Bushnell, & Hornblow, 1995). Psychological factors resulting in the loss of the parent-child bond may range from physical abuse to neglect (for a review, see Mandelli, Petrelli, & Serretti, 2015). More recently, advances in neurophysiology have allowed researchers to monitor the neurochemical processes associated with early attachment and separation-distress. This led to claims that these separation

experiences (or losses) leave permanent effects on the brain and play an epigenetic role in predisposition to later depression (for a review of these processes, see Watt & Panksepp, 2009).

Physical Separation Factors

In the 1960's, Freud's concept of the loss of a loved object was first operationalized as loss of a parent due to death (Brown, 1961; Dennehy, 1966; Forrest, Fraser, & Priest, 1965). Thereafter, this operationalization was extended to include physical parent-child separation, both permanent and temporary (Agid et al., 1999; Brown et al., 1977; Roy, 1978; Roy, 1985). Permanent physical separation is defined as a parent (or child) moving to a permanent separate residence (Agid et al., 1999), whilst temporary physical separation has been defined as a separation between the parent and child for a period of 6 or more consecutive months (Finlay-Jones, Scott, Duncan-Jones, Byrne, & Henderson, 1981). Temporary separation may arise due to the parent travelling for work, hospitalization of the parent or child, or the child attending boarding school (Finlay-Jones et al., 1981). Studies of these childhood events found that both bereavement (Dennehy, 1966), and permanent and temporary parental separation (Gregory, 1958; McLeod, 1991; Roy, 1985) are significant predictors of adult depression.

In the 1980's, reviews of the literature on parental loss took divergent views of the findings. Crook and Eliot (1980) did not find sufficient support for the claim that *childhood bereavement* predisposes adult depression. However, Lloyd (1980) found ample support for the claim that *childhood loss of a parent* (for example due to divorce) predisposes adult depression. Furthermore, when "loss" of a parent in childhood was operationalized beyond actual death, it had more power to predict depression in adulthood. Later and more recent studies have continued to find a significant relationship between loss of a parent in childhood and heightened levels of adult depression (Agid et al., 1999; Berg, Rostila, & Hjern, 2016; Brown et al., 1977; Feigelman, Rosen, Joiner, Silva, & Mueller, 2017).

Post-1980's, researchers began to explore whether studies in the field of depression could be further expanded to encompass more of Freud's theory on loss of a "loved object" (Freud, 1917/1950, p.154). This led to a shift in the range of childhood separation experiences that were considered as possible aetiological factors of adult depression. Researchers stopped limiting their investigations to physical loss as a predisposing factor. They began to consider the loss of an idea – in this case the ideal parent-child relationship. The shift towards this expanded

conceptualization of loss/separation introduced the notion of psychological separation, which includes numerous factors discussed below.

Psychological Separation Factors

Psychological separation comprises of factors which are not related to physical separation from the parent, but rather the loss of a psychological bond. One factor linked to such psychological separation is physical abuse from the child's caregiver. Physical abuse involves harming a child's health and dignity – and affectionate bond – through the intentional use of physical force towards the child (Mandelli et al., 2015; Norman et al., 2012). Physical abuse has been related to diverse negative mental health outcomes in adulthood (Fergusson, Boden, & Horwood, 2008). More specifically, studies have shown an association between childhood physical abuse (by caregiver) and adult depression (Malinosky-Rummell & Hansen, 1993; Springer, Sheridan, Kuo, & Carnes, 2007).

Another separation-linked abuse factor to consider is sexual abuse. Sexual abuse is described as involving or exposing a child to sexual activities and acts that they may not comprehend, nor consent to (Mandelli et al., 2015; Norman et al., 2012). Childhood sexual abuse may have long-term consequences for individuals. One such consequence may be poorer mental health outcomes. Studies show that individuals who experienced sexual abuse as a child are more likely to develop later depression than those who did not experience sexual abuse (Brown, Cohen, Johnson, & Smailes, 1999; Weiss, Longhurst, & Mazure, 1999). Finally, the odds ratio for childhood sexual abuse is 7 times greater for individuals with depression (Cutajar et al., 2010). This illustrates the increased likelihood of developing the disorder, as well as the strong relationship between sexual abuse and depression (Cutajar et al., 2010).

Another separation factor to consider is childhood emotional abuse. This is described as a pattern of behaviour that may adversely affect a child's psychology and emotional development (Mandelli et al., 2015). It involves aspects such as criticizing, insulting, and refusing to touch the child (Mandelli et al., 2015). This is an important aspect to consider as many researchers have shown that emotional abuse is strongly linked to chronic or recurring adult depression (Bifulco, Moran, Baines, Bunn, & Stanford, 2002; Chapman et al., 2004; Fisher et al., 2013; Li, D'arcy, & Meng, 2016). One meta-analysis states that amongst childhood maltreatment, psychological abuse and neglect are most strongly related to depression (Infurna et al., 2016). Additionally,

Gibb, Chelminski and Zimmerman (2007) found that childhood emotional abuse is more strongly related to depression than physical or sexual abuse.

Childhood neglect, both physical and psychological, is another factor that can be experienced as a type of psychological separation. Neglect involves a deficit in providing for all facets of the child's needs and well-being (Mandelli et al., 2015; Norman et al., 2012). These needs may include physical, psychological, educational and health factors, amongst others (Mandelli et al., 2015; Norman et al., 2012). A variety of studies have shown a link between childhood neglect and a range of psychopathological outcomes (Cohen, Brown, & Smailes, 2001; Wark, Kruczek, & Boley, 2003). Other studies have shown a link between childhood neglect and adult depression specifically (Bifulco et al., 2002a; Widom, DuMont, & Czaja, 2007). This is further evidenced by a systematic review and meta-analysis done by Norman et al. (2012). The review shows that neglected individuals are more likely to develop depression than non-neglected individuals (Norman et al., 2012).

Another factor that could contribute to psychological separation is the quality of early attachment. According to Bowlby (1969), attachment is a strong affectional tie that connects a person to a close companion. In this context, the attachment is between the child and the parent. Attachment theory has been strongly associated with understanding depression (Bifulco et al., 2006). However, findings related to the specific relationship between attachment and depression are diverse. Some studies attribute depression to only fearful and angry-dismissive (adult) attachment (Bifulco et al., 2006). Fearful attachment is an insecure attachment style that involves high avoidance, as well as high anxiety and dependence (Murphy & Bates, 1997). Such fearful attachment further comprises of fear of rejection and subsequently, high mistrust levels (Bifulco, Moran, Ball, & Bernazzani, 2002). Further, angry-dismissive attachment shares many overlapping characteristics with fearful attachment. It is also a type of insecure attachment that involves high mistrust, as well as conflict/anger in close relationships (Bifulco et al., 2002b). Since these attachment styles share many characteristics, it makes sense that these two attachment styles are related to depression. On the other hand, enmeshed attachment may also be attributed to depression (Bifulco et al., 2002b). Enmeshed attachment involves high dependency within close relationships, low mistrust and high distress when separated (Bifulco et al., 2002b). Alternatively, secure social attachment may be linked to decreased risk for adult depression (Watt & Panksepp, 2009). This is relevant, as secure attachment is related to a parent who is

sensitive and responsive to the needs and emotional signals of their child (Sigelman & Rider, 2014).

Furthermore, stress may play a moderating role in the relationship between poor attachment and depression, as early attachment influences stress physiology, which in turn influences vulnerability to depression (Watt & Panksepp, 2009). Overall, there is a very prominent link between separation and stress, and separation has been considered as a catalyst in the activation of enduring stress cascades (Watt & Panksepp, 2009). This link can be viewed from infancy, whereby infants exhibit separation anxiety (cautious and unsettled behaviour) when separated from a parent (Sigelman & Rider, 2014). Neuroanatomically, the brain physiology related to both attachment and stress encompasses many associations (Watt & Panksepp, 2009). Early life separation-distress permanently alters the hypothalamic-pituitary-adrenal (HPA) axis, as well as elevates the corticotrophin-releasing factor (CRF; Watt & Panksepp, 2009). These alterations facilitate the separation state, as CRF initiates the HPA axis neuroendocrine stress response, which largely regulates the cortisol production rate (Honour, 1994; Zorrilla, Logrip, & Koob, 2014). Therefore, these alterations are associated with chronically raised cortisol levels. This is further associated with increased stress-related behaviours and ultimately, depression (Arborelius, Owens, Plotsky, & Nemeroff, 1999; Watt & Panksepp, 2009). Therefore, it is important to understand that both early life separation and stress may have long-lasting negative consequences.

Rationale and Hypothesis

Although many researchers agree on theoretical grounds that there is an aetiological relationship between early childhood separation events and depression, empirical support for this claim is unsatisfactory to date (e.g.: Pariante & Lightman, 2008; Sanchez, Ladd, & Plotsky, 2001; Watt & Panksepp, 2009). Therefore, a comprehensive study of separation-linked traumas is needed to determine whether *childhood separation trauma* significantly predicts adult depression. *Childhood separation trauma* is herein operationalized as a child-parent separation caused either by a physical- or psychological- separation factors. Physical separation can be attributed to parental death, as well as permanent or temporary separation due to divorce, parental work travel, or hospitalization (Negele, Kaufhold, & Leuzinger-Bohleber, 2016). Psychological separation can be caused by a range of parent-child interactions that lead to a

separation in the bond between a parent and child, even in the absence of a physical separation. This may include factors such as poor attachment, rejection, emotional unavailability of a parent, as well as abuse and neglect (Negele et al., 2016; Waite & Shewokis, 2012; Watt & Panksepp, 2009).

The primary aim of this study is to test the hypothesis that *childhood separation trauma* experiences predispose individuals to adult depression. Much of the dearth in the literature on separation can be attributed to a poor operationalization of key terms. *Childhood separation trauma*, as defined above, is often compartmentalized into various components. This means that many studies only focus on one highly specific component of separation, such as physical separation due to only parental death, or temporary separation due to work travels. In isolation, very few individual components of separation trauma have strong predictive power (Mandelli et al., 2015; Negele et al., 2016). This suggests that specific components of separation may not be able to significantly predict the possible onset of adult depression on their own. On the other hand, studies that do consider multiple components of separation trauma are often over-inclusive, and include general traumas unrelated to separation. These may include factors such as community violence and peer relationships (Mandelli et al., 2015).

The secondary aim of this study is to develop a scale to specifically measure this broader operationalization of separation, which excludes general traumatic experiences not related to separation. Although many self-report scales on childhood trauma exist (Roy & Perry, 2004), no current scale has been designed to exclusively measure *separation* trauma – in all its forms and as opposed to trauma in general. Existing scales are either too focused on overly narrow definitions of separation, or are too over inclusive in their definitions of trauma (for a review of existing scales, see: Roy & Perry, 2004). The development of this unique scale will allow the primary hypothesis to be tested.

Methods

Design and Setting

This study was situated in the quantitative paradigm. It formed the second phase of a larger study: “Epigenetic influences on Mood Phenotype: Early Separation Experiences”. In phase one of the study, the principal investigator (Professor Mark Solms) completed a structured interview of life events with 10 depressed and 10 control (non-depressed) participants ($n = 20$),

from the University of Cape Town (UCT). The participants were a target sample classified according to their scores on the Beck Depression Inventory-II (BDI-II). They were drawn randomly from the top 100 and bottom 100 scorers in a total sample of 2000 students. Additionally, the principal investigator interviewed either the mother or father of these participants to verify the information they provided. The interviews covered *all* childhood separation events that have been associated with adult depression in the literature.

In phase two of the study, an analysis of these interviews was used in conjunction with findings from the literature and expert opinion to derive an initial pool of items for a Separation Trauma Questionnaire (STQ). The STQ was administered online to a larger sample of UCT students ($n = 275$), in conjunction with the BDI-II and demographic and screening questions. Once data had been collected, factor analysis was used to shorten and refine the questionnaire to form the final Separation Trauma Scale (STS). Multiple regression was then used to test whether *childhood separation trauma* (as measured by the STS) is predictive of adult depression (as measured by the BDI-II).

Participants

Participants consisted of 275 psychology students that were recruited via the Student Research Participation Program (SRPP) at UCT. SRPP is a program that allows undergraduate psychology students to obtain course credits by participating in various research projects. All UCT psychology students aged 18 to 25 years were eligible to participate. This is a form of convenience sampling, which is appropriate for testing a hypothesis about an association that is regarded to be universal (Terre Blanche, Durrheim, & Painter, 2006). The age criterion was necessary to ensure that the sample was relatively close in terms of their age, and stop possible confounding factors from more life experiences in older individuals. The age range was based on the assumption that most undergraduate students would meet this criterion. There were no other exclusion criteria.

An a priori power analysis was performed to estimate the required sample size needed before data was collected. The estimated effect size was based on previous literature relating to childhood separation and adult depression (for a review, see Mandelli et al., 2015). No study to date has tested effect size for the full gamut of factors we classified as *childhood separation trauma*. Thus, we looked at the effect sizes of childhood separation and adversity studies, as

these have many overlapping components with our construct. A review of this literature indicated that isolated components of separation have effect sizes ranging from .09 to .88 (Mandelli et al., 2015). The power analysis indicated that in order to achieve a power of .80, with an α error probability of .05, 759 participants are needed for an assumed effect size of .09, and 5 participants are needed for an assumed effect size of .88 (G-power: Faul & Erdfelder, 1992). If an effect size of .50 is assumed, as a compromise between these extremes, 94 participants are required to achieve a power of .80 (G-power: Faul & Erdfelder, 1992). Due to the variability of possible effect sizes, a larger sample than necessary ($n = 275$) was used, in order to retain a power of .80 even if the effect size was significantly lower than assumed.

A post-hoc power analysis was performed to test whether the estimated power of .80 was achieved. The analysis indicated that with the sample size ($n = 275$), effect size (.15) attained and alpha level set to .05, the power achieved was .81. This indicates that the sample was an adequate size for the study.

Measures

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report questionnaire that measures depression severity and is used to screen for depression in clinical and non-clinical samples (Beck et al., 1996; Storch, Roberti, & Roth, 2004). The degrees of depression severity are: minimal (0-13); mild (14-19); moderate (20-28) and severe (29-63). In the original validation study, the test-retest reliability of the BDI-II was found to be 0.93, and the Cronbach's alpha value 0.91, showing that the test has high internal consistency (Beck et al., 1996; Steer, Kumar, Ranieri, & Beck, 1998). Steer, Ball, & Ranieri, and Beck (1999) found both construct and convergent validity for this measure.

Demographics and screening questions. Participants were asked to indicate their age, nationality, and home language (Appendix A). Age was used to determine if participants met the study criterion. Home language and nationality were used to clarify the context in which the scale was developed. Screening questions were used to determine whether participants had a diagnosis of bipolar disorder, or had ever taken medication for bipolar disorder (Appendix A). Bipolar disorder has a stronger heritability factor than Major Depressive Disorder ($h^2 = .62$ and $h^2 = .32$, respectively; Wray & Gottesman, 2012). Therefore, the inclusion of participants with bipolar disorder renders genetic influence a potentially confounding factor. This study focuses on an environmental factor (separation trauma), thereby warranting the exclusion of this data.

Separation Trauma Questionnaire (STQ). This questionnaire was compiled using findings from the literature, interviews from phase one of the study, and expert opinion. The questionnaire (Appendix C) consisted of 45 items with dichotomous, categorical, and Likert-like formats. Of the items that were of a categorical nature, the groupings were selected based on categories commonly used within the literature. The STQ is not a validated measure, and was merely used as a pilot version of the STS.

Separation Trauma Scale (STS). This scale is the refined, scored version of the STQ. It consists of 19 items with 3 subscales (Appendix E). These subscales are *Mother Psychological Separation*, *Father Psychological Separation* and *Stressful Home Environment*. This scale covers a range of psychological separation experiences that may occur in childhood. It has an overall Cronbach's alpha value of .90, and each subscale has a Cronbach's alpha value above .70.

Procedure

This study began with a review of the interviews from the first phase. This review was not intended to be a thorough qualitative analysis of the data, but rather to identify prominent differences in responses between the depressed and control groups. The depressed group ($n = 10$) had higher instances of psychological separation for aspects such as rejection by a parent, perceived hostility from a parent, and wanting more attention from a parent. All separation items that discriminated well at face value between the depressed and control groups were included in the pilot questionnaire. Further, childhood separation events that were most strongly acknowledged in the literature as predisposing factors to adult depression were used to create additional items for the questionnaire. The additional thorough review of the literature was used to identify potentially relevant aspects of separation that may not have been detected with the small sample size used in the first phase of the study. All proposed items were reviewed by an expert in the field (Professor Mark Solms), before inclusion in the pilot questionnaire. Thus, a three-step process of 1) interview review, 2) a thorough exploration of the literature, and 3) expert consultation was used to design a 45-item Separation Trauma Questionnaire (STQ).

The STQ, as well as the BDI-II and demographics and screening measures were administered online to a larger target sample ($n = 275$) of UCT psychology students. It was administered via the platform SurveyMonkey. After using the demographic measure to ensure the eligibility criterion of age was met, the data was further screened before inclusion in the

analysis. Any participants who had a bipolar diagnosis, or were taking medication for bipolar disorder were excluded from the analysis due to the high heritability of the disorder. After all participant data was collected, the STQ was refined to form a shorter, scored version: the Separation Trauma Scale (STS). The STS was assessed for internal consistency using Cronbach's alpha and the individual items were assessed using item-total correlations. The scale was considered sufficiently reliable for research purposes ($\alpha = .90$), and was therefore used to test the main hypothesis, namely that *childhood separation trauma* is a predisposing factor to adult depression.

Ethical Considerations

This study was granted ethical clearance by the Department of Psychology Research Ethics Committee. Each participant completed an informed consent form (Appendix B) before beginning the survey. Data was only collected once participants had given consent to participate. This informed consent notified participants of the nature of the study, and stated that the questionnaire required participants to recall potentially distressing childhood events. Participants were awarded SRPP points for compensation for their participation. Participation in the study was voluntary, and participants could discontinue participation without consequence. All data remained confidential and was only used in the form of group data. Due to the nature of the questionnaire, a debriefing form (Appendix D) was included at the end of the survey. This clarified the nature of the study and offered additional support, if needed.

Statistical Analyses

All statistical analyses were performed using the IBM Statistical Package for the Social Sciences (SPSS 24) statistical package.

Principal Components Analysis is a psychometrically sound procedure (Stevens, 2009) used to reduce multiple variables into a few underlying principal components that explain a large proportion of the variance observed in the individual variables (O'Rourke & Hatcher, 2014). This type of analysis is useful for scale development, as it can be used to empirically determine which items are measuring the same underlying constructs (Stevens, 2009). Principal Components Analysis was used to reduce the items into subscales, as well as to test whether the subscales measure the same underlying construct. In order to select the number of components to be retained in the scale, Horn's parallel analysis was used (Horn, 1965). Parallel analysis may

result in a selection of too many factors, thus simulative parallel eigenvalues were selected at a confidence level of 95%, in order to decrease Type I error (Çokluk & Koçak, 2016). Components in our data set with eigenvalues greater than the 95th percentile generated eigenvalues were retained, as there is a less than 5% chance that they were obtained by chance. The simulated data was created using an online parallel analysis engine (Patil, Singh, Mishra, & Donovan, 2007).

In order to determine which components best represent the items in the scale, the component axes are often rotated to strengthen the loading of items onto a single component (Field, 2013). An orthogonal rotation is best suited for independent components, whilst an oblique rotation is recommended if the underlying components of the scale are theoretically related (Field, 2013). The correlations between factors can be determined by examining the component transformation matrix of a Principal Components Analysis with orthogonal rotation. A symmetrical component transformation matrix indicates that orthogonal rotation is appropriate, whereas an unsymmetrical matrix suggests the need for oblique rotation (Field, 2013). Once the analysis was performed with the correct rotation, it was necessary to determine which items load best onto the extracted components. A component loading of .40 and above is considered to be meaningful (Stevens, 2009). It is recommended to remove items that do not correlate strongly with any component, or cross-load onto more than one component with a correlation greater than .40 (Beavers et al., 2013). The analysis was re-run after the exclusion of poor items as measured by these characteristics (Beavers et al., 2013). Items that did not load meaningfully onto any component, as well as items that loaded meaningfully onto more than one component were excluded from analysis.

Each subscale and the overall scale was tested for internal consistency using Cronbach's Alpha (Tredoux & Durrheim, 2013). A scale is considered suitable for research purposes if it has an alpha value of .70 and above, and is considered suitable for applied use if it has an alpha value of .90 and above (Tredoux & Durrheim, 2013). Item Total Correlations (ITC's) were used to further check for poor items. Items with an ITC of less than .20 are considered to be poor reflections of the participant's overall score (Tredoux & Durrheim, 2013), and were considered for revision or removal.

Multiple Regression Analysis was used to test whether the participant scores on the subscales could be used to significantly predict depression. Multiple Regression Analysis allows for the compilation of a predictive model consisting of multiple variables (or subscales) with

differing predictive power. All subscales were entered into a simultaneous regression as predictor variables, with the outcome variable being depression (as measured by the BDI-II). The Principal Components Analysis of the subscales indicated that they measured a single underlying construct. Therefore, linear regression was used to test the hypothesis that separation trauma in childhood (measured by the STS) predicts adult depression (measured by BDI-II scores).

Results

Eligible Participants

Initially, 292 participants completed the online survey, of which 275 were retained for the final analysis. Participant responses were excluded for three reasons: (a) not meeting the age criteria ($n = 4$), (b) having a diagnosis of bipolar disorder and/or taking medication for bipolar disorder ($n = 7$), or (c) for completing the survey multiple times ($n = 6$). In the case where a participant completed the survey more than once, their first response was retained and subsequent responses were excluded. All following analyses were conducted on the retained responses ($n = 275$).

Demographics

Table 1 shows a variety of demographic information related to the sample. The majority of the sample consisted of participants who were English first language speakers ($n = 198$; 72%). The survey was conducted in English and participants were university students at UCT, which requires a high proficiency in English. Therefore, items should have been well understood, regardless of the participants' home language. Additionally, most of the participants were South African ($n = 250$; 90.90%), deeming the results applicable to a South African population. Most of the participants identified as female ($n = 223$; 81.10%). This oversampling of the female population was considered beneficial, as women are disproportionately affected by depression in comparison to men (Weissman et al., 1996). Finally, slightly over half of the participants ($n = 156$; 56.70%) had low depression scores (0-13), whilst a small amount had severe depression scores ($n = 22$; 8%). This is relevant, as there is an overrepresentation of low depression scores. This may have influenced the analysis of results, as the main hypothesis involved testing for a relationship between early separation and adult depression. Thus, having a low number of participants with depression may have underestimated this relationship.

Table 1.

Sample Demographics.

		Frequency	Percent
Home Language	English	198	72.00
	S.A. Official Language	70	25.50
	Other	7	2.50
Nationality	South African	250	90.90
	Other	25	9.10
Gender Identity	Male	52	18.90
	Female	223	81.10
Depression Scores (BDI-II)	Low Depression (0-13)	156	56.70
	Mild Depression (14-19)	56	20.40
	Moderate Depression (20-28)	41	14.90
	Severe Depression (29-63)	22	8.00

Scale Development

Stage one: item selection. The 45-item Separation Trauma Questionnaire (STQ) consisted of 4 items with a dichotomous yes-no answer format, 10 categorical items with ordinal scales (4-point and 5-point), and 31 Likert-like items. Of the 31 Likert-like items, 13 were on a 4-point scale ranging from “Strongly Disagree” to “Strongly Agree”, and 18 were on a 6-point scale ranging from “Never” to “Always”. The 6-point Likert-like scales were converted into 4-point scales for greater comparability, by collapsing together the responses for “Very Rarely” and “Rarely”, as well as for “Very Frequently” and “Always”. Histograms were plotted for all 45 individual scale items. For the items that had been standardized to a 4-point scale, histograms for both the original and the standardized versions were considered. Items with very poor variance were removed, as items that elicit the same response from the vast majority of

participants are not useful for scale development (Rubin & Babbie, 2011). Of the 30 items retained, 27 were Likert-like items, 1 was a dichotomous yes-no item, and 2 were categorical items (with 4-point and 5-point ordinal scales, respectively). The 3 items that were not Likert-like all related to aspects of physical separation, whilst the Likert-like items all related to aspects of psychological separation. Only 3 items (with different answer formats) related to physical separation showed enough variance to be considered for further analysis. In Principal Components Analysis, a component is only reliable if it has 4 or more strong loadings (greater than .60), when the sample size is less than 300 (Stevens, 2009). Furthermore, according to domain sampling theory, a test should increase in reliability as more items sampling that domain are added to the scale (Kaplan & Saccuzzo, 2012). Thus a 3-item subscale would be inappropriate for Principal Components Analysis, and would likely have low reliability. Furthermore, the different answer formats were difficult to score comparatively, as they all formed a single subscale. These 3 items were excluded, and only the standardized 4-point scale version of the 6-point Likert-like questions were used for better comparability of scores across items. Thus, all retained items consisted of Likert-like items with 4-point ordinal scales, with scores ranging from zero to three.

Stage two: Principal Components Analysis. A principal components analysis with orthogonal rotation was run on the remaining 27 items. The component transformation matrix indicated a problematic degree of correlation between the components. Thus, a principal components analysis with oblique rotation was run, and the results from the table of Eigenvalues were used to conduct a Horn's parallel analysis with simulated data (Horn, 1965). Based on Horn's parallel analysis, 3 components were extracted. Another principal components analysis with orthogonal rotation was run, with extraction manually set to select 3 components. After selecting for 3 components there were still unsuitably high correlations between components, thus another analysis was run with oblique rotation. The results of the pattern matrix indicated that 22 items loaded meaningfully onto a component/components.

The 5 items that did not load were excluded, and the series of principal components analyses were re-run with 22 items. The pattern matrix indicated that 1 item did not load meaningfully. This item was excluded, and the analysis was re-run with 21 items. Again, 1 item did not load meaningfully and was excluded. The analysis was re-run with 20 items, and all items loaded meaningfully. However, 1 item loaded meaningfully onto 2 components, indicating

that it was partially contributing to 2 different underlying components (Beavers et al., 2013). This item was deleted and the analysis was again re-run with 19 items. Each item in this final round loaded meaningfully onto a single component. Horn's parallel analysis was run for each round of Principal Components Analysis, and each time it indicated that 3 components should be extracted. In addition, an orthogonal and oblique rotation was run for each round to confirm that an oblique rotation was still suitable after item deletion and the restriction of extracted factors. The final scale consists of 19 items with three subscales. Only the final round of Principal Components Analysis will be discussed in detail.

As depicted in Table 2, all mean item scores were below the halfway point of the range (mean scores were all below 1.5 on a scale ranging from 0 – 3). This indicates that the sample on average did not experience high instances of psychological separation for any of the items. The means and standard deviations were of similar size for all items. The correlation matrix indicated that there was a suitable level of covariance among the items to conduct principal components analysis. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy confirms that item correlations clustered distinctly enough to produce reliable components (KMO = .86), as KMO values above .70 are considered good (Field, 2013). Bartlett's Test of Sphericity indicated that there was significant sphericity ($\chi^2(171) = 2662.76, p < .001$), meaning that the correlations overall were significantly different from zero (Field, 2013). These tests confirm that the data was suitably correlated to perform Principal Components Analysis.

Table 2.

Descriptive Statistics.

	<i>M</i>	<i>SD</i>	<i>n</i>
Mother Hostile	.72	.98	275
Father Hostile	.74	.98	275
Parents Unhappy	1.47	1.15	275
Parents Long Term Stress	1.08	1.05	275
Mother Coping Skills	.45	.82	275
Father Coping Skills	.46	.80	275
Mother Uninterested	.60	.92	275
Father Uninterested	.96	1.12	275

Mother Preoccupied	1.05	1.02	275
Father Preoccupied	1.39	1.12	275
Mother Lack Emotional Communication	.86	1.05	275
Father Lack Emotional Communication	1.33	1.18	275
Wanted More Attention From Mother	.97	.99	275
Wanted More Attention From Father	1.24	1.10	275
Rejected By Mother	.50	.88	275
Rejected By Father	.76	1.07	275
Stressful Childhood	1.19	1.00	275
Terrible Childhood Can't Change	1.38	1.08	275
Emotional Abuse	.78	.99	275

A Horn's parallel analysis was run for this data, using the 95th percentile level of chance. The analysis indicated that 3 components should be extracted. These three components accounted for 57.05% of the covariation among items. A Direct Oblimin Rotation (oblique rotation) with Kaiser Normalization was performed, and the rotation converged in 7 iterations. Loadings below .40 were suppressed, as this is considered to be the minimum meaningful loading (Stevens, 2009). There were no cross-loadings, and each item loaded meaningfully onto one component. The components were named *Father Psychological Separation* (6 items), *Mother Psychological Separation* (6 items), and *Stressful Environment* (7 items) respectively. A component is considered to be reliable in any sample size if 4 or more items load onto it with a correlation of .60 and above (Field, 2013). *Mother Psychological Separation* and *Father Psychological Separation* are considered reliable by this criterion, whilst *Stressful Environment* falls slightly short. Further reliability testing is required before the subscales can be used for research purposes.

Table 3.

Pattern Matrix of Principal Components Analysis.

	Component		
	1	2	3
Mother Hostile		-.69	
Father Hostile	.44		
Parents Unhappy			.54
Parents Long Term Stress			.64
Mother Coping Skills			.58
Father Coping Skills			.69
Mother Uninterested		-.86	
Father Uninterested	.86		
Mother Preoccupied		-.75	
Father Preoccupied	.77		
Mother Lack Emotional Communication		-.85	
Father Lack Emotional Communication	.85		
Wanted More Attention From Mother		-.77	
Wanted More Attention From Father	.70		
Rejected By Mother		-.81	
Rejected By Father	.79		
Stressful Childhood			.62
Terrible Childhood Can't Change			.59
Emotional Abuse			.45

Stage three: Reliability. Internal consistency for the subscales and full scale was assessed using Cronbach's alpha. All three subscales had an alpha value of above .70, indicating that they have suitable internal consistency for use as research instruments (Tredoux & Durrheim, 2013). The alpha values obtained for the subscales were: *Father Psychological Separation*: $\alpha = .87$,

Mother Psychological Separation: $\alpha = .89$, and *Stressful Environment*: $\alpha = .77$. All Item Total Correlations (ITCs) within the subscales were .30 and above, indicating that they are all good predictors of the total subscale score (Tredoux & Durrheim, 2013). The full scale had an alpha value of .90, demonstrating that it has an internal consistency level suitable for applied research (Tredoux & Durrheim, 2013). All items had ITCs above .20, therefore all items were retained.

Scale Predictive Value

Multiple Regression Analysis. The theoretical range for the BDI-II ranges from 0 to 63. The minimum and maximum statistics indicate that no participant scored in the upper 15% of possible BDI-II scores (Table 4). In addition, the mean was very low ($M = 13.60$, $SD = 10.02$), indicating that the majority of the sample was not depressed. The theoretical ranges for the subscales are: *Father Psychological Separation* (0-18), *Mother Psychological Separation* (0-18), and *Stressful Environment* (0-21). The minimum and maximum statistics indicate that the participants scored across the full theoretical range, except for *Stressful Environment*. All subscale means were below the half-way point on the scales, indicating low instances of psychological separation. *Mother Psychological Separation* had the lowest mean score ($M = 4.69$, $SD = 4.68$). Both *BDI-II Total Score* and *Mother Psychological Separation* had data that was slightly positively skewed, therefore square root transformations were performed on all of the variables (Howell, 2013). Histograms, boxplots and descriptive statistics were used to compare the data before and after transformation. All measures confirmed that the transformation resolved the skewness. Scatterplots between each subscale and *BDI-II Total Score* depicted positive linear relationships for each correlation.

Table 4.

Descriptive Statistics of Subscales.

	Range	Min.	Max.	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
BDI Total Score	53.00	.00	53.00	13.60	10.02	1.15	1.50
Father Psychological Separation	18.00	.00	18.00	6.42	5.17	.53	-.78
Mother Psychological Separation	18.00	.00	18.00	4.69	4.68	1.08	.30
Stressful Environment	20.00	.00	20.00	6.81	4.47	.58	-.30

A simultaneous multiple regression was run to test whether the 3 separation trauma subscales predict *BDI-II Total Score*. The correlation matrix indicates that all 3 subscales are significantly correlated with *BDI-II Total Score*. All correlations (Table 5) were highly significant before and after transformation ($p < .001$). In addition, all correlations between subscales were significant, indicating that the subscales are related to each other. Tests for multicollinearity are discussed further on.

Table 5.

Correlation Matrix for Transformed Subscales.

	BDI-II Total Score (Sqrt)	Mother Psychological Separation (Sqrt)	Father Psychological Separation (Sqrt)	Stressful Environment (Sqrt)
BDI-II Total Score (Sqrt)	.			
Mother Psychological Separation (Sqrt)	.31*	.		
Father Psychological Separation (Sqrt)	.24*	.48*	.	
Stressful Environment (Sqrt)	.33*	.41*	.51*	.

Correlations marked with a * are significant at $p < 0.001$

Table 6 (model summary) indicates that the three subscales of separation trauma significantly predict depression scores on the BDI-II ($R = .38$, $R^2 = .15$, $F(3, 271) = 15.36$, $p < .001$). A Pearson's correlation coefficient of .38 is considered to indicate a small but definite relationship (Tredoux & Durrheim, 2013). An effect size of .15 indicates that the separation trauma subscale scores account for 15 % of the variance in the BDI-II Total Scores.

Table 6.

Model Summary of Three Subscales.

R	R ²	Adjusted R ²	SE of the Estimate	Change Statistics			
				R ² Change	F Change	df1	df2

1	.33	.11	.10	1.37	.11	16.06	2	272	.000
2	.38	.15	.14	1.34	.04	12.59	1	271	.000

A third regression was run to test whether the *Mother Psychological Separation* subscale on its own could predict *BDI-II Total Score*. The model was significant with this subscale alone, indicating a small but definite relationship, and explaining 9% of the variance in depression scores ($R = .31$, $R^2 = .09$, $F(1, 273) = 28.27$, $p < .001$). Tolerance and VIF statistics for all regression models indicate that the level of collinearity between the subscales retained was suitably low for multiple regression analysis (Dormann et al., 2013).

Extended Scale Development

Secondary Principal Components Analysis. Further testing was conducted to determine whether the three subscales measure the same underlying construct. A Principal Components Analysis was run on the three subscales. All three subscales were significantly correlated with each other (Table 8). The KMO Measure of Sampling Adequacy confirms that the correlations cluster distinctly enough to form one reliable component (KMO = .67). KMO values between .50 and .70 are considered to be mediocre but acceptable (Field, 2013). Bartlett's Test of Sphericity indicated that there was significant sphericity ($\chi^2(3) = 163.04$, $p < .001$). These tests confirmed that the subscales were correlated enough to perform a Principal Components Analysis.

Table 8.

Correlation Matrix of Subscales

	Father Psychological Separation	Mother Psychological Separation	Stressful Environment
Father Psychological Separation	.		
Mother Psychological Separation	.43*	.	
Stressful Environment	.53*	.42*	.

Correlations marked with a * are significant at $p < 0.001$

Horn's parallel analysis indicated that 1 component should be extracted (Table 9). This single component accounts for 64.09% of the covariation among subscales. All subscales loaded

meaningfully onto a single component (Table 9), demonstrating that there is a broader component underlying the more specific subscales. This component was called *Separation Trauma*.

Table 9.

Component Matrix of Subscales.

	Component 1
Father Psychological Separation	.82
Mother Psychological Separation	.76
Stressful Environment	.82

Extended Scale Predictive Value

Regression Analysis. A linear regression analysis was run to test the relationship between *Separation Trauma Scale (STS) Total Score* and *BDI-II Total Score*. This test was used to determine whether separation trauma, as measured by our scale, could predict depression. The *STS Total Score* was calculated by adding together the scores for the 3 subscales. *STS Total Score* has a theoretical range from 0-57, although the highest scoring participant only attained a score of 47 (Table 10). As with the BDI-II scores, no participant fell within the top 15% of possible scores. The mean was also much lower than the halfway point of the scale ($M = 17.99$, $SD = 11.47$), indicating fairly low instances of separation trauma in our sample. The standard deviation was fairly large given the size of the mean, and the data was slightly positively skewed, albeit still in the acceptable range. The data was transformed with a square root transformation, which is used to normalize data with a slightly positive skew (Howell, 2013). A comparison of the histograms, boxplots, and skewness and kurtosis statistics before and after transformation indicated that the skew in the data was corrected for by the transformation. The scatterplot between *STS Total Score* and *BDI-II Total Score* indicated a positive linear relationship.

Table 10.

Descriptive Statistics of BDI-II Total Score and STS Total Score.

Range	Min.	Max.	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
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BDI-II Total Score	53.00	.00	53.00	13.60	10.02	1.15	1.50
STS Total Score	47.00	.00	47.00	17.92	11.47	.45	-.72

A linear multiple regression analysis (Table 11) was run to test for a relationship between overall separation trauma (measured by *STS Total Score*) and depression (measured by *BDI-II Total Score*). The correlation coefficient indicated a small but definite relationship between separation trauma and depression. This construct accounted for 13% of the variance in depression scores ($R = .36$, $R^2 = .13$, $F(1, 273) = 41.75$, $p < .001$). These results indicated that the STS can be used to significantly predict depression.

Table 11.

Model Summary of STS and BDI-II.

<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	<i>SE</i> of the Estimate	Change Statistics				
				<i>R</i> ² Change	F Change	df1	df2	Sig. F Change
.36	.13	.13	1.34	.13	41.75	1	273	.000

Discussion

This study was designed primarily to test the hypothesis that *childhood separation trauma* predisposes individuals to adult depression. The results confirm that there is a significant relationship between childhood separation trauma and adult depression. The respective contributions of the subscales to this model are also findings that need to be further discussed. The following section will consider the major findings in relation to the relevant literature. It will further consider the limitations of the study, as well as directions for future research. Finally, it will explore the significance and implications of the findings in relation to possible future outcomes.

Psychological Separation Plays a Significant Role in the Aetiology of Depression

Originally, it was hypothesized that all forms of separation explored (physical- and psychological- separation) would be predictors of adult depression. However, there were very few participants in our study that had experienced any type of physical separation, such as the

death of a parent, in comparison to how many participants experienced psychological separation. Therefore, there were not enough instances of physical separation for it to be adequately analyzed and interpreted meaningfully. Nonetheless, the findings show that psychological separation plays a significant role in the aetiology of depression. These findings are in line with current research, which indicates that psychological separation factors are related to adult depression (Lacey, Bartley, Pikhart, Stafford, & Cable, 2014). Psychological separation may arise from a variety of different aspects, including abuse and neglect (Mandelli et al., 2015). A meta-analysis by Mandelli et al. (2015) showed that emotional abuse and neglect were most strongly related to adult depression, compared to other trauma such as physical abuse. This is relevant as these psychological factors may lead to consequent feelings of separation from the parent, which is an aspect of psychological separation (Leondari & Kiosseoglou, 2000).

Although we only found support for psychological separation factors as predictors of depression, this does not imply that physical separation does not also play a significant aetiological role. Low instances of reported physical separation may be attributed to many of our participants not having experienced such separations, or to an unwillingness to report such details in an online survey. The data we obtained was insufficient to include an analysis of physical separation factors, however other recent studies have found that physical parental separation is related to increased depressive symptoms in adulthood (Seijo, Fariña, Corras, Novo, & Arce, 2016; Slavich, Monroe, & Gotlib, 2011). This is supportive of older literature, which suggests that physical separation plays a large role in adult depression (Agid et al., 1999; Brown, 1961).

Respective Contributions of Maternal and Paternal Separation to Depression

The data suggests that childhood maternal psychological separation is a slightly better predictor of adult depression scores than psychological paternal separation. More specifically, maternal psychological separation explains 8% of the variance in depression scores (as measured on the BDI-II), whereas paternal psychological separation explains 7% of the variance. However, when the subscales measuring the respective constructs are entered into a multiple regression analysis model, a paternal psychological separation does not contribute to a significant change in the effect size, and its standardized correlation coefficient with depression is not significant. This may be attributed to the variance shared between these two components. The components were

moderately correlated ($\alpha = .43$), which indicates that both items may be related to the same underlying construct, namely parental psychological separation. Therefore, when looking at the multiple regression analysis, maternal psychological separation may already account for a lot of the variance seen in the depression scores. Thus, when paternal psychological separation is added to the model, it shows up as not significant because covariance is high and there is not much variance left that paternal psychological separation can uniquely explain. Ultimately, it may not be necessary to split the items sampling maternal and paternal psychological separation, but rather consider combining these paired items into single items in the future. Psychological separation from one's mother and/or one's father could instead be conceptualized as separation from one's parent. This could involve a weighting for whether the separation was experienced from neither-, one-, or both parents.

The Aetiological Role of Childhood Stress in Adult Depression

The results (of the factor analysis) indicate that *Stressful Environment* should be considered as one component. However, the items included in this component measure different aspects of stress that may play differing roles in the aetiology of depression. Four of the items within this component relate to parental stress: *poor mother coping skills*, *poor father coping skills*, *parents unhappy in relationship*, and *parents long-term stress*. Further, two of the items relate to the child's general stress: *stressful childhood* and *something terrible the child is unable to change*. Finally, one item relates to parents exerting stress on their child, namely *emotional abuse* on the part of the parent. These aspects of *Stressful Environment* may all play different functional roles on the long-term outcomes of the child's vulnerability to depression.

Long-term parental stress, marital conflict and poor coping skills affect not only the parents, but the parent-child bond. Research suggests that parental stress is associated with a more authoritarian parenting style, as well as increased negativity in parents' interactions with their child (Belsky, Crnic, & Woodworth, 1995; Deater-Deckard, Pinkerton, & Scarr, 1996; McBride & Mills, 1993). Authoritarian parenting style encompasses high demands but low responsiveness (Baumrind, 1966). Therefore, these parents may have very high expectations of their children, but provide low amounts of feedback and nurturance to them (Baumrind, 1966). This may in turn lead the child to view their parent as harsh and preoccupied, thereby contributing to the feeling of psychological separation. *Emotional abuse* may also be a product

of high parental stress. Due to the authoritarian parenting style exhibited when parents experience stress, they are likely to also punish their children in a harsh manner (Baumrind, 1966). If harsh punishment includes verbally berating the child to the point that they feel unloved or worthless, the punishment constitutes *emotional abuse*.

Both of the abovementioned aspects of *Stressful Environment* negatively impact the parent-child bond, and contribute to a sense of psychological separation. Separation-distress elevates CRF (Watt & Panksepp, 2009), which initiates the HPA axis neuroendocrine stress response, in turn increasing cortisol production rate (Zorrilla et al., 2014). Cortisol levels may further be increased if the child also experiences general stress, which is encompassed by the third aspect of *Stressful Environment*. Thus parental stress leads to a parenting style that heightens psychological separation, which in turn elevates the stress response in the child. General stress experienced by the child will compound this stress response, and stress in turn predisposes the child to depression by permanently altering the neural structures that regulate stress (Watt & Panksepp, 2009). Raised cortisol levels is a significant marker of depression in adults (Burke, Davis, Otte, & Mohr, 2005).

Overarching Construct of Separation Trauma

The three subscales derived from the study, namely *Mother Psychological Separation*, *Father Psychological Separation* and *Stressful Home Environment* all loaded well onto a single component, as demonstrated with a secondary Principal Components Analysis. This indicates that these subconstructs are not independent, but rather relate to a single latent construct, which we have called *Separation Trauma*. The three subscales can thus be combined to form a Separation Trauma Scale (STS). Linear regression analysis indicates that childhood *Separation Trauma*, as measured by the STS, is significantly predictive of adult depression

We combined the subscales in a linear fashion, however this does not account for the relative contribution of each subscale. Combining the subscales without weighting affected the results of the multiple regression analysis. The three subscales entered simultaneously predicted depression with an effect size of 15%, whilst the combined STS score predicted depression with an effect size of 13%. Therefore, each subscale should be weighted in accordance with its relative contribution to the overall subscale, in order to retain an effect size of 15%.

Implications and Significance

Once it has been further developed and validated, the Separation Trauma Scale may be used to predict future onset of depression, by detecting high instances of *childhood separation trauma* in non-clinical populations. The scale may be used to screen adolescents and young adults for a predisposition to depression, in order to implement secondary intervention strategies before onset. Furthermore, this study provides evidence that psychological separation factors are significant predictors of depression, which necessitates further research into the full gamut of childhood separation factors. Research into the construct of *childhood separation trauma* as a unitary construct has been lacking in the literature.

Limitations of the study

The measures used in this study were all self-report. An advantage of this method is that people are more willing to disclose certain information via a questionnaire, rather than interview (Kaplan & Saccuzzo, 2012). However, there are various issues associated with self-report measures. Self-report methods may be associated with less truthful responses (as individual responses are anonymous), as well as response bias (Kaplan & Saccuzzo, 2012). Therefore, in future studies the BDI-II should not be used as a measure of depression. The measure of depression should be based on a clinical diagnosis, using the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5; American Psychiatric Association, 2013). This will provide a more accurate and standard measure of depression.

The study also required participants to remember events that happened in their childhood. Although retrospective accounts of autobiographical childhood experiences are considered generally reliable (Maughan & Rutter, 1997), individuals may not accurately remember events that occurred early in their childhood. Although Finlay-Jones et al. (1981) found that early separations arising from parental death, or parental marriage breakdown were reported reliably, other early separation experiences did not retain such reliability (Finlay-Jones et al., 1981). Thus, retrospective memory may be problematic and related to high levels of false negatives and measurement error (Hardt & Rutter, 2004). Additionally, Maughan and Rutter (1997) state that individuals may forget negative experiences. This may also be related to Freud's (1905/1953) observations that adults have trouble remembering events that happened early in their childhood. Freud (1905/1953) postulated that such memories are repressed, however modern explanations explore this from a perspective of cognitive and neurobiological processes (Pillemer, 1998). This

is especially relevant in this study, as individuals were asked about traumatic events such as abuse or neglect, which may not be remembered well, if at all. Further, autobiographical memory is somewhat constructed through a narrative between the parent and child about the past (Pillemer, 1998). Thus, memories may be “formed” through this interaction. Therefore, Maughan and Rutter (1997) suggest that investigations using retrospective reports should include corroborative evidence.

A further limitation of the study was that there was a very low proportion of severely depressed people within the sample ($n = 22$). This limited our ability to analyse which factors predispose depression, as the majority of the sample had no or low levels of depression. Items with the potential to predict depression may have been excluded due to low variance in responses from a mostly non-depressed population. These items might serve as critical items, whose relevance will only be detectable in a depressed population. In future testing, participants should be sampled from both clinical and non-clinical populations, to ensure a higher proportion of depressed participants. The limited amount of people in the higher categories for depression may also have been due to the age range selected (18-25 years). Research shows that the average age of onset of major depression is between 24 and 26 years of age in high and low to middle income countries (Bromet et al., 2011; González, Tarraf, Whitfield, & Vega, 2010; Herman et al., 2009; Kessler et al., 2010; Weissman et al., 1996). Therefore, future research should consider using a sample with individuals in their late twenties.

Finally, most of the participants ($n = 250$) were from South Africa, constituting 90.91% of the sample. Therefore only 9.09% ($n = 25$) of the participants were international students. This means that the sample was mostly comprised of South African people, which may not be generalizable to the extent of universality. However, future research could test this scale amongst different populations. This would enable increased generalizability to other populations across the world.

Directions for future research

Future research should test the scale designed in this study in multiple different populations, to determine whether external validity exists across diverse settings. Studies should also test the convergent and divergent validity of the scale, to determine how accurately it measures *childhood separation trauma* as opposed to general childhood adversity. Furthermore,

the scale should be tested for correlation with a mental disorder that is not caused by separation, such as an eating disorder. If the correlation is insignificant, the combined results of these studies will indicate that *childhood separation trauma* is significantly predictive of depression, but not of psychopathology in general. Subsequently, this scale could be used in further research studies which focus on the association between early separation experiences and adult depression.

Conclusion

Overall, this paper has provided empirical support for the relationship between *childhood separation trauma* and adult depression. It explored the full gamut of physical and psychological separation factors linked to adult depression within the literature – something that no other study to date has done. As only psychological separation factors were adequately represented in our sample, physical separation factors were not incorporated into our scale of *childhood separation trauma*, or used to test our final hypothesis. Adequately represented psychological separation factors were used to create Separation Trauma Scale (STS), which can be further developed as a screening tool for detecting high levels of *childhood separation trauma*. Three subscales were identified: *Mother Psychological Separation*, *Father Psychological Separation* and *Stressful Environment*. The overall scale had an internal consistency level suitable for use as an applied instrument, and the three subscales had internal consistency levels suitable for research purposes. *Childhood separation trauma*, as measured by the STS, significantly predicts adult depression, thus our main hypothesis was upheld. This further indicates that our scale has the potential to be used as a screening measure for predisposition to depression in non-clinical samples, as part of a secondary intervention.

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Appendices

Appendix A: Demographic and screening questions

Please fill in the following personal details:

Gender	Male	Female	Other

Age	Less than 18	18-24	Greater than 24

Self-Identified Race	White	Black	Coloured	Asian	Other

Please indicate your nationality:

South African	Other (please specify):
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Please indicate your home language (click box below corresponding language):

English	Afrikaans	isiXhosa	Zulu	Southern Sotho	Northern Sotho
Tswana	Venda	Tsonga	Swati	Ndebele	Other

- Are you currently, or have you ever taken prescribed medication for bipolar disorder?
Yes / No

2. Are you currently, or have you ever been, diagnosed with bipolar disorder by a mental health professional?

Yes/No

Appendix B: Informed Consent Form

Introduction

This study is investigating how early life experiences interact to shape adult personality. It is an Honour's-level research study in the Department of Psychology, University of Cape Town.

Investigators

Nicole Burgmer

Michelle Blaeser

Professor Mark Solms

Information for Participants

Purpose of the research study:

The aim of this study is to determine which childhood experiences influence the development of personality. Research has shown that a variety of factors may influence later personality. These factors range from parental death or divorce to abuse and neglect (Negele et al., 2016). There has been much research into this area, however findings are inconclusive. Therefore, this study is going to look at a variety of factors, and determine if they are related to later personality.

Study Procedure

If you choose to participate in this study you will be directed to an online survey consisting of demographic questions (i.e. age, nationality, etc.), personality measures, and a 37-item questionnaire. This questionnaire will ask about various events that took place during your childhood, to determine which events (if any) influenced your personality later in life. Please answer as honestly as possible. Examples of the types of questions you will be asked include “Have you lost your *mother* due to death?” or “Were you separated from your *father* for reasons other than death or divorce of parents (e.g.: hospitalization, boarding school, work travels)?”

The survey should take 30-45 minutes to complete and you will receive 2 SRPP points for your participation. Please answer the questions as best as you can and take your time answering them as this data is very important.

Possible Risks

Some items in the questionnaire part of the survey may cause emotional distress (if you uncover issues that you find distressing), or may bring back bad memories and recollections. If this distress occurs and you feel like you cannot complete the study, you may discontinue the study with no consequences (except that SRPP points are only awarded at the end of a completed survey). Your relationship with the Department of Psychology will not be affected in any way, regardless of whether you do or do not complete the survey. There are no physical risks associated with this study.

Possible Benefits

This study will contribute to an important field of literature, although there are no direct benefits to you. However, you will receive 2 SRPP points for your participation. (Please note that in order to receive these points you need to **complete** the survey). If you are interested in studying further in the field of psychology, this study provides an opportunity for you to experience research being conducted at a postgraduate level. You will be emailed a copy of the results of the study when it has been completed.

Costs and Economic Considerations

There are no monetary costs associated with participating in this study.

Voluntary Participation

Participation in this study is completely voluntary. You do not have to give consent if you do not want to, and you may withdraw your participation at any time without consequences. There are multiple other SRPP studies that you can participate in to earn SRPP points, and if you do not want to participate in this study there are other options available.

Confidentiality

All information gathered will be kept confidential, and no data will be linked directly to your identity. The data will be stored on a laptop that has security software and is password-protected. No access will be given to anybody not directly involved in this research. Your student number will need to be collected for the purpose of SRPP points, however your personal information will NOT be linked to your responses.

Questions and Additional Information

If at any point you have questions or concerns about your participation in this study, you may contact the principal investigators (michelleanneblaeser@gmail.com; brgmic012@myuct.ac.za) or the supervisor of this study (Mark.Solms@uct.ac.za). If you have any questions regarding the ethics of this study, contact Rosalind Adams (021 650 3417; rosalind.adams@uct.ac.za). If you would like additional support after completing/discontinuing the study, please see below. If you wish to be seen individually for professional counselling, contact the Student Wellness Centre (021 650 1017/1020). If you would like to receive telephonic counselling, please contact the National Counselling Line (Lifeline; 086 132 2322), or The South African Depression and Anxiety Group's (SADAG) 24 hour helpline: 0800 12 13 14

Consent

I state that I am over 18 years of age and agree to participate in this investigation that is being conducted by Nicole Burgmer, Michelle Blaeser, and Professor Mark Solms of the Psychology Department, University of Cape Town. I have read all of the above and agree to participate in this study. I realize that this information will be used for educational purposes, and am happy with my understanding of the study, its possible risks, benefits and alternatives. I have been informed that my participation in this study is voluntary, and I understand that I may withdraw my participation at any time without penalty.

I understand that I will be asked questions about certain events from my childhood in the format of an online questionnaire. I understand that the questionnaire may potentially have a small risk in a minority of cases, so I may contact the Student Wellness Centre or the Lifeline hotline if necessary. I understand that confidentiality will be upheld at all times in this study, and none of my data will be linked to my identity. When the study is completed I will receive a summary of the results.

- By selecting this circle, I state that I have read the above information, and give my voluntary consent to participate in this study.
- I confirm that I am over the age of 18 years.
- I confirm that I am a current student at the University of Cape Town

Appendix C: Separation Trauma Questionnaire (STQ)

- The following questions are about your childhood. Your childhood is defined here as the time you were born until you turned 16 years old.
 - If a question is about your *parent(s)*, but you only had/knew one parent, you should select the answer most applicable to that parent alone.
 - A *caregiver* is someone who looked after you when you were a child (e.g.: foster parent, relative, nanny).
-

- Have you lost your *mother* due to death?
 - a. Yes
 - b. No
- Have you lost your *father* due to death?
 - a. Yes
 - b. No
- Did you lose another primary *caregiver* due to death?
 - a. Yes
 - b. No
- Did one of your *parents* permanently move out of the home where you lived, due to desertion, separation or divorce?
 - a. Yes
 - b. No
- a. Were you separated from your *father* for reasons other than death or divorce of parents (i.e.: hospitalization, boarding school, work travels, imprisonment, etc.)? If this separation occurred multiple times, please select the longest period of separation.
 - i. No
 - ii. Yes, but for less than 6 months
 - iii. Yes, for 6-12 months
 - iv. Yes, for longer than 1 year
 - v. Permanently (I was separated from my father for longer than 1 year in my childhood and the separation lasted at least until I turned 16 years old)

- vi. I did not know my father/have a father
- b. How old were you at the time of this separation?
 - i. 0-4 years old
 - ii. 5-10 years old
 - iii. 11-15 years old
 - iv. N/A
- c. How many times did the separation occur?
 - 1. 1-3 times
 - 2. 4-6 times
 - 3. 7-9 times
 - 4. More than 10 times
 - 5. N/A
- Were you separated from your *mother* for reasons other than death or divorce (i.e.: hospitalization, boarding school, work travels, imprisonment, etc.)? If this separation occurred multiple times, please select the longest period of separation.
 - i. No
 - ii. Yes, but for less than 6 months
 - iii. Yes, for 6-12 months
 - iv. Yes, for longer than 1 year
 - v. Permanently (I was separated from my father for longer than 1 year in my childhood and the separation lasted at least until I turned 16 years old)
 - vi. I did not know my father/have a father
- b. How old were you at the time of this separation?
 - i. 0-4 years old
 - ii. 5-10 years old
 - iii. 11-15 years old
 - iv. N/A
- c. How many times did the separation occur?
 - 1. 1-3 times
 - 2. 4-6 times
 - 3. 7-9 times

4. More than 10 times
 5. N/A
- Were you separated from another *caregiver* for reasons other than death (e.g.: hospitalization, boarding school, work travels, imprisonment, etc.)? If this separation occurred multiple times, please select the longest period of separation.
 - i. No
 - ii. Yes, but for less than 6 months
 - iii. Yes, for 6-12 months
 - iv. Yes, for longer than 1 year
 - v. Permanently
 - vi. Permanently (I was separated from my father for longer than 1 year in my childhood and the separation lasted at least until I turned 16 years old)
 - vii. I did not know my father/have a father
 - b. How old were you at the time of this separation?
 - i. 0-4 years old
 - ii. 5-10 years old
 - iii. 11-15 years old
 - iv. N/A
 - c. How many times did the separation occur?
 1. 1-3 times
 2. 4-6 times
 3. 7-9 times
 4. More than 10 times
 5. N/A

The next section of the questionnaire is a set of statements (also about your childhood). Please select the answer to each question that is the **most** correct, in your opinion.

- My *mother* treated me with hostility as a child
 - a. Always
 - b. Very frequently
 - c. Sometimes

- d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/ have a mother
- My *father* treated me with hostility as a child
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/ have a father
- My *parents* were unhappy in their relationship (i.e. arguments, animosity)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. My parents were not in a relationship with each other
- My *parents* were poorly socially integrated (i.e. they had few/no friends, didn't attend many social events, were very isolated)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
- My *parent(s)* had enough help with childcare
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely

- e. Very rarely
- f. Never

[NOTE: this question was reverse coded]

- My *parent(s)* suffered from a long-term stressful situation (e.g.: disability, debt, poverty, alcoholism, illness, addiction)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
- My *mother* had good coping skills (e.g.: wouldn't break down in stressful situations, would keep going even when under pressure)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/ have a mother

[NOTE: this question was reverse coded]

- My *father* had good coping skills (e.g.: wouldn't break down in stressful situations, would keep going even when under pressure)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/ have a father

[NOTE: this question was reverse coded]

- I felt like my *mother* was uninterested in me
 - a. Always

- b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
- I felt like my *father* was uninterested in me
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/have a father
- My *mother* was preoccupied with something else (e.g.: our time together was rushed or perfunctory, she was distracted with other things)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
- My *father* was preoccupied with something else (e.g.: our time together was rushed or perfunctory, he was distracted with other things)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never

- g. I did not know my father/have a father
- I felt a lack of emotional communication from my *mother* (i.e.: she wasn't warm/genuine/open with me)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
- I felt a lack of emotional communication from my *father* (i.e.: he wasn't warm/genuine/open with me)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/have a father
- My *parent(s)* wanted me to be another gender
 - a. No, neither parent
 - b. Yes, but only my mother
 - c. Yes, but only my father
 - d. Yes, both parents
 - e. Not sure
- I was ashamed of my *mother*
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - e. I did not know my mother/have a mother

- I was ashamed of my *father*
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - e. I did not know my father/have a father
- I wanted more attention from my *mother* than I received
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - e. I did not know my mother/have a mother
- I wanted more attention from my *father* than I received
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - e. I did not know my father/have a father
- I was afraid one/both of my *parents* would die
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
- My *parent(s)* favored my siblings over me
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely

- f. Never
 - g. I didn't have any siblings
- I did not like myself as a child
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
- I felt rejected by my *mother*
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/ have a mother
- I felt rejected by my *father*
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/ have a father
- I thought my *mother* could go to jail for doing something illegal (e.g.: stealing money from work, shoplifting, taking drugs, avoiding debt collectors)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never

- g. I did not know my mother/ have a mother
- I thought my *father* could go to jail for doing something illegal (e.g.: stealing money from work, shoplifting, taking drugs, avoiding debt-collectors)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/ have a father
- I had a very stressful childhood (i.e.: worried a lot, unhappy with home/school conditions, afraid a lot)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
- There was something terrible in my childhood that I wished I could change (but wasn't able to)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
- Abuse can be anything along the following lines: a caregiver or parent was violent towards me (physical abuse), an adult caregiver, parent or older child performed sexual acts with me (sexual abuse), a caregiver or parent told me things to make me think I was unloved/worthless (emotional abuse). Please rate the following statements according to the experience(s) relevant to you:
- I experienced *physical* abuse from a caregiver or parent
 - i. Strongly Agree
 - ii. Agree
 - iii. Disagree

- iv. Strongly Disagree
- I experienced *sexual* abuse from a caregiver, parent, or older child
 - v. Strongly Agree
 - vi. Agree
 - vii. Disagree
 - viii. Strongly Disagree
- I experienced *emotional* abuse from a caregiver or parent
 - ix. Strongly Agree
 - x. Agree
 - xi. Disagree
 - xii. Strongly Disagree

37. Neglect is when a caregiver or parent does not take care of your physical needs (e.g.: clean clothes, enough food, medical care) or emotional needs (e.g.: care, comfort, attention). Please rate the following statement according to the experience(s) relevant to you:

I experienced neglect from a caregiver (physical or emotional)

- a. Strongly Agree
- b. Agree
- c. Disagree
- d. Strongly Disagree

Appendix D: Debriefing Form

Childhood Separation Trauma as a Predisposing Factor to Adult Depression

Thank you for your participation in this study. You were asked to participate in a study investigating how early life experiences interact to shape adult personality. Although this is true, the study is more specifically investigating how early life experiences (such as parental loss, and separation and abuse) may predict adult depression. The exact nature of the study could not be disclosed beforehand and had to be disguised. Knowing the true nature of the study may have influenced your responses, and thereby the overall results of the study. Therefore, a small deception had to be used in order to ensure the utmost reliability of results.

Depression is a common mental illness that affects around 4.4% of the global population – a total 322 million people (World Health Organization [WHO], 2017). Depression and dysthymia the largest source of non-fatal health loss in the world, with 80% of this burden falling on low to middle income nations (WHO, 2017). Depression also affects a significant proportion of South Africans. The South African Stress and Health Study (conducted in 2009) estimates that 9.7% of the SA population has been clinically depressed at some point in their life (Herman, Stein, Seedat, Heeringa, Moomal, & Williams, 2009).

Investigating the relationship between early separation experiences and adult depression is important. It will allow us to design a scale (questionnaire) that could potentially predict adult depression from early life experiences. This is important, as no comprehensive scale to measure separation-linked traumas exists. The existing research is either too narrow in its focus (i.e. looks at just parental death between the ages of 11 and 15), or too over-inclusive (i.e. looks at separation and factors such as natural disasters, violence, and so on). Therefore, the development of such a scale will fulfil a unique purpose, and allow for the early detection of individuals predisposed to depression. Early detection is necessary for helping those at risk before they require clinical treatment. This is a very relevant topic of research, with many potential benefits (as mentioned above).

If you would like more information surrounding this topic of research, please contact the principal investigators at the email addresses below:

Michelle Blaeser: michelleanneblaeser@gmail.com

Nicole Burgmer: brgmic012@myuct.ac.za

Finally, as compensation for your participation you are entitled to 2 SRPP points. Please fill out the information below so that we can award you with the SRPP point. (This information will only be used for SRPP purposes, and will not link your responses to the study back to you. This information will remain confidential).

Student number: _____

Email address: _____

Course Code: _____

Again, thank you for your participation in this study. If you have experienced any negative effects, were upset in any way by the contents of the survey, or for any reason feel that you need emotional support, please make use of the contacts below:

For individual professional counseling, contact the Student Wellness Center: 021 650 1017/1020

For anonymous telephonic telephonic counseling, contact the National Counselling Line (Lifeline): 086 132 2322

Or

The South African Depression and Anxiety Group's (SADAG) 24 hour helpline: 0800 12 13 14

Appendix E: Separation Trauma Scale (STS)

Mother Psychological Separation

- My *mother* treated me with hostility as a child
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - h. I did not know my mother/have a mother
- 2. My *mother* had good coping skills (e.g.: wouldn't break down in stressful situations, would keep going even when under pressure)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/ have a mother

[NOTE: this question was reverse coded]
- I felt like my *mother* was uninterested in me
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
- My *mother* was preoccupied with something else (e.g.: our time together was rushed or perfunctory, she was distracted with other things)

- a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
- I felt a lack of emotional communication from my *mother* (i.e.: she wasn't warm/genuine/open with me)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
- I wanted more attention from my *mother* than I received
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - e. I did not know my mother/have a mother
- I felt rejected by my *mother*
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/ have a mother

Father Psychological Separation

- My *father* treated me with hostility as a child
 - g. Always
 - h. Very frequently
 - i. Sometimes
 - j. Rarely
 - k. Very rarely
 - l. Never
 - a. I did not know my father/have a father
- 3. My *father* had good coping skills (e.g.: wouldn't break down in stressful situations, would keep going even when under pressure)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/have a father

[NOTE: this question was reverse coded]
- I felt like my *father* was uninterested in me
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/have a father
- My father was preoccupied with something else (e.g.: our time together was rushed or perfunctory, he was distracted with other things)
 - a. Always
 - b. Very frequently
 - c. Sometimes

- d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/have a father
- I felt a lack of emotional communication from my *father* (i.e.: he wasn't warm/genuine/open with me)
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my mother/have a mother
 - I wanted more attention from my *father* than I received
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - e. I did not know my father/have a father
 - I felt rejected by my *father*
 - a. Always
 - b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. I did not know my father/have a father

Stressful Environment

- My *parents* were unhappy in their relationship (i.e. arguments, animosity)
 - a. Always

- b. Very frequently
 - c. Sometimes
 - d. Rarely
 - e. Very rarely
 - f. Never
 - g. My parents were not in a relationship with each other
- My *parent(s)* suffered from a long-term stressful situation (e.g.: disability, debt, poverty, alcoholism, illness, addiction)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - I had a very stressful childhood (i.e.: worried a lot, unhappy with home/school conditions, afraid a lot)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
 - There was something terrible in my childhood that I wished I could change (but wasn't able to)
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree

Emotional abuse can be anything along the following lines: a caregiver or parent told me things to make me think I was unloved/worthless.

- I experienced *emotional* abuse from a caregiver or parent
 - a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree