A RETROSPECTIVE STUDY OF CHILD AND ADOLESCENT RISK FACTORS AND THEIR RELATION TO THE DARK TRIAD CORE PERSONALITY TRAITS

By

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ABSTRACT

The Dark Triad consists of three overlapping personality traits: Psychopathy, Machiavellianism, and Narcissism, (Paulhus & Williams, 2002). This investigation examines two main research goals. The first aims to identify the common traits that occupy the core of the Dark Triad of personality. The literature suggests that the Dark Triad Core traits are low agreeableness (e.g., Jakobwitz & Egan, 2006), aggression (e.g., Kerig & Stellwagen, 2010), impulsivity (e.g., Thomaes, Bushman, De Castro, & Stegge, 2009), low emotional intelligence (e.g., Ali, Amorim & Chamorro-Premuzic, 2009), and potentially low neuroticism (Paulhus & Williams, 2002). The second research goal aims to identify a developmental trajectory of how early life risk factors influence each other and the Dark Triad. The literature suggests that being raised in a low SES environment (e.g., Chapple & Johnson, 2007), experiencing trauma (e.g., Tackett et al., 2009), and being the child of poor parenting styles (e.g., De Clercq et al., 2008), are related to the occurrence of the Dark Triad. An anxious or avoidant attachment style (Loeber & Hay, 1997) and low self-control (Gramzow et al., 2004) may also predict the Dark Triad.

Using a sample of 546 adults, the first study demonstrated that the proposed Dark Triad Core traits represent a construct that is overlapping, but not equivalent to, the construct represented by the Dark Triad personality traits. Psychopathy, Machiavellianism, Narcissism, low agreeableness, and aggression load one factor, while aggression, impulsivity, low emotional intelligence, neuroticism, Narcissism and Machiavellianism load a second correlated factor. Using Structural Equation Modeling, several models were tested and a final model was generated that provides a preliminary developmental trajectory of the Dark Triad. This model indicates that poor parenting practices tend to increase the expression of anxious attachment in children. Furthermore, fathers’ poor parenting marginally decreases children’s self-control. Experiencing
trauma also tends to increase anxious attachment and decrease self-control in victims. Then, anxious attachment and low self-control influence the expression of the Dark Triad. This line of research begins to define the core of the Dark Triad, while also defining the impact of childhood experiences and personal characteristics in the expression of the Dark Triad.
ACKNOWLEDGEMENTS

I would like to thank my family for providing me with the support and encouragement necessary to reach this point in my academic career. Without the consistent reassurance and excitement in my educational endeavors, I may not have persevered and pursued a Master’s degree and thesis project. Thank you for emphasizing the importance of education. It has made a focal impact in my life, as I now reach this milestone in my university academic career.

I would like to thank God for bestowing the gifts of intelligence, motivation and intellect upon me, and those who raised me. God has been a perpetual source of comfort in the midst of a sometimes high-stress academic environment.

I am very grateful to my supervisors, who provided me with much guidance, freedom to develop my own ideas, a boundless amount of coaching, and extensive knowledge. A special thank you to Dr. Cynthia Fekken, who took a significant amount of time to assist me through the entire process. I am thankful to my committee members, Dr. Wendy Craig and Dr. Lee Fabrigar, who provided me with extensive revisions and suggestions. A particular thank you to Lee for a wealth of statistical expertise and counseling and especially for sticking with me through SEM problems that placed me in the top 1% of worst-case scenarios from your extensive career!

Finally, I would like to thank the members of the Personality Assessment laboratory for taking an interest in this project, and for providing a listening ear and useful advice throughout the research process.
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Trauma

Poor Parenting

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Insecure Attachment

Low Self-Control

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CHAPTER 1

Introduction

The popular media has long created iconic characters that are defined by their dark personality traits. From the psychopathic serial killer to the manipulative, narcissistic CEO, these cold, manipulative, “evil” characters appear as leads in a variety of films and television programs. Yet is our interest in these dark personalities disproportionate to their prevalence in real life? One common dark personality trait, Psychopathy, is estimated to occur in 1% of the general population, with higher estimates for prison inmates (ranging from 7% to 25%; Neumann & Hare, 2008). Then again, although Dark Personalities may be relatively rare in the general population, those who possess them are responsible for a disproportionately large amount of antisocial behaviour carried out on others. Given their antisocial nature, the combination of multiple Dark Personality traits is even more frightening.

The Dark Triad consists of three personality traits: Machiavellianism (manipulation of others), Narcissism (feelings of grandiosity, entitlement, dominance and superiority of the self), and Psychopathy (high impulsivity and thrill seeking accompanied by low empathy and anxiety; Paulhus & Williams, 2002). Previous empirical literature has related the Dark Triad to normal personality traits, particularly disagreeableness (Paulhus & Williams, 2002; Jonason & Tost, 2010; Lee & Ashton, 2005; Vernon et al., 2008). However, recent work has suggested that the Dark Triad construct may be better understood as a form of disordered personality or psychopathology, marked by interpersonal problems, alienation, and impulse control problems (i.e., social symptomatology; Stead, Fekken, Kay & McDermott, 2011). Furthermore, research indicates that the Dark Triad traits are overlapping, but distinct constructs. The Dark Triad
personality traits share a number of central traits, including a socially malevolent character with self-promoting behavioural tendencies, emotional coldness, duplicity and aggressiveness, indicating the overlapping nature of these traits (Paulhus & Williams, 2002). The first study will focus on the overlapping part of the Dark Triad personality traits by attempting to identify the core of the Dark Triad (i.e., that which is shared by Psychopathy, Machiavellianism, and Narcissism).

Then, the second study will examine childhood and adolescent experiences and dispositional characteristics that have been shown to be risk factors for developing the Dark Triad traits. The literature suggests that being raised in a low SES environment (e.g., Chapple & Johnson, 2007), experiencing trauma (e.g., Tackett et al., 2009), and being the child of poor parenting styles (e.g., De Clercq et al., 2008), are associated with the Dark Triad personality traits, as well as with the proposed Dark Triad Core traits (see Study 1). An anxious or avoidant attachment style (Loeber & Hay, 1997) and low self-control (Gramzow et al., 2004) may also predict both sets of Dark Triad Core traits. The second study, then, aims to identify an empirical model of how these early life risk factors influence each other and the expression of the Dark Triad personality style in adulthood.

**Literature Review**

Currently, the Dark Triad literature focuses primarily on the relationships of the individual Dark Triad personality traits with one another and with a variety of other factors (e.g., personality dimensions, behaviours, tendencies, and attitudes). While we know much about the individual Dark Triad personality traits, less is known about what specific traits and characteristics these personality traits have in common. Thus, there is a gap in the literature that needs to be addressed; namely, what are the defining features that the Dark Triad personality
traits share? In other words, what defines the core of the Dark Triad? Study 1 will attempt to address this gap in knowledge by identifying the defining features of the Dark Triad as a composite construct (referred to as the “Dark Triad Core”).

In order to enhance conceptual understanding and sharpen treatment goals, it is essential to identify the focal traits that the Dark Triad personality traits have in common. The “core” is defined as the central, innermost, or most essential part of any construct. Identification of the Dark Triad Core traits will guide research aiming to study variables in relation to the Dark Triad as a single unifying construct. Examination of the literature supports five traits that occupy the core of the Dark Triad: disagreeableness, aggressiveness, impulsiveness, lack of emotional intelligence, and a non-neurotic disposition. The core of the Dark Triad captures what is common to Machiavellianism, Narcissism, and Psychopathy, and excludes traits that are not common to the Dark Triad personality traits. The creation of this unifying core construct allows our research to examine the etiology of the Dark Triad Core by examining numerous risk factors.

The most robust finding in the literature is the negative association between the personality trait agreeableness and the Dark Triad. Agreeableness is defined as a tendency to be compassionate and cooperative in social situations, rather than distrustful and antagonistic toward others. Jakobwitz and Egan (2006) found that Psychopathy was negatively correlated with agreeableness and all the Dark Triad traits loaded positively on a factor, upon which agreeableness loaded negatively. This study indicated that this dark dimension of personality, namely the Dark Triad, could be described in terms of low agreeableness. In addition, Lee and Ashton (2005) demonstrated moderate negative correlations between the Dark Triad traits Psychopathy and Machiavellianism and agreeableness. Furthermore, Narcissism is negatively
correlated with agreeableness (Miller et al., 2010). These robust associations demonstrate that low agreeableness is at the core of the Dark Triad.

The Dark Triad traits also share a number of positive relationships with aggression. Aggression is a multi-faceted construct that is defined as possessing hostile, and sometimes violent, behaviour and attitudes toward others. Kerig and Stellwagen (2010) found that Narcissism predicted reactive and physical aggression. Also, Machiavellianism mediated the relationship between Narcissism and relational aggression. The authors concluded that the “psychopathy trifecta” of impulsivity, callous unemotional traits, and Narcissism appears to be helpful for identifying children who are most likely to engage in physical and proactive aggression (Kerig & Stellwagen 2010). Furthermore, Jones and Paulhus (2010) showed that narcissists tend to aggress in response to a personal insult and psychopaths tend to aggress in response to physical provocation. These findings indicate that an aggressive disposition is a core trait of the Dark Triad.

Impulsivity is also of pivotal importance to the Dark Triad construct. Thomaes, Bushman, De Castro, and Stegge (2009) contend that impulsivity is implicated via approach temperament in the development of Narcissism. Approach temperament is a biological sensitivity to positive or reward stimuli that results in increased vigilance for, reactivity to, and a behavioral predisposition toward positive stimuli. This link demonstrates that an “impulsive” temperament may contribute to the development of Narcissism by predisposing an individual to seek out positive associations regarding their self-concept. The authors also show that narcissists display behavioural characteristics such as impulsivity in addition to aggression. Furthermore, Jonason and Tost (2010) found that Psychopathy and Machiavellianism were correlated with low self-control, a tendency to discount future consequences, and high rates of attention deficit
disorder. These traits are characteristic of an impulsive disposition. Therefore research suggests that impulsivity is also a part of the core of the Dark Triad.

The Dark Triad traits are also linked to a variety of emotional dysfunctions, such as difficulties in recognizing or inferring other’s emotions or experiencing emotions in an abnormal fashion, all of which are characteristic of an individual with low emotional intelligence. Ali and Chamorro-Premuzic (2010) found that Psychopathy and Machiavellianism were positively correlated with global empathy deficits and theory of mind deficits, indicating that the ability to understand and infer the emotions and emotional experiences of others are deficient in psychopathic and Machiavellian personality styles. In addition, Ali, Amorim and Chamorro-Premuzic (2009) found that primary Psychopathy and Machiavellianism were positively associated with the experience of positive affect from sad stimuli, while secondary Psychopathy and Machiavellianism were positively associated with the experience of negative affect in response to neutral stimuli. The opposite pattern was found for trait emotional intelligence. This provides support for the view that psychopathic and Machiavellian personality styles experience emotions differently than the average person. Individuals with Dark Triad personality styles are deficient in experiencing, assessing, and controlling the emotions of themselves, and others. Therefore, low emotional intelligence is at the center of the Dark Triad.

Finally, there is evidence that a lack of neuroticism or anxiety is common to some of the Dark Triad traits. Neuroticism is defined as a tendency to experience emotional instability or negative emotions such as anger or anxiety. Psychopathy is associated with a lack of neuroticism and anxiety (e.g., Paulhus & Williams, 2002). However, there is also evidence that Machiavellianism may be positively associated with negative affect like anxiety and neuroticism (McHoskey, Worzel, & Szyarto, 1998). Therefore, we tentatively predict that low neuroticism
may be a core trait of the Dark Triad. The results of this study will help us determine the directionality of neuroticism’s influence on the Dark Triad Core.

The literature suggests that the Dark Triad construct can be understood as a personality style characterized by disagreeableness, aggressiveness, impulsivity, low emotional intelligence, and possibly a lack of neuroticism. These traits are likely overlapping and interacting in the space occupied by the core of the Dark Triad. The first study will relate independent and relatively pure measures of the five proposed Dark Triad Core traits and the three Dark Triad personality traits to empirically determine if they all represent a single latent construct—the Dark Triad Core.

CHAPTER 2

Method

Participants & Procedure

A community-dwelling sample of American adults (over the age of 18) was recruited online through Mechanical Turk, a crowd-sourcing Internet marketplace run through Amazon web services. The sample (N = 546) was comprised of 162 men and 384 women between the ages of 18 and 82 (M = 32.05, SD = 11.17). The sample was diverse: occupations ranged from farm laborers and menial service workers (12 participants) to higher executive and major professionals (29 participants). In addition there were also 64 unskilled workers, 110 clerical or sales workers/small farm ad business owners, and 123 administrators, lesser professionals, and proprietors or medium-sized businesses. Similarly, education level ranged from completion of grades 7, 8, or 9 (3 participants), to completion of graduate professional training (82 participants). There were also 197 participants who partially completed college or technical/specialized training, and 209 participants completed college or university. Finally, the
majority of participants earned either under $20 000 (233 participants) or $20 000-$40 000 (147 participants).

Participants browsed Human Intelligence Tasks (HITs) on Mechanical Turk and chose our study. They were offered $2 compensation for completing the study (an amount that was chosen to be higher than the going-rate for similar HITs). Once participants chose to complete the HIT they were transferred to Survey Monkey, an online tool for creating and administering self-report measures online. In Survey Monkey, all participants reviewed an electronic letter of information, provided informed consent, completed the questionnaires, and were debriefed about the purpose of the research in accordance with Queen’s University ethical provisions. At the end, participants returned to Mechanical Turk and submitted the completed HIT in order to receive compensation.

Materials

Proposed Dark Triad Core Traits:

**NEO Personality Inventory—Agreeableness subscale** (NEO PI; Costa & McCrae, 1992) is a 48-item measure of the Big Five personality trait agreeableness. Participants rate each item on a 5-point scale ranging from “strongly disagree” to “strongly agree.” Higher scores indicate a higher degree of agreeableness; thus, low scores on this variable are expected to relate to the Dark Triad traits. The NEO PI agreeableness subscale has strong internal consistency ($\alpha = .86$; Costa & McCrae, 1992). Cronbach’s alpha in the current sample was .84.

**NEO Five Factor Inventory—Neuroticism subscale** (NEO FFI; McCrae & Costa, 2004) is a 12-item measure of the Big Five personality trait neuroticism. Participants rate each item on a 5-point scale ranging from “strongly disagree” to “strongly agree.” Higher scores indicate a higher degree of neuroticism; thus, low scores on this variable are expected to relate to the other
variables in this analysis. The NEO FFI has also shown acceptable reliability and validity estimates (McCrae & Costa, 2004). Cronbach’s alpha was .91 in the current sample.

The Aggression Questionnaire (AQ; Buss & Perry, 1992) is a 29-item measure of aggression that requires participants to rate each item on a 5-point scale ranging from 1 (Not at all characteristic of me) to 5 (Extremely characteristic of me). The scale showed good internal consistency and stability over time (Buss & Perry, 1992).

Trait Emotional Intelligence Questionnaire—Short Form (TEIQ-SF; Petrides & Furnham, 2004) is a 30-item measure of emotional intelligence (experiencing, recognizing and interpreting emotions). Participants rate each item on a 7-point scale ranging from 1 (Completely disagree) to 7 (Completely agree). TEIQ-SF scores have been shown to be normally distributed and reliable, and evidence of convergent and discriminant validity have been documented (Mikolajczak, Luminet, Leroy, & Roy, 2007).

Barratt Impulsiveness Scale 11 (BIS-11; Patton, Stanford & Barratt, 1995) is a 30-item measure of impulsivity. Participants rate each item on a 4-point scale ranging from 1 (Rarely/Never) to 4 (Almost Always/Always). There is evidence that the BIS-11 is an internally consistent measure of impulsiveness that has clinical utility with non-clinical, patient and inmate populations (Patton, Stanford & Barratt, 1995).

The Dark Triad Traits:

MACH-IV (Christie & Geis, 1970) is a 20-item measure of Machiavellianism. Participants rate items on a 7-point scale (1 = strongly disagree, 7 = strongly agree). Cronbach’s alpha has been reported as .70 (Fekken & Kay, 2010).

Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) has 40 items consisting of pairs of attitudes and participants choose the attitude that best applies to them. The option that represents
the more narcissistic attitude receives a score of 2, whereas the less narcissistic response receives a score of 1. Therefore, higher scores indicate a higher degree of narcissism. This scale has reliability of .81 (Fekken & Kay, 2010).

*Self-report Psychopathy Scale-III-R* (SRP-III-R; Forth, Brown, Hart, & Hare, 1996) is a 31-item measure of Psychopathy. Participants respond to items using a 5-point scale (1 = strongly disagree, 5 = strongly agree). Cronbach’s alphas range from .70 to .89 (Forth, Brown, Hart, & Hare, 1996).

**CHAPTER 3**

**Results**

*Descriptive Statistics*

For all participants, descriptive statistics for the proposed Dark Triad Core traits and the Dark Triad personality traits are displayed in Table 1. The range of scores on each measure, as well as their scaled mean responses, are reasonable and in accordance with past literature. Examining the distribution of these variables indicates a series of relatively normally distributed scores. As would be expected given the relatively infrequent occurrence of high scores on the Dark Triad scales, Narcissism and subclinical Psychopathy were slightly positively skewed (skewness = .55). Finally, the scales had strong internal consistencies (Cronbach’s α above .80 for all variables), indicating that the various items of each scale are highly correlated to one another and are therefore measuring the same construct.

*Examining the Equivalence of the Proposed Dark Triad Core & the Dark Triad Traits*

In order to determine if disagreeableness, aggression, impulsivity, low emotional intelligence, and a lack of neuroticism occupy the same Core space as Psychopathy, Machiavellianism, and Narcissism, two analytical approaches were taken. First, the correlations
Table 1

<table>
<thead>
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<th>Descriptive Statistics</th>
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<tbody>
<tr>
<td>N</td>
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<tr>
<td>Proposed Dark Triad Core:</td>
</tr>
<tr>
<td>Agreeableness (NEO-PI)</td>
</tr>
<tr>
<td>Neuroticism (NEO-FFI)</td>
</tr>
<tr>
<td>Aggression (AQ)</td>
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<tr>
<td>Emotional Intelligence (TEIQ)</td>
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<tr>
<td>Impulsivity (BIS)</td>
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<tr>
<td>Dark Triad Personality Traits:</td>
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<tr>
<td>Narcissism (NPI)</td>
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<tr>
<td>Psychopathy (SRPS)</td>
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<tr>
<td>Machiavellianism (MACH-IV)</td>
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between the eight variables were examined and interpreted. Second, two sets of Exploratory Factor Analyses were conducted on the variables to determine whether they better fit a 2-factor solution (i.e., the variables represent two distinct Dark Triad constructs) or a 1-factor solution (i.e., all variables represent the same Dark Triad Core).

**Correlations**

Examination of Table 2 indicates that the correlations between variables are moderate and thus multicollinearity is not a problem in this sample. In replication of past research, Psychopathy, Machiavellianism, and Narcissism are positively correlated with one another. Furthermore, the proposed Dark Triad Core traits are all correlated with one another, indicating that they are also conceptually and empirically related to each other. Of particular interest to this study are the correlations between the proposed Dark Triad Core traits and Psychopathy, Machiavellianism, and Narcissism. Low agreeableness, aggression, and impulsivity were consistently correlated with the Dark Triad personality traits in expected directions. Examining the effect size of these relationships according to Cohen’s (1988) guidelines indicates that they range from small to large effect sizes. For instance, 44% of the variance in Machiavellianism is shared with agreeableness ($r = .66$, $r^2 = .44$), yet only 3% of the variance in Narcissism is shared with impulsivity ($r = .17$, $r^2 = .03$). Therefore, disagreeableness, aggression, and impulsivity are correlated with the Dark Triad in consistent directions, but with varied effect sizes.

The relationships between emotional intelligence, neuroticism, and the Dark Triad are less clear and consistent. As predicted, emotional intelligence was negatively correlated with Psychopathy and Machiavellianism, but surprisingly was positively correlated with Narcissism. Furthermore, neuroticism was negatively correlated with Narcissism, as predicted.
Table 2

<table>
<thead>
<tr>
<th>Proposed Dark Triad Core:</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<tbody>
<tr>
<td>1. Agreeableness</td>
<td>1.00</td>
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<td>2. Neuroticism</td>
<td>-0.19**</td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Aggression</td>
<td>-0.68**</td>
<td>0.52**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Emotional Intelligence</td>
<td>0.31**</td>
<td>-0.70**</td>
<td>-0.54**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Impulsivity</td>
<td>-0.28**</td>
<td>0.42**</td>
<td>0.47**</td>
<td>-0.50**</td>
<td>1.00</td>
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<tr>
<th>Dark Triad Traits:</th>
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<tbody>
<tr>
<td>6. Narcissism</td>
<td>-0.46**</td>
<td>-0.20**</td>
<td>0.26**</td>
<td>0.20**</td>
<td>0.17**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Psychopathy</td>
<td>-0.58**</td>
<td>0.08</td>
<td>0.48**</td>
<td>-0.20**</td>
<td>0.49**</td>
<td>0.57**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>8. Machiavellianism</td>
<td>-0.66**</td>
<td>0.35**</td>
<td>0.52**</td>
<td>-0.42**</td>
<td>0.34**</td>
<td>0.23**</td>
<td>0.48**</td>
<td>1.00</td>
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</table>

*Note.* **Correlations are significant at $p < .01$ level.
However, contrary to expectation neuroticism was positively correlated with Machiavellianism and was unrelated to Psychopathy. Furthermore, according to Cohen (1988), the effect sizes of these correlations are small. For instance, the largest correlation, between emotional intelligence and Machiavellianism ($r = -.42, r^2 = .18$), had only 18% shared variance. Therefore, emotional intelligence and neuroticism are related to the Dark Triad; however, the strength and consistency of the relationships are not sufficient to conclude that they occupy part of the Dark Triad Core.

*Maximum Likelihood Factor Analysis*

Two sets of exploratory factor analyses were conducted to address whether agreeableness, aggression, impulsivity, emotional intelligence, neuroticism, Psychopathy, Machiavellianism, and Narcissism represent the same underlying core construct. First, we examined a 2-factor solution to determine if the proposed Dark Triad Core traits and the Dark Triad personality traits load distinct factors, which would indicate that, counter to hypotheses, they do not represent the same underlying Dark Triad Core construct. Then, we also examined a 1-factor solution to determine if all variables significantly load the single Dark Triad Core factor, in accordance with hypotheses.

*Exploratory Factor Analysis of a 2-Factor Solution*

Exploratory Factor Analysis was conducted on agreeableness, neuroticism, aggression, emotional intelligence, and impulsivity with Psychopathy, Machiavellianism, and Narcissism. Maximum Likelihood Factor Analysis with Direct Oblimin rotation was conducted to allow the two factors to correlate. The factors were modestly correlated ($r = .25$) indicating that the two factors share 6.25% variance. The 2-factor Oblimin-rotated solution accounts for 60.87% of the total variance (see Table 3). The extracted communalities (see Table 4) for all variables were above .36, indicating that the two factors accounted for a significant percentage of variance.
Table 3

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sum of Squared Loadings</th>
<th>Rotation Sum of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total % of Variance</td>
<td>Cumulative %</td>
<td>Total % of Variance</td>
</tr>
<tr>
<td>1</td>
<td>3.77 47.12</td>
<td>47.12</td>
<td>3.37 41.75</td>
</tr>
<tr>
<td>2</td>
<td>1.83 22.89</td>
<td>70.01</td>
<td>1.50 18.73</td>
</tr>
</tbody>
</table>

*Note.* Extraction Method: Maximum Likelihood.

Table 4

<table>
<thead>
<tr>
<th>Communalities</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Proposed Dark Triad Core:</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.70</td>
<td>.72</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.58</td>
<td>.67</td>
</tr>
<tr>
<td>Aggression</td>
<td>.66</td>
<td>.69</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>.62</td>
<td>.76</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.45</td>
<td>.36</td>
</tr>
<tr>
<td><em>Dark Triad Traits:</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narcissism</td>
<td>.49</td>
<td>.58</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>.58</td>
<td>.59</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>.52</td>
<td>.50</td>
</tr>
</tbody>
</table>

*Note.* Extraction Method: Maximum Likelihood
in each variable. The Oblimin rotated 2-factor solution is presented in Table 5. Neuroticism, 
aggression, low emotional intelligence, impulsivity, low Narcissism and Machiavellianism 
loaded the first factor. Then, low agreeableness, aggression, impulsivity, Narcissism, 
Psychopathy and Machiavellianism loaded the second factor. While the Dark Triad personality 
traits loaded the second factor, low agreeableness, aggression, and potentially impulsivity, also 
loaded this factor, indicating that they may occupy a part of the Dark Triad Core construct. The 
role of neuroticism and emotional intelligence in the Dark Triad Core is less clear; while they did 
not load the second factor with the Dark Triad personality traits, they were associated with 
Narcissism and Machiavellianism on the first factor. Together, this analysis provides a 
preliminary indication that the proposed Dark Triad Core traits and the Dark Triad personality 
traits represent related and overlapping, but not identical, constructs.

*Exploratory Factor Analysis of a 1-Factor Solution*

Next, Exploratory Maximum Likelihood Factor Analysis was conducted while 
constraining the number of factors to one. The 1-factor solution accounts for 40.23% of the total 
variance. The extracted communalities for the variables were generally high (above .30), with the 
exception of Neuroticism and Narcissism, for which less variance was explained than the other 
variables. The factor solution is presented in Table 6. The single factor was loaded by a lack of 
agreeableness, neuroticism, aggression, a lack of emotional intelligence, impulsivity, Narcissism, 
Psychopathy, and Machiavellianism, indicating that all variables are related to one another and to 
a single underlying factor. All factor loadings were in predicted directions, expect for 
neuroticism, which held a positive loading on the factor when a lack of neuroticism was 
tentatively predicted to load the Dark Triad Core. However, due to the tentative nature of our 
hypotheses regarding neuroticism’s place in the Dark Triad Core, and the mixed directionality of
### Table 5

#### Rotated Pattern Matrix

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposed Dark Triad Core:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.21</td>
<td>-.77</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.84</td>
<td>-.13</td>
</tr>
<tr>
<td>Aggression</td>
<td>.55</td>
<td>.50</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>-.88</td>
<td>.05</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.47</td>
<td>.27</td>
</tr>
<tr>
<td><strong>Dark Triad Core Traits:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narcissism</td>
<td>-.36</td>
<td>.77</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>.05</td>
<td>.76</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>.38</td>
<td>.51</td>
</tr>
<tr>
<td><strong>% of variance accounted for</strong></td>
<td>42.14</td>
<td>18.73</td>
</tr>
</tbody>
</table>

*Note.* Extraction Method: Maximum Likelihood
Rotation Method: Direct Oblimin

### Table 6

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposed Dark Triad Core:</strong></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.78</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.49</td>
</tr>
<tr>
<td>Aggression</td>
<td>.84</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>-.57</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.56</td>
</tr>
<tr>
<td><strong>Dark Triad Core Traits:</strong></td>
<td></td>
</tr>
<tr>
<td>Narcissism</td>
<td>.35</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>.64</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>.71</td>
</tr>
</tbody>
</table>

*Note.* Extraction Method: Maximum Likelihood
its correlations with the other traits (see Table 2), this is not surprising.

**Comparing Solutions to Determine the Best Conceptualization of the Dark Triad Core**

The results of the correlations and the two exploratory factor analyses indicate that the Proposed Dark Triad Core traits are highly related to the Dark Triad personality traits. Furthermore, the Dark Triad Core variables fit both a 2-factor and 1-factor solution. Yet, the 2-factor solution accounted for a larger proportion of the overall variance, as well as more of the variance in each of the individual Dark Triad variables. On the other hand, the 1-factor solution did not well account for the variance in narcissism or neuroticism. Thus, it appears that the 2-factor solution provides the best conceptualization of the Dark Triad Core. Thus, Psychopathy, Machiavellianism, Narcissism, low agreeableness, aggression, and impulsivity characterize the Dark Triad Core. Neuroticism and low emotional intelligence are more tangentially related to the Dark Triad Core.

**CHAPTER 4**

**Discussion**

The results of Study 1 indicate that the proposed Dark Triad Core traits and the Dark Triad personality traits do not best represent a single underlying construct. Rather, the Proposed Dark Triad Core traits represent a construct that is similar, but not equivalent, to the Dark Triad Core (i.e., they are related or overlapping). Three of the proposed Dark Triad Core traits, namely, agreeableness, aggression, and impulsivity, were consistently correlated with all three Dark Triad personality traits in predicted directions. However, a lack of emotional intelligence and neuroticism showed inconsistent relationships with the Dark Triad personality traits. Having low emotional intelligence and neuroticism are related to the Dark Triad traits, but may not be “Core” components of the Dark Triad in the same way disagreeableness, aggression, and impulsivity
appear to be. Factor Analysis supports a 2-factor solution in which low agreeableness, aggression, and possibly impulsivity, load with the Dark Triad personality traits. In addition, low emotional intelligence and neuroticism load with Narcissism and Machiavellianism. Finally, factor analysis also supports the interpretability of a single factor, loaded by low agreeableness, neuroticism, aggression, low emotional intelligence, impulsivity, Narcissism, Psychopathy, and Machiavellianism.

Therefore, while all variables are highly related, there is not consistent evidence indicating that they are representative of a single “Dark Triad Core” construct. This investigation provides preliminary evidence for the place of low agreeableness, aggression, and impulsivity in the Dark Triad Core. Despite a strong theoretical rationale, further analyses are needed to confirm the place of low emotional intelligence and neuroticism in the Dark Triad Core.

*Identifying the Dark Triad Core: Conceptual Challenges*

The results of this investigation are in line with the robust finding that the Dark Triad personality traits are overlapping, but distinct constructs. While the Dark Triad personality traits share a number of central features like disagreeableness, aggression, and impulsivity, the traits also form inconsistent relationships with other features like neuroticism and emotional intelligence. This highlights the difficulty in parsing out the common variance in three related but distinct personality traits. The Dark Triad personality traits are sufficiently distinct as to form unique relationships with potential Core traits. Therefore, it is difficult to identify an aggregation of traits that represent a common core to the three Dark Triad personality traits.

Given the difficulties inherent in this research goal, it is important to conceptually and empirically define what a core trait is. From a conceptual point of view, the *core* of a construct can be defined as the innermost central components of that construct, or as the most basic and
important aspects of that construct—i.e., its essence. The literature supports the contention that agreeableness, aggression, impulsivity, emotional intelligence, and neuroticism should meet the definition of core Dark Triad features, as they have been empirically related to the Dark Triad across numerous studies, which suggests they are central and important to the Dark Triad. From an empirical standpoint, the core can be defined statistically as the latent variable that forms by simultaneously assessing the innermost and essential aspects of the Dark Triad. Thus, the presence of a single latent core factor can be discovered through data reduction techniques in the form of factor analysis. The results of Study 1 fail to demonstrate that agreeableness, aggression, impulsivity, emotional intelligence, and neuroticism form the same latent factor as the Dark Triad personality traits. However, there is evidence that agreeableness, aggression, and impulsivity, do share variance with the Dark Triad. Therefore, overall the proposed Dark Triad Core traits do not meet the empirical definition of core traits, despite their conceptual promise derived from prior research. Yet, there is reason to believe that the two latent variables are overlapping and all the Dark Triad variables did support an interpretable 1-factor solution. Therefore, there is reason to continue exploring both sets of indicators of the Dark Triad Core in further analyses.

Limitations

This study relied on the use of self-report measures of personality. Using self-report can lead to overestimating relationships among variables because individuals tend to look for consistency in their own behaviour in order to establish a coherent view of themselves. Furthermore, a lack of insight into one’s own thoughts and behavior may lead to stereotypic responding which again may yield artificial relationships. In addition, the study used socially
undesirable items to tap anti-social personality traits. Therefore, social desirability, in the form of impression management, may have been an issue in this study.

Moreover, the study was completed online through Mechanical Turk on a voluntary basis with only a small cash reward for participation. With low incentives for accurate and thoughtful responding, there are likely some participants who answered some items in a rushed, dishonest, or simply careless fashion. It should be noted that careless responders were identified and removed via listwise deletion prior to analyses. Finally, participants had to be computer literate, have access to a computer, and be English speaking, which may limit generalizability of findings.

Implications for Future Research (Study 2)

The results of this investigation can inform future research, particularly the study to follow. Study 2 focuses on identifying early risk factors that are empirically related to the Dark Triad Core. Given the lack of sufficient evidence that disagreeableness, aggression, impulsivity, low emotional intelligence, and low neuroticism represent the Dark Triad Core, the actual Dark Triad traits (Psychopathy, Machiavellianism, Narcissism) will be used as indicators of the Dark Triad Core in future research. However, the study provided evidence that agreeableness, aggression, impulsivity, emotional intelligence, and neuroticism are highly related to the Dark Triad Core. In addition, examination of the literature suggests that early risk factors relate to these traits as closely as they do to the Dark Triad personality traits. Therefore, even if the two representations of the Dark Triad personality style are not identical, they are both equally anti-social and antagonistic. Thus, this research would be more informative if we examined the developmental trajectory of both Dark Triad Core constructs, as both personality styles are in need of early intervention and prevention efforts. Finally, using both sets of variables as
alternative indicators of the Dark Triad Core allows for further statistical and conceptual comparisons to be made at the model development stage of this research. For these reasons, our literature review to follow examines potential risk factors as they relate to agreeableness, aggression, impulsivity, emotional intelligence, neuroticism, Psychopathy, Machiavellianism, and Narcissism.

**STUDY 2: BUILDING A DEVELOPMENTAL TRAJECTORY MODEL OF THE DARK TRIAD**

**CHAPTER 5**

**Introduction**

The Dark Triad personality style is incredibly antisocial and can result in individuals who carry out dangerous antisocial acts on others. Therefore, it is important to establish a developmental profile of individuals who possess these traits in adulthood in order to determine risk factors that are present early in life. The developmental profile of the Dark Triad will be essential in planning interventions for younger children who are surrounded by environmental risk factors and perhaps exhibiting early signs of dispositional risk factors for developing the Dark Triad personality style. It will also be useful in treatment planning for young adults who have already begun to display the precursors of the Dark Triad Core traits. Therefore, the clinical implications in terms of developing new intervention and treatment strategies in this area are potentially astounding. Furthermore, in the interests of protecting society at large from antisocial and potentially dangerous individuals, we must first understand their life history and the development of their pathological personality style. This new understanding will break new ground by building an etiological profile that enables us to understand better the life circumstances that breed antisocial personality traits. This etiological model will be useful for research, as well as clinical prevention and intervention efforts.
Literature Review

Identifying Childhood and Adolescent Risk Factors for Developing the Dark Triad

The empirical literature shows that a number of environmental factors appear to contribute to the development of the Dark Triad Core traits in adulthood, including low socioeconomic status (SES), experiencing traumatic events, or being exposed to poor parenting practices (either overly dismissive or coercive parenting styles). We will review these systematically.

Low SES is associated with the Dark Triad Core traits aggressiveness, low emotional intelligence, and impulsivity. For instance, aggressive individuals tend to be reared by a single parent (Loeber & Hay, 1997). Single parenthood, however, is associated with type of neighbourhood and family income, and the interaction between these factors explains some of the variance in aggression (Loeber & Hay, 1997). This relationship indicates a role of a low SES environment in the development of aggression. Also, alexithymia, which is characterized by difficulties experiencing, expressing, and describing emotions, is indicative of low emotional intelligence. Research has shown that alexithymia is associated with a rural upbringing, and being an unwanted child in a family with numerous siblings (Taylor & Bagby, 2004), both of which are characteristic of a low SES environment. Finally, living in poverty is a significant predictor of impulsivity in both boys and girls (Chapple & Johnson, 2007). Therefore, growing up in a low SES environment is a significant risk factor for developing the Dark Triad Core traits in adulthood.

Childhood trauma has also been implicated in the development of personality pathology generally, and the Dark Triad Core traits aggressiveness and low emotional intelligence, in particular. Tackett et al. (2009) review a number of early predictors of personality disorders in
adulthood. Individuals who suffered physical, sexual, and verbal abuse or neglect in childhood have an increased risk of developing a disordered personality style, like that of the Dark Triad. Furthermore, coercive interactions, physical punishment, or punitive discipline, and physical child abuse, are associated with a child’s later aggression and violence (Loeber & Hay, 1997). In addition, the link between childhood abuse or maltreatment and cognitive emotional deficits characteristic of low emotional intelligence is inconsistent; it varies based on the age of the child at the time of abuse, the duration of the abuse, and whether the child developed PTSD (Taylor & Bagby, 2004). Nonetheless, childhood trauma may still result in lasting emotional dysfunctions (i.e., low emotional intelligence) under extreme circumstances. These studies provide cumulative evidence that experiencing trauma is associated with the development of the Dark Triad Core traits over time.

Poor parenting practices are predictive of the development of the Dark Triad Core traits disagreeableness, aggressiveness, impulsivity, and in some cases a lack of neuroticism. Maltreated children tend to be lower in agreeableness (Tackett et al., 2009). De Clercq et al. (2008) also found that agreeableness interacted with parenting styles to predict externalizing and internalizing problems in children. In particular, significant interactions were found for disagreeableness and emotional instability with parental negative control, and for disagreeableness and positive parenting in explaining externalizing problems (De Clercq et al., 2008). In addition, overly coercive parenting styles are associated with the development of aggression (Loeber & Hay, 1997). Chapple and Johnson (2007) found that less monitoring and the use of non-positive discipline are associated with the development of impulsivity. Finally, high parental control is associated with high anxiety and neuroticism later in life (Ballash et al., 2006; Van Brakel, Muris, Bogels, & Thomassen, 2006; Messer & Beidel 1994), which leads us
to propose that having overly permissive parents would likely lead to low levels of neuroticism in their children. Taken together, these findings suggest that poor parenting styles contribute to the occurrence of the Dark Triad Core traits later in the child’s life.

There is also research evidence that directly links the environmental risk factors—living in a low SES environment, experiencing trauma, and being the child of poor parenting—to the Dark Triad personality traits. For instance, low SES relates to Psychopathy; Walsh and Kosson (2007) found that among European Americans, Psychopathy predicted violence recidivism at low levels of SES, but was unrelated to violence at high levels of SES, indicating that a low SES environment affects the expression of psychopathic behaviours.

Furthermore, trauma is associated with the Dark Triad personality traits. Individuals who score high in Psychopathy tend to have low levels of PTSD and suicide attempts, despite having had substantial exposure to trauma (Hicks, Vaidyanathan, & Patrick, 2010). There is also evidence that links sexual trauma to Psychopathy in females, and to impulse control problems in males (Valentine, 2000). Miller et al. (2000) demonstrated that aspects of Psychopathy and Narcissism were correlated with physical, sexual, verbal, and emotional abuse. Finally, Gerzi (2005) argued that every traumatic experience involves a blow to a narcissist’s self-confidence, and discussed how trauma and Narcissism are entwined.

Finally, poor parenting practices are related to the Dark Triad personality traits. Psychopathy and Narcissism have been negatively correlated with both parental warmth and parental monitoring (Miller et al., 2010). In addition, perceived parental permissiveness and authoritarianism served as independent predictors of greater narcissistic tendencies (Ramsey, Watson, Biderman, Reeves, 1996). In further support of the link between Narcissism and parenting practices, Watson, Little, and Biderman (1992) found that parental authoritativeness
was associated with less narcissistic maladjustment and grandiosity, whereas parental permissiveness was associated with immature grandiosity. Finally, Hood (2000) found that dysfunctional family systems, particularly family discord and weak family relationships defined by low communication and cohesion, were strong predictors of antisocial behaviours and personality styles.

In addition to the environmental risk factors reviewed, a number of personal characteristics appear to contribute to the development of the Dark Triad Core. An insecure attachment style and low trait self-control are risk factors for the expression of the Dark Triad Core in later life.

Insecure attachment has been linked to the majority of the Dark Triad Core traits, including aggressiveness, low emotional intelligence, impulsivity, and a lack of neuroticism. Insecurely attached relationships in infancy and early childhood predict later behavioural problems and aggression, particularly in boys (Loeber & Hay, 1997). Attachment experiences in early childhood influence the development of emotional schemas and other cognitive skills involved in affect regulation (Taylor & Bagby, 2004). Furthermore, alexithymia has been associated with insecure attachment—either an avoidant or dismissing style, or a preoccupied or fearful style (Taylor & Bagby, 2004), indicating a developmental role of insecure attachment in low emotional intelligence. Chapple and Johnson (2007) found that low attachment to one’s mother was a significant predictor of children’s impulsivity, although this relationship was stronger for boys than girls. There is some evidence that insecure attachment styles, such as dismissive attachment, are associated with low self-reported anxiety (Pianta, Egland, & Adam, 1996). However, insecure attachment styles have also been associated with more anxiety symptoms (e.g., Van Brakel, Muris, Bogels & Thomassen, 1994). Taken together, these findings
indicate an ambiguous relationship between insecure attachment and anxiety or neuroticism. Nonetheless, these studies support the overall contention that insecure attachment styles in infancy and childhood predict a number of the Dark Triad Core traits in adulthood.

In addition, low self-control is implicated in the development of disagreeableness and neuroticism, highlighting the fact that a lack of self-control also occupies part of the Dark Triad Core. There is strong evidence that effortful control, deliberate self-control related to anger and aggression, is a precursor to adult levels of trait agreeableness (e.g., Cumberland-Li, Eisenberg, & Reiser, 2004). Agreeableness is associated with high levels of ego-control (Gramzow et al., 2004), suggesting that disagreeable individuals tend to have less self-control. Furthermore, Van Brakel, Muris, Bogels, and Thomassen (2006) found that behavioural inhibition (i.e., self-control) was positively associated with anxiety and neuroticism. This suggests that a lack of self-control is likely characteristic of individuals low in neuroticism or anxiety. Therefore, lack of self-control appears to be an important precursor to the development of a dark personality style like that of the Dark Triad Core.

There is also research linking insecure attachment styles and low-self control directly to the Dark Triad personality traits, namely, Psychopathy, Machiavellianism, and Narcissism. For instance, insecure attachment (i.e., avoidant) patterns in childhood have been linked to Psychopathy in females (Shipley, 2000). Russell (2003) studied a group of domestic violence offenders and found that they scored higher than the general population on both Narcissism and insecure attachment, suggesting that the two co-occur in antisocial individuals. Finally, Hood (2000) demonstrated that poor early attachment was an antisocial influence on developing individuals.

Low trait self-control is also associated directly with the Dark Triad personality traits.
Jonason and Tost (2010) found that both Psychopathy and Machiavellianism are correlated with low self-control and a tendency to discount future consequences. Research also indicates that psychopathic individuals tend to be unsuccessful at attempting to self-regulate, which may reflect a cognitive deficit concerning the inability to attend and respond to a mismatch between expected and obtained outcomes (Varlamov, Khalifa, Liddle, Duggan, & Howard, 2010).

Finally, Morf and Rhodewalt (2001) conceptualize Narcissism as a self-regulatory processing system. In particular, because narcissists are insensitive to others’ concerns and view themselves as superior, their self-regulatory processes are often counterproductive (i.e., they undermine the self that these individuals are trying to maintain).

The literature provides numerous and extensive demonstrations that experiences present in a young person’s environment (i.e., being subjected to poor parenting practices, being the victim of trauma, and having a low SES upbringing), coupled with a young person’s disposition (i.e., possessing an insecure attachment style with one’s parents, and lacking in self-control) are related to the proposed Dark Triad Core traits, and the Dark Triad personality traits. For this reason, Study 2 aims to build and test alternative empirical models of how these variables relate to one another and to the Dark Triad Core.

*Developing Competing Developmental Trajectory Models of the Dark Triad*

The literature, coupled with the results of Study 1, supports the suggestion that the Dark Triad is also occupied by disagreeableness, aggressiveness, impulsivity, and potentially low emotional intelligence, and neuroticism. The purpose of Study 2 is to develop a conceptual understanding of early life factors that put one at risk for developing the anti-social and antagonistic Dark Triad personality style in adulthood. Due to the pernicious nature of the Dark Triad personality cluster, understanding its precursors can inform proactive intervention efforts
aimed at reducing its occurrence in later life.

Study 2 will begin this line of research by building several developmental models for further testing. The Dark Triad Core traits (i.e., disagreeableness, aggression, impulsivity, low emotional intelligence, neuroticism), as well as the actual Dark Triad personality traits (Psychopathy, Machiavellianism, Narcissism), will each be used as indicator variables representing the Dark Triad Core in two alternative versions of each proposed model. Using two separate sets of indicators to represent the Dark Triad Core allows for conceptual and statistical comparisons. In light of the mixed results of Study 1, we will examine whether the risk factors differentially affect the Dark Triad Core, as defined by two sets of distinct indicators. If consistent differences are found, it would provide further evidence that the two proposed Dark Triad Core constructs are not equivalent. Each of the three proposed models to follow will represent a set of alternative hypothetical pathways between the aforementioned risk factors and the Dark Triad, and they will be tested against one another to identify the most accurate developmental trajectory.

_Hypothesized Model 1: The Direct Environmental Effects Model_

Research supports a link between poor parenting styles and insecure attachment (e.g., Karavasilis, 1999; Barnett, Kidwell, & Leung, 1998) and between poor parenting styles and low self-control (e.g., Moilanen, 2005; Zhou, Eisenberg, Wang, & Reiser, 2004). Insecure attachment and low self-control, in turn, predict the Dark Triad Core traits. Low SES and childhood trauma, however, appear to have direct influences on the Dark Triad Core traits (e.g., Walsh & Kosson, 2007; Hood, 2000). These hypothesized risk pathways will form the first developmental model of the Dark Triad Core traits. In particular, it is hypothesized that low SES and trauma will directly predict the Dark Triad Core, whereas poor parenting will predict insecure attachment.
and low self-control, which in turn will predict the Dark Triad Core. Model 1A will test these pathways in relation to the five proposed Dark Triad Core traits as the outcome (see Figure 1). In the second instance, Model 1B will test the same hypothetical model using the actual Dark Triad personality traits as the indicators of the Dark Triad Core (see Figure 2).

*Hypothesized Model 2: The Parenting Mediated Model*

The first alternate model relates the environmental risk factors of low SES and trauma to poor parenting. Then poor parenting acts through insecure attachment and low self-control to affect the expression of the Dark Triad Core. Research indicates that living in a low SES environment is linked to having parents who engage in poor parenting practices (e.g., Suchman & Luther, 2000; Hood, 2000). Similarly, there is a demonstrated connection between experiencing trauma and having poor parents (e.g., Kaitz, Levy, Ebstein, Faraone, & Mankuta, 2009; Banyard, 1997). Therefore, this model predicts that low SES and trauma will influence poor parenting, which in turn will act to predict insecure attachment style and low self-control. Finally, Insecure attachment and low self-control will predict the development of the Dark Triad Core. Model 2A will use the proposed Dark Triad Core traits as the indicator variables representing the Dark Triad Core (see Figure 3). In addition, Model 2B will use the actual Dark Triad personality traits to represent the Dark Triad Core (see Figure 4).

*Hypothesized Model 3: The Fully Mediated Model*

Finally, we will test a fully mediated model that proposes a multi-interactional relationship between the environmental and personal risk factors as they relate to the Dark Triad Core. There is research evidence that links low SES to insecure attachment (e.g., Vaughn & Bost, 1999; Hood, 2000), as well as to low self-control (e.g., Johnson, 2009; Romig, 2003). As discussed previously, there is evidence that poor parenting relates to both insecure attachment
and low self-control. Finally, the literature links trauma to insecure attachment style (e.g., Johnson, 2010; Alexander et al., 1998), and low self-control (e.g., Melka, 2008; Storey, 1998). Therefore, the final model purports that low SES, poor parenting, and trauma, all act to predict both insecure attachment and low self-control, which in turn predict the Dark Triad Core. Again, Model 3A will use agreeableness, aggressiveness, impulsivity, low emotional intelligence, and low neuroticism as the indicators of the Dark Triad Core (see Figure 5). Model 3B, then, will use Psychopathy, Machiavellianism, and Narcissism as the indicators of the Dark Triad Core (see Figure 6).

CHAPTER 6

Method

Participants & Procedure

The same sample was used for both Study 1 and Study 2 analyses. The sample consisted of community-dwelling American adults ($N = 546; 162$ men and 384 women; between the ages of 18 and 82, $M = 32.05, SD = 11.17$). The sample was diverse: occupations ranged from farm laborers and menial service workers (~$20,000/year) to higher executive and major professionals (over $100,000/year). Similarly, education level ranged from completion of grades 7, 8, or 9, to completion of graduate professional training. For more information on the occupation, income, and education levels of participants in this sample see Study 1.

Participants were recruited on Mechanical Turk, where they browsed Human Intelligence Tasks (HITs), chose our study, completed the study on Survey Monkey, and were offered $2 compensation. All participants reviewed an electronic letter of information, provided informed consent, completed the questionnaires, and were debriefed about the purpose of the research in accordance with Queen’s University ethical provisions.
Materials

Risk Factors:

Experiences in Close Relationships Revised—Parental Adaptation (ECRR-PA; Fraley, Waller, & Brennan, 2000) is an adapted version of the 36-item self-report measure of attachment styles in adult relationships. Items were reworded to make them retrospective and applicable to one’s parent(s) as opposed to one’s partner. Participants rate each item on a 7-point scale ranging from 1 (Disagree strongly) to 7 (Agree strongly). The original ECR-R displays suitable convergent and discriminant validity (Sibley, Fischer, & Liu, 2005).

Self-Control Scale (SCS; Tangney, Baumeister, and Boone, 2004) is a 36-item measure of self-control. Participants rate each item on a 5-point scale ranging from 1 (Not at all) to 5 (Very much). The internal consistency and test-retest reliability of the SCS are high (Tangney, Baumeister, and Boone, 2004).

Barratt Simplified Measure of Social Status (BSMSS; Barratt, 2006) is a brief measure of socioeconomic status (SES) that is based on the education and occupation of each employed parent in the household. The scale is based on the original Hollingshead measure (1975) but is updated based on the work of Davis, Smith, Hodge, Hakao, and Treas (1991). Participants rate each parent’s occupation on a 9-point scale, and each parent’s education on a 7-point scale. Then, weighting and summing the occupation and education scores computes SES.

Adult Parental Acceptance Rejection Control Questionnaire Short Form—Mother and Father versions (Adult PARQ/C-F and PARQ/C-M; Rohner & Khaleque, 2005) are 29-item measures of each parent’s parenting style during one’s formative years (age 7-12). The measure is based on parental acceptance rejection theory, and consists of two dimensions of parenting: acceptance-rejection and control (Rohner, 2004). Participants rate each item on a 4-point scale.
that ranges from “Almost always true” to “Almost never true.” The PARQ/C-F and PARQ/C-M both have strong psychometric properties (Rohner & Khaleque, 2005).

*Traumatic Life Events Questionnaire* (TLEQ; Alvarez et al, 2011; Kubany et al., 2000) is a 23-item measure of exposure to a broad range of traumatic life events. Participants rate each item according to the frequency of occurrence on a 3-point scale ranging from “never” to more than twice”. If respondents choose “more than twice” they are asked to specify the number of times or provide a comment. The current study generated four trauma subscales using factor analysis: physical abuse by loved ones, physical violence by a stranger, accidents or unexpected trauma, and sexual abuse. The TLEQ displays adequate to excellent temporal stability and yielded similar rates of disclosure as those obtained via interview techniques (Kubany et al., 2000).

**Proposed Dark Triad Core Traits:**

*NEO Personality Inventory—Agreeableness subscale* (NEO PI; Costa & McCrae, 1992) is a 48-item measure of the Big Five personality trait agreeableness. Participants rate each item on a 5-point scale ranging from “strongly disagree” to “strongly agree.” Higher scores indicate a higher degree of agreeableness. The NEO PI agreeableness subscale has strong internal consistency (α = .86; Costa & McCrae, 1992).

*NEO Five Factor Inventory—Neuroticism subscale* (NEO FFI; McCrae & Costa, 2004) is a 12-item measure of the Big Five personality trait neuroticism. Participants rate each item on a 5-point scale ranging from “strongly disagree” to “strongly agree.” Higher scores indicate a higher degree of neuroticism. The NEO FFI has also shown acceptable reliability and validity estimates (McCrae & Costa, 2004).

*The Aggression Questionnaire* (AQ; Buss & Perry, 1992) is a 29-item measure of aggression that requires participants to rate each item on a 5-point scale ranging from 1 (Not at all characteristic
of me) to 5 (Extremely characteristic of me). The scale showed good internal consistency and stability over time (Buss & Perry, 1992).

*Trait Emotional Intelligence Questionnaire—Short Form* (TEIQ-SF; Petrides & Furnham, 2004) is a 30-item measure of emotional intelligence (experiencing, recognizing and interpreting emotions). Participants rate each item on a 7-point scale ranging from 1 (Completely disagree) to 7 (Completely agree). TEIQ-SF scores have been shown to be normally distributed and reliable, and evidence of convergent and discriminant validity have been documented (Mikolajczak, Luminet, Leroy, & Roy, 2007).

*Barratt Impulsiveness Scale 11* (BIS-11; Patton, Stanford & Barratt, 1995) is a 30-item measure of impulsivity. Participants rate each item on a 4-point scale ranging from 1 (Rarely/Never) to 4 (Almost Always/Always). There is evidence that the BIS-11 is an internally consistent measure of impulsiveness that has clinical utility with non-clinical, patient and inmate populations (Patton, Stanford & Barratt, 1995).

The Dark Triad Personality Traits:

*MACH-IV* (Christie & Geis, 1970) is a 20-item measure of Machiavellianism. Participants rate items such on a 7-point scale (1 = strongly disagree, 7 = strongly agree). Cronbach’s alpha has been reported as .70 (Fekken & Kay, 2010).

*Narcissistic Personality Inventory* (NPI; Raskin & Hall, 1979) has 40 items consisting of pairs of attitudes, and participants choose the attitude that best applies to them. This scale has reliability of .81 (Fekken & Kay, 2010).
Self-report Psychopathy Scale-III-R (SRP-III-R; Forth, Brown, Hart, & Hare, 1996) is a 31-item measure of Psychopathy. Participants respond to items using a 5-point scale (1 = strongly disagree, 5 = strongly agree). Cronbach’s alphas range from .70 to .89 (Forth, Brown, Hart, & Hare, 1996).

CHAPTER 7

Results

Descriptive Statistics

The descriptive statistics for the proposed Dark Triad Core traits, the insecure attachment types, self-control, SES, father and mother’s parenting styles, trauma categories, and the Dark Triad personality traits are presented in Table 7. Furthermore, the means and standard deviations of participants’ scores on each variable were valid and in accordance with past uses of the measures in other research initiatives.

Examining the distribution of scores on each measure indicates that non-normality is not an issue in this sample. The majority of variables are only very slightly skewed (with skewness values below 1.00). One notable exception is Physical Violence by a Stranger, which was positively skewed (skewness = 3.17, SE = .11), indicating that there is a low prevalence of victims of stranger violence in this sample. Similarly, Physical Violence by a Stranger had a high kurtosis value (13.49, SE = .21), indicating that a large number of scores were close to the mean score of this scale. The remaining variables had kurtosis values that indicated a large degree of normality across the variables’ distributions.

With the exception of the four trauma subscales, the internal consistencies of all variables range from acceptable to excellent (i.e., Cronbach’s α values range from .72 to .96). Therefore, raw data, or untransformed data, were used in the analyses. The Traumatic Life Events
Table 7

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<th>Maximum</th>
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<th>Standard Deviation</th>
<th>Skew</th>
<th>Kurtosis</th>
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Questionnaire (TLEQ) subscales had lower internal consistencies (i.e., Cronbach’s $\alpha$ ranging from .55 to .71), indicating poor to acceptable reliability for the trauma subscales. The four subscales were created for the present study because the TLEQ does not have a standardized publically available scoring key. Rather, other authors have used their own scoring techniques in past research (e.g., Lilly, 2011). Following this practice, we conducted Exploratory Principal Components Analysis (PCA) with Varimax rotation on the 23 TLEQ items. Principal Components Analysis was chosen because of the exploratory nature of the scoring. In particular, we had no hypothesized trauma subscale structure and our goal was simply to reduce the trauma data in this sample into descriptive categories. PCA was the most appropriate data reduction technique for these purposes. Six components had eigenvalues of greater than 1. The 6-component solution, as well as the 5-component solution and 4-component solution, were analyzed in terms of total variance explained, interpretability, and internal consistency of the factors. A 4-factor rotated solution was optimal, and the rotated factor matrix is presented in Appendix D. Based on the four factors, we constructed four independent scales, giving unit weights to each item.

**Correlations**

The correlations between the variables used in the models (see Table 8) were examined in terms of magnitude and directionality. Multicollinearity is not a problem in this sample. The proposed Dark Triad Core traits were correlated with the Dark Triad personality traits (see Study 1). Both sets of variables that represent the Dark Triad Core are correlated with the personal risk factors. Both sets of traits were negatively associated with self-control, as predicted. Furthermore, the Dark Triad Core traits agreeableness, aggression, impulsivity, emotional intelligence, and Machiavellianism were correlated with insecure attachment in predicted
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Note: *p < .05; **p < .01.
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<td></td>
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<tr>
<td>15. Mother’s Hostility/Aggression</td>
<td>.74**</td>
<td>1</td>
<td></td>
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<td></td>
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<tr>
<td>16. Mother’s Indifference/Neglect</td>
<td>.83**</td>
<td>.73**</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>17. Mother’s Undifferentiated Rejection</td>
<td>.82**</td>
<td>.84**</td>
<td>.82**</td>
<td>1</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>18. Mother’s Control</td>
<td>.25**</td>
<td>.41**</td>
<td>.18**</td>
<td>.28**</td>
<td>1</td>
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<tr>
<td>19. SES</td>
<td>.19**</td>
<td>.17**</td>
<td>.19**</td>
<td>.16**</td>
<td>.04</td>
<td>1</td>
<td></td>
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<tr>
<td>20. Physical Abuse by Loved Ones</td>
<td>-.43**</td>
<td>-.47**</td>
<td>-.46**</td>
<td>-.48**</td>
<td>-.20**</td>
<td>-.27**</td>
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<tr>
<td>21. Physical Violence by Stranger</td>
<td>-.06</td>
<td>-.05</td>
<td>-.09*</td>
<td>-.08</td>
<td>.04</td>
<td>-.07</td>
<td>.35**</td>
<td>1</td>
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<tr>
<td>22. Accidents/Unexpected Trauma</td>
<td>-.16**</td>
<td>-.22**</td>
<td>-.20**</td>
<td>-.23**</td>
<td>-.12*</td>
<td>-.16**</td>
<td>.45**</td>
<td>.37**</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>23. Sexual Abuse</td>
<td>-.27**</td>
<td>-.26**</td>
<td>-.28**</td>
<td>-.32**</td>
<td>-.06</td>
<td>-.15**</td>
<td>.41**</td>
<td>.18**</td>
<td>.34**</td>
<td>1</td>
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<tr>
<td>24. Narcissism</td>
<td>.13**</td>
<td>.05</td>
<td>.09</td>
<td>.10*</td>
<td>.09</td>
<td>.16**</td>
<td>-.07</td>
<td>.10*</td>
<td>.02</td>
<td>-.05</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Psychopathy</td>
<td>.04</td>
<td>-.08</td>
<td>-.02</td>
<td>-.05</td>
<td>.07</td>
<td>.07</td>
<td>.11*</td>
<td>.26**</td>
<td>.12**</td>
<td>.02</td>
<td>.56**</td>
<td>1</td>
<td></td>
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<tr>
<td>26. Machiavellianism</td>
<td>-.11*</td>
<td>-.14**</td>
<td>-.08</td>
<td>-.11*</td>
<td>-.03</td>
<td>.03</td>
<td>.07</td>
<td>.06</td>
<td>.02</td>
<td>.02</td>
<td>.22**</td>
<td>.48**</td>
<td>1</td>
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*Note. *p < .05; **p < .01.*
directions. The relationship between the Dark Triad Core and the environmental risk factors is less clear. With a few exceptions, the proposed Dark Triad Core traits and the Dark Triad personality traits formed few significant strong correlations with SES, Father’s parenting style, and Mother’s parenting style. However, the proposed Dark Triad Core traits, with the exception of emotional intelligence, were positively correlated with the trauma subscales. Of the Dark Triad personality traits, Psychopathy was consistently correlated with the trauma scales. Therefore, many of the Dark Triad Core traits are related to trauma and to some aspects of poor parenting. Together, the correlations among the variables in this study are largely in accordance with our hypotheses.

**Exploratory Maximum Likelihood Factor Analysis: Revised Latent Variable Structure**

Recall that we generated six Hypothesized Models (see Figures 1–6: Appendix E) for testing via Structural Equation Modeling (SEM). The models were tested using Lisrel 8.52 Modeling Software (Joreskog & Sorbom, 2002), and initially all six models failed to converge. Thus to explore the relationships among our indicator variables, Maximum-Likelihood Factor Analysis with Direct Oblimin rotation was used on all indicator variables. Maximum-Likelihood was chosen as the method of extraction to match Lisrel’s method of estimation. Furthermore, a non-orthogonal rotation was chosen to allow the factors to correlate due to the many inter-correlations that exist between these variables. Examining the factors’ eigenvalues and the scree plot indicate that a 6-factor solution is optimal. The solution accounts for 58.46% of the total variance in this sample. Examination of the extracted communalities indicates that a significant percent of the variance in most variables was accounted for by the solution, with the exception of Mother’s control in parenting and SES. The correlations between the six factors range from $r = -0.02$ to $r = -0.42$. 
The results of the exploratory factor analysis indicate that our hypothesized models contain errors at the latent variable level. Firstly, Mother’s Poor Parenting and Father’s Poor Parenting load distinct factors, indicating that they do not represent a single latent variable—Poor Parenting—as hypothesized. This is plausible because the majority of research on parenting styles examines father and mother’s parenting influences separately. For instance, a Mother’s parental involvement is related to a child’s achievement, teacher-rated competence, and behavioural adjustment, whereas a Father’s parental involvement does not influence these factors (Grolnick & Ryan, 1989). Therefore, it is more theoretically sound, and data driven in this sample, to examine the effects of Father’s Poor Parenting styles and Mother’s Poor Parenting styles as two separate latent variables.

Similarly, Attachment Anxiety and Attachment Avoidance load distinct factors, indicating that they should not both be used as indicators of a single latent variable (i.e., Insecure Attachment). The attachment literature, and specifically the attachment measure we used (i.e., Experiences in Close Relationships Scale Revised), conceives the dimensionality of insecure attachment to be bidimensional—Anxiety and Avoidance (Ainsworth, Blehar, Waters, & Wall, 1978). Therefore, the exploratory analyses, coupled with the robust theoretical and bidimensional conception of insecure attachment, indicate that Anxious Attachment and Avoidant Attachment should be examined as two separate latent variables.

Thus, two alterations were made to the models prior to further testing. The Poor Parenting variable was split into two separate latent variables: Mother’s Poor Parenting and Father’s Poor Parenting. Second, Insecure Attachment was split into two latent variables: Attachment Anxiety and Attachment Avoidance. The Revised models are presented in Appendix E with both latent and indicator variables included, as well as the statistics to follow.
Participants were excluded using listwise deletion leaving a sample of 478 participants to test Models 1A, 2A, and 3A, and a sample of 476 participants to tests Models 1B, 2B, and 3B. The general consensus for determining the sample size for SEM procedures is to ensure that there are at least 10 participants for every indicator variable included in the model being tested (e.g., Tanaka, 1987). Models 1A, 2A, and 3A have a total of 23 indicator variables, meaning that a sample of at least 230 participants is required to test these models. Similarly, Model 1B, 2B, and 3B have a total of 21 indicator variables, indicating that a sample of 210 participants is required to test these models. Clearly, we have ample sample size and thus sufficient power to conduct the following SEM analyses.

The same model specification techniques were used across the six models. Lisrel 8.52 analyzed a covariance matrix. The scale of measurement method was to fix the factor loading of the first indicator of each latent variable to 1, while letting the remaining indicators be free parameters. The unique variances in the variables were assumed to be unrelated. Furthermore, for the latent variables with a single indicator (i.e., SES, Anxious Attachment, Avoidant Attachment, and Self-Control), the single indicator variable was assumed to be a perfect indicator of the latent variable (i.e., fixed at 1). Finally, the residual variances in the endogenous latent variables were assumed to be unrelated.

Prior to running analyses, one final change had to be made to three of the models. Initial Model output converged but indicated that the error variance of Psychopathy was a negative value, meaning that the factor explained more than 100% of the variance (i.e., Psychopathy had less than 0% error variance), a mathematical impossibility. It is not clear at this point if this is an abnormality of the present sample, or if it will replicate in further research. This abnormality
forced us to impose an additional constraint on the affected models. The error variance for Psychopathy was fixed in Model 1B, 2B, and 3B, rather than allowing it to be a free parameter. The estimation of error variance in Psychopathy was conducted by taking the reliability of the Psychopathy scale (i.e., Cronbach’s \( \alpha \)) and subtracting it from 1 to generate power; then, the error variance was estimated by multiplying the power and the variance of the Psychopathy scale. Thus, the estimate of the error variance for Psychopathy was set to 5.07 in Model 1B, 2B, and 3B, resulting in 1 fewer free parameter in these models.

**Revised Model 1A: The Direct Environmental Effects Model**

Revised Model 1A is presented graphically in Appendix E: Figure 7 (pg. 118), with pathway coefficients and squared multiple correlations of the endogenous variables included. The circles represent the latent variables and the squares represent the measured indicator variables. It took 18 iterations for Lisrel 8.52 to converge on the following solution.

**Examination of Overall Model Fit**

Several overall model fit indices are provided by Lisrel 8.52, yet only a subset of them were analyzed for the six models (i.e., the Root Mean Square Error of Approximation, RMSEA; Non-Normed Fit Index; Incremental Fit Index; Standardized RMR). Simulation studies have shown that these maximum likelihood fit indices have done reasonably well at detecting misspecification in a model, relative to other fit indices (Hu & Bentler, 1998). Furthermore, the different fit indices capture conceptually different dimensions of fit. The RMSEA and the Standardized RMR are absolute fit Indices, meaning that they directly assess how well the hypothesized model reproduces the sample data. Alternatively, the Incremental Fit index and Non-Normed Fit Index are incremental fit indices, meaning that they measure the proportional
improvement in fit by comparing the hypothesized model with a more restricted, null model in which the observed variables are uncorrelated with each other (Hu & Bentler, 1998).

For Model 1A, these indices returned estimates of poor to acceptable model fit. First, examining the absolute fit indices indicates mixed results. The RMSEA = .12, indicating poor fit (acceptable fit is ≤ .08; Schreiber, Stage, King, Nora, & Barlow, 2006). However, the Standardized RMR = .07, which is indicative of acceptable model fit (i.e., ≤ .08; Schreiber et al., 2006). The incremental fit indices, however, provide consistent evidence of poor model fit. The Non-Normed Fit Index = .85, indicating poor fit (acceptable fit is ≥ .95; Schreiber et al., 2006). Similarly, the Incremental fit index was = .87, which falls below the baseline for acceptable fit (i.e., ≥ .95; Schreiber et al., 2006). Overall, it appears that Model 1A fits the data, but poorly.

Significance of Hypothesized Pathways in the Model

To assess the significance of the hypothesized pathways of Model 1A, we will inspect the pathway coefficients. Table 9 displays the pathway coefficients of the effects of the Dark Triad Core indicator variables on the Dark Triad Core latent variable (i.e., the endogenous variables). Examination of the table indicates that aggression, impulsivity, and neuroticism had significant positive loadings, while agreeableness and emotional intelligence had significant negative loadings on their latent variable. Neuroticism was the only hypothesized Dark Triad Core indicator that loaded the latent variable in a direction that was opposed to prediction. The positive loading of neuroticism on the Dark Triad Core is consistent across models, and indicates that having high levels of neuroticism are a component of the Dark Triad Core (in accordance with the results of Study 1). This is in contrast to the tentative hypothesis that a lack of neuroticism would load the Dark Triad Core. However, given research that connects high anxiety and neuroticism to some of the Dark Triad traits (e.g., McHoskey, Worzel, & Szyarto, 1998), the
Table 9

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicator Variable</th>
<th>Path Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Triad Core</td>
<td>Aggression</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Agreeableness</td>
<td>-1.45**</td>
</tr>
<tr>
<td></td>
<td>Impulsivity</td>
<td>1.11**</td>
</tr>
<tr>
<td></td>
<td>Emotional Intelligence</td>
<td>-2.99**</td>
</tr>
<tr>
<td></td>
<td>Neuroticism</td>
<td>1.18**</td>
</tr>
</tbody>
</table>

Note. **p < .01. The remaining endogenous variables (Anxious Attachment, Avoidant Attachment, Self-Control) have single perfect indicators.
directionality is believable. Thus, we revise our definition of the Dark Triad Core to include a high degree of neuroticism, as opposed to a lack of neuroticism.

Table 10 depicts the pathway coefficients between the latent variables of Father’s Poor Parenting, Mother’s Poor Parenting, and Trauma (i.e., the exogenous variables). Both the Mother’s Poor Parenting indicators and the Father’s Poor Parenting indicators all had significant positive loadings on the Mother’s Poor Parenting and Father’s Poor Parenting latent variables, respectively. Finally, all the trauma indicators significantly and positively loaded the latent variable representing Trauma.

The pathway coefficients for the hypothesized pathways between latent variables are included in Figure 7. Mother’s Poor Parenting negatively influenced Anxious Attachment, and Avoidant Attachment, but not Self-Control. Father’s Poor Parenting negatively influenced Anxious Attachment and Avoidant Attachment, and positively affected Self-Control, which were counter to the hypothesized directionalities of influence. Anxious Attachment and Avoidant Attachment, in turn, positively influenced the Dark Triad Core. Self-Control also had a strong negative effect on the Dark Triad Core. Finally, neither SES nor Trauma significantly influenced the Dark Triad Core directly, as predicted. In sum, poor parenting acted to decrease anxious and avoidant attachment, which in turn positively influenced the Dark Triad Core. Furthermore, father’s poor parenting positively influenced self-control, counter to hypotheses. Possessing Self-Control, in turn, had a negative influence of the expression of the Dark Triad Core. While the pathways of Model 1A fit poorly, the model was able to explain 46% of the variance in the Dark Triad Core, as well as a significant proportion of variance in Anxious and Avoidant Attachment.
<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicator Variable</th>
<th>Path Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father’s Poor Parenting</td>
<td>Cold/Unaffectionate</td>
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<td></td>
<td>Hostility/Aggression</td>
<td>.67**</td>
</tr>
<tr>
<td></td>
<td>Indifferent/Neglect</td>
<td>.74**</td>
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<td></td>
<td>Undifferentiated Rejection</td>
<td>.50**</td>
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<td></td>
<td>Control</td>
<td>.18**</td>
</tr>
<tr>
<td>Mother’s Poor Parenting</td>
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</tr>
<tr>
<td></td>
<td>Hostility/Aggression</td>
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<td></td>
<td>Indifferent/Neglect</td>
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</tr>
<tr>
<td></td>
<td>Control</td>
<td>.17**</td>
</tr>
<tr>
<td>Trauma</td>
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</tr>
<tr>
<td></td>
<td>Physical Violence by Stranger</td>
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</tr>
<tr>
<td></td>
<td>Accidents/Unexpected Trauma</td>
<td>.57**</td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse</td>
<td>.51**</td>
</tr>
</tbody>
</table>

*Note. **p < .01. The remaining exogenous variable (SES) has a single perfect indicator.*
Revised Model 1B: The Direct Environmental Effects Model

Revised Model 1B is presented graphically in Appendix E: Figure 8 (pg. 119), with pathway coefficients and squared multiple correlations of the endogenous variables included. It took Lisrel 8.52 11 iterations to converge on the following solution.

Examination of Overall Model Fit

Fit indices for Model 1B were very similar to those of Model 1A. The absolute fit indices were again mixed. The RMSEA = .12, indicating poor model fit. Alternatively, the Standardized RMR = .07, which indicates acceptable model fit. The incremental fit indices, on the other hand, indicate poor fit of the model. The Non-Normed Fit Index = .87 and the Incremental fit index = .89, which are considered to represent poor model fit.

Significance of Hypothesized Pathways in the Model

Psychopathy, Machiavellianism, and Narcissism all loaded the Dark Triad Core. As was the case with Model 1A, all remaining indicator variables significantly loaded their respective latent variables, as predicted. Examining the path coefficients indicates that Father’s Poor Parenting positively influenced Anxious Attachment and Avoidant Attachment, and negatively influenced Self-Control, as hypothesized. Mother’s Poor Parenting also positively affected Anxious Attachment and Avoidant Attachment, but did not influence Self-Control. In this model, Anxious Attachment and Avoidant Attachment did not significantly influence the Dark Triad Core. In contrast, Self-Control had a strong negative affect on the Dark Triad Core. Finally, Trauma and SES had direct positive influences on the Dark Triad Core, as predicted. In sum, Model 1B indicates that Poor Parenting is related to insecure attachment and to low self-control, which negatively influences the Dark Triad Core. Similarly, Trauma and SES positively influence the Dark Triad Core. Model 1B indicates that poor parenting can lead to increased
insecure attachment and decreased self-control in children. Self-control then negatively influences the expression of the Dark Triad Core. The data fits the hypothesized pathways in Model 1B better than Model 1A. However, Model 1B only explains 20% of the variance in the Dark Triad Core.

*Model 1: Overview*

Together, Model 1A and 1B both fit the data overall, but poorly. In both Models the indicator variables loaded their latent variables as predicted. Model 1A explained more of the variance in agreeableness, aggression, impulsivity, emotional intelligence, and neuroticism (46%) than Model 1B, which only accounted for 20% of the variance in Psychopathy, Machiavellianism, and Narcissism. However, the data fit the pathway structure of Model 1B better. In this model, parenting styles influenced attachment and self-control as predicted, which in turn influenced the Dark Triad. Furthermore, Trauma and SES had direct effects on the Dark Triad.

*Revised Model 2A: The Parenting Mediated Model*

Revised Model 2A is presented graphically in Appendix E: Figure 9 (pg. 120), with pathway coefficients and squared multiple correlations of the endogenous variables included. Lisrel 8.52 took 32 iterations to converge on the following solution.

*Examination of Overall Model Fit*

The absolute fit indices indicated largely unacceptable model fit. The RMSEA = .12, which is indicative of poor fit, and in line with Models 1A and 1B. The standardized RMR = .08, which is marginally acceptable. Furthermore, the incremental fit indices; namely, the Non-Normed Fit Index = .85, and the Incremental Fit Index = .87, indicate poor model fit. Therefore, Model 2A fits the data fairly poorly.


**Significance of Hypothesized Pathways in the Model**

Examining the coefficients between the indicator and latent variables indicates that all indicator variables in this model significantly load their latent variables in predicted directions. The pathway coefficients for the hypothesized pathways between latent variables are included in Figure 9. Surprisingly, Trauma negatively influenced Father’s Poor Parenting, and Mother’s Poor Parenting, and SES did not influence either parenting style. Father’s Poor Parenting, in turn, negatively influenced Anxious Attachment and Avoidant Attachment, and positively influenced Self-Control. Mother’s Poor Parenting also negatively affected Anxious Attachment and Avoidant Attachment, but failed to influence Self-Control. Thus, the direction of the effects of parenting on attachment and self-control were counter to hypotheses. Then, Anxious Attachment, Avoidant Attachment, and Self-Control all significantly influenced the Dark Triad Core in predicted directions. In sum, Model 2A indicates that Trauma and SES impact parenting quality. Furthermore, poor parenting influences attachment, and to some degree self-control, which in turn influence the Dark Triad Core. Model 2A described 45% of the variance in the Dark Triad Core, and also explained a large proportion of the variance in Anxious Attachment, Avoidant Attachment, Father’s Poor Parenting, and Mother’s Poor Parenting. Thus, Model 2A explains most of the endogenous variables well, but fails to generate the hypothesized pathway structure.

*Revised Model 2B: The Parenting Mediated Model*

Revised Model 2B is presented graphically in Appendix E: Figure 10 (pg. 121), with pathway coefficients and squared multiple correlations of the endogenous variables included. It took Lisrel 8.52 24 iterations to converge on a solution, which is presented below.
**Examination of Overall Model Fit**

The absolute fit indices, namely, the RMSEA = .12, and the standardized RMR = .08, which are indicative of poor, or marginally acceptable, model fit. The incremental fit indices also indicated poor model fit. The Non-Normed Fit index = .86, and the Incremental Fit index = .88. Therefore, Model 2B fits the data in this sample poorly.

**Significance of Hypothesized Pathways in the Model**

Once more, the indicator variables in this model all have significant influences on the latent variables. The pathway coefficients indicate that Trauma had positive effects on Father’s Poor Parenting and Mother’s Poor Parenting. SES, on the other hand, did not significantly influence either parenting style. Father’s Poor Parenting positively influenced Anxious Attachment and Avoidant Attachment, and negatively influenced Self-Control, as predicted. Mother’s Poor Parenting also positively affected both Anxious and Avoidant Attachment, while failing to affect Self-Control. Then, only Self-Control had a significant negative influence on the Dark Triad Core. Model 2B indicates that trauma influences poor parenting, which in turn influences attachment and self-control. Finally, Self-Control affects the Dark Triad Core. The directionality of the hypothesized pathways in Model 2B are more accurate, yet it explains only 18% of the variance in the Dark Triad Core.

**Model 2: Overview**

Both Model 2A and 2B had similar poor fit, but Model 2A described more of the variance in the Dark Triad (45%) than Model 2B, which accounted for 18% of the variance in the Dark Triad. The data fit the pathway structure of both versions of the model fairly well. Yet, the directionality of influence matched predictions better in Model 2B. In this model, experiencing trauma positively influenced the perception of poor parenting styles, and poor parenting
positively influenced insecure attachment, while negatively influencing self-control. Yet only self-control had a significant impact on the Dark Triad Core.

Revised Model 3A: The Fully Mediated Model

Revised Model 3A is presented graphically in Appendix E: Figure 11 (pg. 122), with pathway coefficients and squared multiple correlations of the endogenous variables included. It took Lisrel 8.52 a total of 28 iterations to converge on the following solution.

Examination of Overall Model Fit

The RMSEA for Model 3A = .12. However, the Standardized RMR (.07) was well within the acceptable range. Therefore, the absolute fit indices result in mixed views on the model’s fit. In addition, the Non-Normed Fit Index (.85), and the Incremental Fit Index (.87) indicated poor model fit. Overall, Model 3A fit the data fairly poorly.

Significance of Hypothesized Pathways in the Model

All indicator variables significantly loaded their latent variable in predicted directions. The pathway coefficients indicate that Father’s Poor Parenting negatively affected Anxious Attachment and Avoidant Attachment, and did not significantly influence Self-Control. Similarly, Mother’s Poor Parenting negatively influenced Anxious Attachment, and Avoidant Attachment, and did not influence Self-Control. Trauma positively influenced Anxious Attachment and negatively influenced Self-Control, while it was unrelated to Avoidant Attachment. Finally, SES did not significantly influence Anxious Attachment, Avoidant Attachment, or Self-Control. Finally, Anxious Attachment, Avoidant Attachment, and Self-Control all influenced the Dark Triad Core. Therefore, Model 3A indicates that Poor Parenting influences attachment, which in turn influences the Dark Triad Core. Furthermore, Trauma influences self-control and anxious attachment, which in turn predicts the Dark Triad Core.
While some of the influences were opposite in direction to hypotheses, Model 3A explains 45% of the variance in the Dark Triad Core, as well as a substantial proportion of the variance in Anxious and Avoidant Attachment.

_revised model 3b: the fully mediated model_

Revised Model 3B is presented graphically in Appendix E: Figure 12 (pg. 123), with pathway coefficients and squared multiple correlations of the endogenous variables included. Lisrel 8.52 used 21 iterations to converge on the subsequent solution.

_examination of overall model fit_

The RMSEA (.12), the Non-Normed Fit index (.86), and the Incremental Fit Index (.89), all indicate less than acceptable model fit. Yet, the Standardized RMR (.07) is indicative of acceptable model fit. Overall, Model 3B fit the data, albeit poorly.

_significance of hypothesized pathways in the model_

All the indicator variables had significant influences on their latent variables. The pathway coefficients indicate that Father’s Poor Parenting positively influenced Anxious Attachment and Avoidant Attachment, while having only a marginal negative influence on Self-Control. Similarly, Mother’s Poor Parenting had a positive influence on Anxious Attachment and Avoidant Attachment, but no affect on Self-Control. Trauma, then, had a positive influence on Anxious Attachment, and a negative influence on Self-Control, while exerting no significant affect on Avoidant Attachment. SES, however, did not significantly influence Anxious Attachment, Avoidant Attachment, or Self-Control, as hypothesized. Finally, only Self-Control significantly influenced the Dark Triad Core. Model 3B indicates that poor parenting practices influence insecure attachment styles and trauma influences self-control, which in turn predicts
the Dark Triad Core. While the pathway structure of Model 3B is relatively strong, it only accounted for 18% of the variance in the Dark Triad Core.

**Model 3: Overview**

The two versions of Model 3 had similar overall fit, which was indicative of poor model fit. Model 3A explained 45% of the variance in the Dark Triad, while Model 3B only accounted for 18% of the variance. The data fit the pathway structure of both Model 3A and 3B, although not perfectly. In Model 3A both anxious attachment and self-control influence the Dark Triad, but mother’s poor parenting has adaptive influences on attachment and self-control. In Model 3B, only self-control significantly influences the Dark Triad, but both poor parenting styles have maladaptive influences on children’s attachment and control, as predicted.

**Building and Testing an Alternate Model that Best Represents the Data**

Examining the significant pathways and overall model fit of the six hypothesized and revised models above indicates a number of problems. Furthermore, no single model is outperforming the others in terms of fit or interpretability, making this investigation somewhat lacking in meaningful conclusions. Therefore, we propose to generate a single alternate model that better represents the data both theoretically and statistically.

First, SES failed to be a significant predictor of either the Dark Triad Core, or the other risk factors across models. Furthermore, its direction of influence was often positive, suggesting that higher levels of SES are related to the other risk factors and the Dark Triad Core, which is counter to hypotheses. SES, as conceptualized in the literature and the measure used in this sample (i.e., Barratt Simplified Measure of Social Status), consists of education, occupation, and income, making it multidimensional concept. Furthermore, SES impacts a child’s development through a variety of mechanisms, such as differences in access to resources, and different
reactions to stress by a child and their parent (Bradley & Corwyn, 2002). These theoretical complexities make SES an inconsistent or weak predictor. Furthermore, SES does not help to explain meaningful variance in this study. Thus, SES was removed from the final model.

In addition, Avoidant Attachment proved to be either an insignificant or weak predictor of the Dark Triad Core across models, indicating that the variance in the predictor variables does not travel through this attachment style in the same way it does through Anxious Attachment. The literature provides support for a link between various insecure attachment symptoms and the Dark Triad, yet there is little research that refines the relationship by relating subtypes of insecure attachment (i.e., anxious and avoidant) to the Dark Triad. Since this is an exploratory area of research, the decision regarding whether to retain Avoidant Attachment was largely data driven. Therefore, Avoidant Attachment was removed from the final model.

Similarly, the Control indicator for both Mother’s and Father’s Poor Parenting did not load well with the other parenting indicator variables. In addition, the Control indicators had low squared multiple correlations across models, indicating that the models were not explaining a lot of variance in this dimension of parenting. The Parental Acceptance-Rejection theory, which is the basis of the parenting measures used in this study, posits that there is a central parenting dimension—Acceptance (i.e., warmth and affection) to Rejection (i.e., hostility and aggression, indifference and neglect, and undifferentiated rejection; Rohner & Kheque, 2004). There is also a separate parenting dimension—Control (Rohner & Kheque, 2004). Therefore, the two problematic control indicators of the parenting latent variables are measuring a distinct dimension of parenting, while the other four indicators are measuring the acceptance and rejection dimension of parenting. Thus, due to theoretical and statistical reasons, the Control
indicators were removed from both Father’s Poor Parenting and Mother’s Poor Parenting. These changes act to make the final model more parsimonious, while retaining its theoretical validity.

Finally, during testing both sets of indicator variables were alternatively used to represent the Dark Triad Core. However, across all models tested, when aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism were used as Dark Triad indicators, the model explained a substantially larger proportion of variance in the Dark Triad Core.

**The Final Model**

Two versions of the Final Model were tested to compare the two sets of Dark Triad indicator variables. The model that best fits the data, which used aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism as indicators of the Dark Triad Core, is reported below. The Final Model is displayed in Appendix E: Figure 13 (pg. 124), with pathway coefficients and multiple squared correlations of the endogenous variables included. It took Lisrel 8.52 a total of 17 iterations to converge on the final solution.

**Examination of Overall Model Fit**

Overall, the fit of the Final Model is only marginally better than the previous models. The absolute fit indices provide mixed results. The RMSEA = .12 (indicating poor fit), but the Standardized RMR = .066, which is indicative of acceptable model fit. The incremental fit indices show relatively poor overall fit. The Non-Normed Fit Index = .87 and the Incremental Fit Index = .89, which both fall short of acceptable fit (i.e., ≥ .95). Yet, as discussed below, the model is more highly interpretable and parsimonious.

**Significance of Hypothesized Pathways in the Model**

All indicator variables significantly loaded their latent variables in expected directions. Table 11 displays the path coefficients of the indicator variables for the endogenous latent
variables in the model. Table 12 displays the path coefficients of the indicator variables for the
exogenous latent variables in the model.

The pathway coefficients for the hypothesized paths in the final model are displayed in
Figure 13. As predicted, Father’s Poor Parenting had a positive influence on Anxious
Attachment and a negative impact on Self-Control. Mother’s Poor Parenting had a strong
negative affect on Anxious Attachment, but failed to significantly influence Self-Control.
Trauma, then, positively influenced Anxious Attachment and negatively influenced Self-Control.
Finally, Anxious Attachment had a positive influence on the Dark Triad Core, while Self-Control
had a negative influence on the Dark Triad Core. The hypothesized pathway structure of the
Final Model was largely supported, and the Model explained 44% of the variance in the Dark
Triad Core.

The Final Model suggests that being the child of cold or rejecting parenting styles is
related to higher levels of anxious attachment in children. Similarly, being the child of a cold or
rejecting father marginally reduces self-control in children. Experiencing trauma further acts to
increase anxious attachment and decrease self-control in children. Finally, being anxiously
attached to one’s parents and possessing less self-control as a child or adolescent both predict the
expression of the Dark Triad Core traits in adulthood.
Table 11

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicator Variable</th>
<th>Path Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Triad Core</td>
<td>Aggression</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Agreeableness</td>
<td>-1.64**</td>
</tr>
<tr>
<td></td>
<td>Impulsivity</td>
<td>1.10**</td>
</tr>
<tr>
<td></td>
<td>Emotional Intelligence</td>
<td>-2.90**</td>
</tr>
<tr>
<td></td>
<td>Neuroticism</td>
<td>1.15**</td>
</tr>
</tbody>
</table>

Note. **p < .01. The remaining endogenous variables (Anxious Attachment, Avoidant Attachment, Self-Control) have single perfect indicators.

Table 12

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicator Variable</th>
<th>Path Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father’s Poor Parenting</td>
<td>Cold/Unaffectionate</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Hostility/Aggression</td>
<td>.66**</td>
</tr>
<tr>
<td></td>
<td>Indifferent/Neglect</td>
<td>.74**</td>
</tr>
<tr>
<td></td>
<td>Undifferentiated Rejection</td>
<td>.50**</td>
</tr>
<tr>
<td>Mother’s Poor Parenting</td>
<td>Cold/Unaffectionate</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Hostility/Aggression</td>
<td>.70**</td>
</tr>
<tr>
<td></td>
<td>Indifferent/Neglect</td>
<td>.74**</td>
</tr>
<tr>
<td></td>
<td>Undifferentiated Rejection</td>
<td>.54**</td>
</tr>
<tr>
<td>Trauma</td>
<td>Physical Abuse by Loved Ones</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Physical Violence by Stranger</td>
<td>.18**</td>
</tr>
<tr>
<td></td>
<td>Accidents/Unexpected Trauma</td>
<td>.62**</td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse</td>
<td>.55**</td>
</tr>
</tbody>
</table>

Note. **p < .01. The remaining exogenous variable (SES) has a single perfect indicator.
CHAPTER 8

Discussion

Study 2 aimed to tackle a complex research goal, that is, to build a developmental trajectory that would capture the significant early life experiences and individual differences that could predispose an individual to develop anti-social personality characteristics and tendencies in adulthood. While predisposing factors and life histories have been studied for individual dark personality traits, like psychopathy, little research has examined the life history and development of the Dark Triad as a composite construct. Study 2 aims to break new ground by identifying a preliminary developmental trajectory through childhood and adolescence that identifies how certain experiences and characteristics can interact to produce the correct set of circumstances for the Dark Triad personality style to develop.

This study examined a number of early-life environmental and dispositional risk factors for developing core traits related to the Dark Triad in adulthood. Structural Equation Modeling techniques indicated that the six hypothesized model structures did not fit the data very well. Yet, a number of consistent patterns were found across theses models, suggesting that a few robust associations may be present in the developmental trajectory of the Dark Triad Core. For instance, cold and rejecting parenting styles on the part of both parents tended to be associated with the expression of an avoidant, and particularly an anxious attachment style in children and adolescents. Furthermore, a father’s cold and rejecting parenting styles also related to his children’s trait self-control. Experiencing trauma was associated with an anxious attachment style and self-control in children, as well as children’s perception of their parents as being cold and rejecting. Finally, self-control had the most consistent association with the expression of the Dark Triad Core in adulthood in our models. Anxious attachment also tended to relate to the
Dark Triad Core. These relationships amongst the factors were significant in several models, suggesting that they are robust in this sample, despite poor overall model fit.

Comparing the Alternative Sets of Dark Triad Core Indicators (Model A vs. Model B)

Comparing the A and B versions of the models indicates that there are a few consistent differences. First, the risk factors were able to explain more of the variance in the development of aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism, compared to Psychopathy, Machiavellianism, and Narcissism. Counterintuitively, when aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism were used as indicators of the Dark Triad Core, mother and father’s poor parenting styles negatively relate to the expression of insecure attachment styles in children, and father’s poor parenting styles were positively associated with self-control in children. The directionality of these relationships is counter to hypotheses. However, when Psychopathy, Machiavellianism, and Narcissism were used to indicate the Dark Triad Core, poor parenting practices of both parents were maladaptive, in that they positively related to the expression of insecure attachment styles in children, and father’s poor parenting was negatively associated with self-control, as predicted.

Thus, poor parenting tended to positively relate to the expression of insecure attachment and low self-control, as expected. Yet, poor parenting tended to have positive or adaptive associations with children’s attachment and control when predicting aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism as the Dark Triad Core. This finding was unexpected and in opposition to the literature on parenting styles and child development. Future research examining these risk factors will be able to determine if the counterintuitive direction implied for parenting’s influence is simply an artifact of this sample or if it represents true
developmental pathways to predicting aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism.

Furthermore, Anxious and Avoidant Attachment tended to relate to aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism more often than they influenced Psychopathy, Machiavellianism, and Narcissism. This would suggest that lacking self-control explains more of the variance in the later expression of the Dark Triad than being insecurely attached to one’s parents. This finding coincides with the literature and theory, which states that the risk-seeking and sensation-seeking aspects of the Dark Triad are indicative of low self-control. Furthermore, it can be argued that there are more robust demonstrations that insecure attachment influences aggressiveness, low emotional intelligence, impulsivity, and a lack of neuroticism (e.g., Chapple and Johnson, 2007), than there are demonstrations that insecure attachment influences Psychopathy, Machiavellianism, and Narcissism (e.g., Hood). Thus, there may be theoretical reasons for this distinction between Dark Triad Core indicators.

*The Final Model*

A more parsimonious final model was built based on theoretical reasoning and the results of data analysis. The Final Model had marginally better fit than previous attempts and the data largely confirmed its hypothesized pathway structure, indicating that the Final Model does a better job explaining how early-life risk factors can lead to the development of the Dark Triad Core. However, the following interpretation is preliminary due to the borderline acceptable overall fit of the model to the data. Nonetheless, our developmental trajectory model indicates that both Mother and Father’s Poor Parenting styles were positively associated with the expression of Anxious Attachment in children. Father’s Poor Parenting also has a marginal negative relationship with Self-Control in children. Experiencing Trauma in early life is also
associated with the expression of Anxious Attachment and low Self-Control in children. Anxious Attachment and Self-Control, in turn, tend to be associated with the expression of the Dark Triad Core later in life.

*Examining the Final Model in Relation to the Literature*

While cross-validation and replication is needed, the model still merits interpretation. Breaking down the pathways of the Final Model, indicates that the developmental trajectory it suggests is largely in accordance with the present literature. For instance, the literature and the Final Model suggest that both a father and mother’s poor parenting styles positively contribute to the development of anxious attachment in children (e.g., Akhtar, 2012; Cox, Owen, Henderson, & Margand, 1992). Furthermore, mother’s poor parenting styles had a stronger relationship with anxious attachment in children than father’s poor parenting styles did. This too is supported by many studies that have demonstrated that mothers influence the attachment styles of their children more than fathers do (e.g., Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985). In addition, the Final Model indicates that father’s poor parenting styles have a greater influence on a child’s self-control than mother’s parenting does. This is somewhat surprising given that the literature (e.g., Feldman, Greenbaum, & Yirmiya, 1999; Finkenauer, Engels, & Baumeister, 2005), as well as self-control theory (e.g., Hay, 2001), connect both mother and father’s parenting styles to the development of self-control.

The Final Model and the attachment literature (e.g., Purnell, 2010) also indicate that experiencing trauma can further contribute to the development of an anxious attachment style. Similarly, the finding that trauma tended to be related to lower self-control is in accordance with the literature, which suggests that adapting to trauma is a complex process that often involves reduced self-regulatory processes (e.g., van der Kolk, McFarlane, & Weisaeth, 1996). Finally,
there is a direct effect of anxious attachment (e.g., Taylor & Bagby, 2004) and self-control (e.g., Cumberland-Li, Eisenberg, & Reiser, 2004) on the Dark Triad Core traits. In sum, the Final Model presented in this investigation acts to piece together several disparate research findings into a comprehensive, yet preliminary, developmental trajectory of the Dark Triad Core.

Limitations

First, both Study 1 and Study 2 utilized the same sample to conduct analyses. Thus, if any abnormalities were present in this particular sample, it would affect all conclusions drawn as a part of this investigation. Additionally, this developmental trajectory research was entirely retrospective, meaning that adult participants had to think back to their childhood and adolescence to assess the early risk factors for developing the Dark Triad. A retrospective design can be problematic because many factors may interfere with accurate recall of information from childhood (e.g., current age of the participant, cognitive capabilities, subsequent brain injury, repression of harmful memories etc.). In addition, we relied on self-report measures of all current personality and past risk factor variables. As the same research method was utilized for both studies, please refer to the limitations of Study 1 for a discussion of potential problems with self-report.

In addition, an abnormality in the Psychopathy variable was present during SEM analyses: the error variance in Psychopathy was less than 0%, indicating that more than 100% of the variance in Psychopathy was explained by the data, which is not possible. This may be an artifact of this particular sample, but it would be beneficial to examine whether this problem replicates in other samples with similar measures.

Finally, the empirically generated subscales of the Traumatic Life Events Questionnaire (TLEQ) had low internal consistencies compared to the other measures utilized in this study.
Future research studying trauma should utilize a standardized scoring key that has established strong psychometric properties. Alternatively, a total trauma score could be used in future studies.

Future Research

Subsequent research should attempt to further examine the proposed childhood and adolescent risk factors and how they relate to the expression of the Dark Triad later in life. Similar analyses using independent samples will enable cross-validation, replication, and extension of the results. However, a longitudinal research design that follows children from a young age through to adulthood would be optimal. This research design would not be confined to using self-report methods; observational measurement and third-party reports could supplement participants’ self-report data, making the methodology more rigorous, and making the potential findings stronger, clearer, and more robust. However, a more rigorous research design would likely have a smaller sample size, which would reduce power, which is necessary to conduct complex multivariate analyses like SEM. Self-report retrospective designs allow for large samples and strong statistical power. Furthermore, additional risk factors may be examined in further research that aims to predict or describe the development of the Dark Triad.

CHAPTER 9

Summary & Conclusions

Of the many socially aversive personalities studied, Psychopathy, Machiavellianism, and Narcissism have received research attention, particularly as they co-occur, creating the Dark Triad of personality. This investigation had two main research goals: the first aimed to identify the core of the Dark Triad by assessing those traits that Psychopathy, Machiavellianism, and Narcissism have in common. We predicted that, five core traits, namely, low agreeableness,
aggression, impulsivity, low emotional intelligence, and low neuroticism would represent the same underlying construct as Psychopathy, Machiavellianism, and Narcissism. For the purpose of this project, the hypothesized underlying construct representing the common and essential elements of the Dark Triad was named the Dark Triad Core. Using factor analysis, Study 1 indicated that aggression, low agreeableness, impulsivity, low emotional intelligence, and moderate to high neuroticism represent an underlying latent factor that is similar to, and overlapping with, the latent factor represented by Psychopathy, Machiavellianism, and Narcissism. However, low agreeableness, aggression, and impulsivity, were the traits that shared the most overlap with the Dark Triad personality traits in the Dark Triad Core space. Given only partial support of our hypothesis, Study 1 indicated that there are two possible sets of traits that can be used to denote two slightly different representations of the Dark Triad Core in further analyses: (1) aggression, lack of agreeableness, impulsivity, lack of emotional intelligence, and neuroticism, and (2) Psychopathy, Machiavellianism, and Narcissism. These findings provide further insight into the traits and characteristics that are central to the Dark Triad personality style: lacking compassion and cooperation in social situations, tending toward aggressive behaviour, and tending to act without adequate forethought concerning potential consequences.

Due to the offensive nature of the sub-clinical Dark Triad personality traits, we took a further interest in building a developmental trajectory to explain how the Dark Triad Core personality style develops in certain individuals. A number of environmental and dispositional risk factors that occur during childhood and adolescence were examined. We predicted that experiencing trauma in childhood, living in a low SES environment, and experiencing poor parenting would increase the probability of exhibiting the Dark Triad. Furthermore, we expected that poor parenting would positively influence the expression of an insecure attachment style and
low self-control in children, which in turn would increase the probability of expressing the Dark Triad. In Study 2, Structural Equation Modeling procedures performed on several hypothesized models that depicted variations of our hypothesized pathways resulted in a single developmental trajectory model deemed to best account for the data in this sample. This model used aggression, agreeableness, impulsivity, emotional intelligence, and neuroticism as indicators of the Dark Triad Core in adulthood. The model fit was marginal and the results are thus preliminary. The model indicated that cold and rejecting parenting styles of mothers and fathers positively related to the development of an anxious attachment style in children. Furthermore, a father’s cold and rejecting parenting style tended to negatively associate with a child’s self-control. Experiencing trauma is also positively associated with the development of an anxious attachment style and negatively associated with self-control. Then, we propose that as anxious attachment develops, and self-control weakens, these two factors influence the development of the Dark Triad Core over maturation. Together, the model development process of Study 2 was essential in refining the number of components and factors that relate to the development of the Dark Triad while also providing insight into risk factors that do influence the development of the Dark Triad over the lifespan.

This investigation was exploratory in nature and twofold in purpose. This study was the first to build a more comprehensive understanding of the Dark Triad construct by incorporating Core traits that are common and essential to the Dark Triad. This research goal is useful for investigations that want to examine the Dark Triad as a single underlying construct (i.e., the common variance) rather than as individual personality traits. It also provides further evidence that a disagreeable temperament, aggressive tendencies, and an impulsive disposition, are common to Psychopathy, Machiavellianism, and Narcissism, which provides further insight into
the nature of the Dark Triad personality style. Second, this investigation provides an initial picture of the development of anti-social personality styles. Given the socially pernicious nature of individuals with this personality style, it is important, both in conceptual and forensic terms, to understanding the path that leads to this anti-social behaviour.

This investigation is foundational and thus in need of future research examining similar early risk factors for the purposes of replication and extension. The use of diverse samples and alternative methods of collecting data on the early risk factors and Dark Triad Core traits will enable a more thorough understanding of the developmental trajectory that leads to the Dark Triad. This exploratory project can be used as a starting point for developing and clarifying how early experiences and individual differences can lead one to express the Dark Triad anti-social personality style.
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APPENDICX A
Letter of Information, Consent Form & Debriefing Form

LETTER OF INFORMATION

A Retrospective Study of Child and Adolescent Risk Factors and their Relation to the Dark Triad Personality Traits

This research is being conducted by Rebecca Stead, under the supervision of Dr. Cynthia Fekken of the Queen’s University Department of Psychology.

This research investigates how experiences in childhood and adolescence relate to the development of personality traits in adulthood, particularly personality traits that might be undesirable in society. The research asks people to describe their present personality and asks them to think back to their early experiences so that we might propose a model of how people’s personality characteristics might develop over the course of their lifetimes. Very broadly stated, this type of research looks to predict which young people are at relative risk for developing dark personality traits in adulthood so that they may be understood, identified early, and treated appropriately and effectively. *This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen’s policies.* You will be asked to complete a series of on-line questionnaires that should take approximately 60 minutes. You will receive $2 for your participation.

Although this research deals with some highly sensitive issues from childhood and adolescence, there are no known risks in participating in this study. However, should remembering and reporting your experiences lead you to feel distressed, and you would like to speak confidentially to someone about your thoughts or feelings, I can provide you with appropriate resources [i.e., Mental Health America 24 hr Crisis line 1-800-273-TALK (8255); Substance Abuse and Mental Health Services (SAMHS) Centre for Mental Health Services 240-276-1310].

There is a possibility that you may feel uncomfortable with the kind of information we ask of you. You are free to stop participating at any time without any penalty and, if you wish, any data you have supplied will be deleted. It would be greatly appreciated if you would answer all questions as honestly as possible. However, you should not feel obliged to answer any questions that you find objectionable or that make you feel uncomfortable.

All information gathered in this research is kept confidential and is used only for research purposes. Only the research supervisor and the students in the supervisor’s laboratory, who may access this data for future use, will see your responses. The data will be stored in a password-protected document in a secure area in a locked office. Any publications or presentations at scientific conferences based on this research will be of general findings only, and will not present results for individuals or reveal information that might identify particular persons.

If you have questions about this research, here are several sources you may contact:

a) Myself, Rebecca Stead (email: 0rs1@queensu.ca)
b) My supervisor, Dr. Cynthia Fekken (email fekkenc@queensu.ca)
c) The Head of the Department of Psychology, Dr. Rick Beninger, at Queen’s University (email: psychead@queensu.ca)
d) The Chair of the Queen's University General Research Ethics Board, Dr. Joan Stevenson, (email: chair.GREB@queensu.ca).

Childhood and adolescent traumas and negative influences or experiences are highly sensitive issues for individuals, their families, and North American society. Thank you for being willing to share your experiences.

Sincerely,
Rebecca Stead
CONSENT FORM

A Retrospective Study of Child and Adolescent Risk Factors and their Relation to the Dark Triad Personality Traits

I have volunteered to participate in the study titled, A Retrospective Study of Child and Adolescent Risk Factors and their Relation to the Dark Triad Personality Traits.

I understand what is required for participation in the study and consent to participate. I understand that I will sit at a personal computer and complete a number of questionnaires. I understand that there is a possibility that I may feel uncomfortable with the kind of information asked. I understand that my participation in the study is completely voluntary and that I am free to withdraw at any time without penalty. I also understand that my confidentiality will be protected throughout the study, and that the information I provide will be available only to researchers with scholarly interests in risk factors for socially undesirable personality traits.

Should I have further questions I understand that I can contact any of the following individuals:

a) Myself, Rebecca Stead (email: 0rs1@queensu.ca)
b) My supervisor, Dr. Cynthia Fekken (email fekkenc@queensu.ca)
c) The Head of the Department of Psychology, Dr. Rick Beninger, at Queen’s University (email: psychead@queensu.ca)
d) The Chair of the Queen's University General Research Ethics Board, Dr. Joan Stevenson, (email: chair.GREB@queensu.ca).

I have read the above statements and freely consent to participate in this research:

☐ I Agree

Name/Signature (both first and last name): ______________________
DEBRIEFING FORM

A Retrospective Study of Child and Adolescent Risk Factors and their Relation to the Dark Triad Personality Traits

People differ a lot in terms of their personality styles. Our research looks at a range of differences in terms of behaviors that are related to a willingness to take advantage of others, look after oneself, and a willingness to engage in socially unacceptable or even criminal behaviors. We are trying to understand the kinds of events that happen in childhood and adolescence and how these events relate to where people stand on this continuum of behaviors. In particular, we were looking at traumatic events like accidents and loss as a child, the degree to which you felt attached to your parents, the types of parents you had when you were growing up, the amount of money your family had, and the degree to which you felt you had control over the things that happened to you as a child. The aim of the study was to relate these experiences to antisocial aspects of personality in adulthood.

Our research is important because we are looking at the degree to which people are able to either cope with these adversities or, conversely, how people come to develop personality traits that may be considered “dark”. Enhanced understanding of co-occurring dark personality traits and early risk factors that contribute to their development may lead to earlier recognition of, and intervention for, children and adolescents displaying warning signs of the emergence of a dark personality style.

We appreciate you taking the time and effort to share your experiences with us for this study. If the recounting of your experiences has left you feeling distressed and you would like to speak to someone in confidence about your thoughts or feelings, or you would like more information, you are strongly encouraged to contact your local health practitioner (e.g. your physician).

Alternatively, please contact the following resource available to you:
Mental Health America 24 hour Crisis line 1-800-273-TALK (8255)
Substance Abuse and Mental Health Services (SAMHS) Centre for Mental Health Services 240-276-1310

If you have any further questions about this research please contact Rebecca Stead (email: 0rs1@queensu.ca), Dr. Cynthia Fekken (email: fekkenc@queensu.ca), The Head of the Department of Psychology at Queen’s University, Dr. Rick Beninger (email: psychead@queensu.ca). Thank you for helping us with this project—your time is much appreciated. If you have questions about your rights as a research participant, you should contact the Director Chair of the Queen's University General Research Ethics Board, Dr. Joan Stevenson, (613) 533-6081, email: chair.GREB@queensu.ca.

If you are interested in this area of research, you may wish to read the following reference:

APPENDIX B
Questionnaires

Demographics Questionnaire

Gender:
___ Male
___ Female

Age: ____

Email: ________________________________

City of Residence: _____

State: ______

Please check your current (or most recent) job title:

___ Day laborer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy.
___ Garbage collector, short-order cook, cab driver, shoe sales, assembly line workers, masons, baggage porter.
___ Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk.
___ Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction laborer, hairdresser.
___ Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder.
___ Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer.
___ Nurse, skilled technician, medical technician, counselor, manager, police and fire personnel, financial manager, physical, occupational, speech therapist.
___ Mechanical, nuclear, and electrical engineer, educational administrator, veterinarian, military officer, elementary, high school and special education teacher.
___ Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant.

My own yearly income is approximately:

___ under $20 000
___ $20 000 to $40 000
___ $40 000 to $60 000
___ $60 000 to $80 000
___ $80 000 to $100 000
___ over $100 000
The highest education I have received is:

___ Less than 7th grade
___ Junior high / Middle school (9th grade)
___ Partial high school (10th or 11th grade)
___ High school graduate
___ Partial college (at least one year)
___ College education
___ Graduate degree
NEO-PI-R: Agreeableness Subscale

This questionnaire contains 48 statements. Please read each item carefully and circle the one answer that best corresponds to your agreement or disagreement according to your PRESENT experiences.

SD D N A SA

Circle “SD” if the statement is definitely false or if you strongly disagree.

Circle “D” if the statement is mostly false or if you disagree.

Circle “N” if the statement is about equally true or false, if you cannot decide, or if you are neutral on the statement.

Circle “A” if the statement is mostly true or if you agree.

Circle “SA” if the statement is definitely true or if you strongly agree.

There are no right or wrong answers, and you need not be an “expert” to complete this questionnaire. Describe yourself honestly and state your opinions as accurately as possible.

1. I tend to be cynical and skeptical of others’ intentions.
2. I believe that most people are basically well-intentioned.
3. I believe that most people will take advantage of you if you let them.
4. I think most of the people I deal with are honest and trustworthy.
5. I’m suspicious when someone does something nice for me.
6. My first reaction is to trust people.
7. I tend to assume the best about people.
8. I have a good deal of faith in human nature.
9. I’m not crafty or sly.
10. If necessary, I am willing to manipulate people to get what I want.
11. I couldn’t deceive anyone even if I wanted to.
12. Being perfectly honest is a bad way to do business.
13. I would hate to be thought of as a hypocrite.
15. At times I bully or flatter people into doing what I want them to.
16. I pride myself on my shrewdness in handling people.
17. Some people think I’m selfish and egotistical.
18. I try to be courteous to everyone I meet.
19. Some people think of me as cold and calculating.
20. I generally try to be thoughtful and considerate.
21. I’m not known for my generosity.
22. Most people I know like me.
23. I think of myself as a charitable person.
24. I go out of my way to help others if I can.
25. I would rather cooperate with others than compete with them.
26. I can be sarcastic and cutting when I need to be.
27. I hesitate to express my anger even when it’s justified.
28. If I don’t like people, I let them know it.
29. When I’ve been insulted, I just try to forgive and forget.
30. If someone starts a fight, I’m ready to fight back.
31. I’m hard-headed and stubborn.
32. I often get into arguments with my family and co-workers.
33. I don’t mind bragging about my talents and accomplishments.
34. I’d rather not talk about myself and my achievements.
35. I’m better than most people, and I know it.
36. I try to be humble.
37. I have a high opinion of myself.
38. I feel that I am no better than others, no matter what their condition.
39. I would rather praise others than be praised myself.
40. I’m a superior person.
41. Political leaders need to be more aware of the human side of their politics.
42. I’m hard-headed and tough-minded in my attitudes.
43. We can never do too much for the poor and elderly.
44. I have no sympathy for panhandlers.
45. Human need should always take priority over economic considerations.
46. I believe all human beings are worthy of respect.
47. I have sympathy for others less fortunate than me.
48. I would rather be known as “merciful” than as “just.”
NEO FFI: Neuroticism Subscale

Please read each statement carefully and circle the one answer that best corresponds to your agreement or disagreement according to your PRESENT experiences.

SD   D   N   A   SA

Circle “SD” if the statement is definitely false or if you strongly disagree.

Circle “D” if the statement is mostly false or if you disagree.

Circle “N” if the statement is about equally true or false, if you cannot decide, or if you are neutral on the statement.

Circle “A” if the statement is mostly true or if you agree.

Circle “SA” if the statement is definitely true or if you strongly agree.

1. I am not a worrier.
2. I often feel inferior to others.
3. When I’m under a great deal of stress, sometimes I feel like I’m going to pieces.
4. I rarely feel lonely or blue.
5. I often feel tense or jittery.
6. Sometimes I feel completely worthless.
7. I rarely feel fearful or anxious.
8. I often get angry at the way people treat me.
9. Too often, when things go wrong, I get discouraged and feel like giving up.
10. I am seldom sad or depressed.
11. I often feel helpless and want someone else to solve my problems.
12. At times I have been so ashamed I just wanted to hide.
The Aggression Questionnaire (AQ)

The following statements are about your own behavior, thoughts and actions across a variety of situations. Please rate each statement according to how characteristic it is of you PRESENTLY using the following scale.

1  2  3  4  5
Not at all Characteristic Extremely Characteristic
of me of me

___ 1. Once in a while I can’t control the urge to strike another person.
___ 2. I tell my friends openly when I disagree with them.
___ 3. I flare up quickly but get over it quickly.
___ 4. I am sometimes eaten up with jealousy.
___ 5. Given enough provocation, I may hit another person.
___ 6. I often find myself disagreeing with people.
___ 7. When frustrated, I let my irritation show.
___ 8. At times I feel I have gotten a raw deal out of life.
___ 9. If somebody hits me, I hit back.
___ 10. When people annoy me, I may tell them what I think of them.
___ 11. I sometimes feel like a powder keg ready to explode.
___ 12. Other people always seem to get the breaks.
___ 13. I get into fights a little more than the average person.
___ 14. If I have to resort to violence to protect my rights, I will.
___ 15. I can’t help getting into arguments when people disagree with me.
___ 16. I am an even-tempered person.
___ 17. I wonder why sometimes I feel so bitter about things.
___ 18. There are people who pushed me so far that we came to blows.
___ 19. My friends say that I am somewhat argumentative.
___ 20. Some of my friends think I am a hothead.
___ 21. I know that “friends” talk about me behind my back.
___ 22. I can think of no good reason for hitting a person.
___ 23. Sometimes I fly off the handle for no good reason.
___ 24. I am suspicious of overly friendly strangers.
___ 25. I have threatened people I know.
___ 26. I have trouble controlling my temper.
___ 27. I sometimes feel that people are laughing at me behind my back.
___ 28. I have become so mad that I have broken things.
___ 29. When people are especially nice, I wonder what they want.
Trait Emotional Intelligence Questionnaire—Short Form (TEIQ-SF)

Instructions: Please answer each statement below by putting a circle around the number that best reflects your degree of agreement or disagreement according to your PRESENT experiences. Do not think too long about the exact meaning of the statements. Work quickly and try to answer as accurately as possible. There are no right or wrong answers. There are seven possible responses to each statement ranging from ‘Completely Disagree’ (number 1) to ‘Completely Agree’ (number 7).

<table>
<thead>
<tr>
<th></th>
<th>Completely Disagree</th>
<th>Completely Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Expressing my emotions with words is not a problem for me.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>2</td>
<td>I often find it difficult to see things from another person’s viewpoint.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>3</td>
<td>On the whole, I’m a highly motivated person.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>4</td>
<td>I usually find it difficult to regulate my emotions.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>5</td>
<td>I generally don’t find life enjoyable.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>6</td>
<td>I can deal effectively with people.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>7</td>
<td>I tend to change my mind frequently.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>8</td>
<td>Many times, I can’t figure out what emotion I’m feeling.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>9</td>
<td>I feel that I have a number of good qualities.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>10</td>
<td>I often find it difficult to stand up for my rights.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>11</td>
<td>I’m usually able to influence the way other people feel.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>12</td>
<td>On the whole, I have a gloomy perspective on most things.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>13</td>
<td>Those close to me often complain that I don’t treat them right.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>14</td>
<td>I often find it difficult to adjust my life according to the circumstances.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>15</td>
<td>On the whole, I’m able to deal with stress.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>16</td>
<td>I often find it difficult to show my affection to those close to me.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>17</td>
<td>I’m normally able to “get into someone’s shoes” and experience their emotions.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>18</td>
<td>I normally find it difficult to keep myself motivated.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>19</td>
<td>I’m usually able to find ways to control my emotions when I want to.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>20</td>
<td>On the whole, I’m pleased with my life.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>21</td>
<td>I would describe myself as a good negotiator.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

89
<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>I tend to get involved in things I later wish I could get out of.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23.</td>
<td>I often pause and think about my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24.</td>
<td>I believe I’m full of personal strengths.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25.</td>
<td>I tend to “back down” even if I know I’m right.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26.</td>
<td>I don’t seem to have any power at all over other people’s feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27.</td>
<td>I generally believe that things will work out fine in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28.</td>
<td>I find it difficult to bond well even with those close to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29.</td>
<td>Generally, I’m able to adapt to new environments.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30.</td>
<td>Others admire me for being relaxed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Barratt Impulsiveness Scale (BIS-11)

The following are a list of statements about your behavior, thoughts and actions generally. Please rate each item according to its frequency, at PRESENT, using the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rarely/Never</td>
<td>Occasionally</td>
<td>Often</td>
<td>Always/Almost Always</td>
</tr>
</tbody>
</table>

___ 1. I plan tasks carefully.
___ 2. I do things without thinking.
___ 3. I make up my mind quickly.
___ 4. I am happy-go-lucky.
___ 5. I don’t “pay attention.”
___ 6. I have “racing” thoughts.
___ 7. I plan trips well ahead of time.
___ 8. I am self-controlled.
___ 9. I concentrate easily.
___ 10. I save regularly.
___ 11. I “squirm” at plays or lectures.
___ 12. I am a careful thinker.
___ 13. I plan for job security.
___ 15. I like to think about complex problems.
___ 16. I change jobs.
___ 17. I act “on impulse.”
___ 18. I get easily bored when solving thought problems.
___ 19. I act on the spur of the moment.
___ 20. I am a steady thinker.
___ 21. I change residences.
___ 22. I buy things on impulse.
___ 23. I can only think about one problem at a time.
___ 24. I change hobbies.
___ 25. I spend or charge more than I earn.
___ 26. I often have extraneous thoughts when thinking.
___ 27. I am more interested in the present than the future.
___ 28. I am restless at the theatre or lectures.
___ 29. I like puzzles.
___ 30. I am future oriented.
Experiences in Close Relationships Revised (Parental Adaptation; ECRRA)

We would like to ask you some questions about your relationship to your parents when you were a CHILD or ADOLESCENT. Please tell us the first name of your mother (or if you had no mother, the person who was like a mother) ______
Please tell us the first name of your father (or if you had no father, the person who was like a father) ______

Will you be answering the following questions about:
______ Only my mother (or mother figure)
______ Only my father (or father figure)
______ Both parents (or parental figures)

Please think back to when you were growing up. The following statements are about how you felt during childhood and adolescence in your relationship with your parent(s). We are interested in how you generally experienced your relationship with your parent(s) as you grew up, not just your current relationship. Respond to each statement by indicating how much you agree or disagree with it. Enter the number in the space next to each statement, using the following rating scale.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>Neutral/Mixed</td>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly</td>
<td>Strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I preferred not to show my parent(s) how I felt deep down.
2. I worried about being abandoned.
3. I was very comfortable being close to my parent(s).
4. I worried a lot about my relationships.
5. Just when my parent(s) started to get close to me I found myself pulling away.
6. I worried that my parent(s) wouldn't care about me as much as I cared about them (him/her).
7. I got uncomfortable when my parent(s) wanted to be very close.
8. I worried a fair amount about losing my parent(s).
9. I didn't feel comfortable opening up to my parent(s).
10. I often wished that my parent(s) feelings for me were as strong as my feelings for them (him/her).
11. I wanted to get close to my parent(s), but I kept pulling back.
12. I often wanted to merge completely with my parent(s), and this sometimes scared them.
13. I was nervous when my parent(s) got too close to me.
15. I felt comfortable sharing my private thoughts and feelings with my parent(s).
16. My desire to be very close sometimes scared people away.
17. I tried to avoid getting too close to my parent(s).
18. I needed a lot of reassurance that I was loved by my parent(s).
19. I found it relatively easy to get close to my parent(s).
20. Sometimes I felt that I forced my parent(s) to show more feeling, more commitment.
21. I found it difficult to allow myself to depend on my parent(s).
22. I did not often worry about being abandoned.
23. I preferred not to be too close to my parent(s).
24. If I wouldn't get my parent(s) to show interest in me, I would get upset or angry.
25. I told my parent(s) just about everything.
26. I found that my parent(s) didn't want to get as close as I would like.
27. I usually discussed my problems and concerns with my parent(s).
28. When I was not involved in a relationship with my parent(s), I felt somewhat anxious and insecure.
29. I felt comfortable depending on my parent(s).
30. I got frustrated when my parent(s) were not around as much as I would have liked.
31. I didn't mind asking my parent(s) for comfort, advice, or help.
32. I got frustrated if my parent(s) were not available when I needed them.
33. It helped to turn to my parent(s) in times of need.
34. When my parents disapproved of me, I felt really bad about myself.
35. I turned to my parent(s) for many things, including comfort and reassurance.
36. I resented it when my parent(s) spent time away from me.
Self-Control Scale (SCS)

Using the options provided, please indicate how much each of the following statements reflects how you typically were. Please respond according to your CHILDHOOD and ADOLESCENT experiences, *rather* than your PRESENT experiences.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Not at all</th>
<th></th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am good at resisting temptation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>I have a hard time breaking bad habits.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>I am lazy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>I say inappropriate things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>I never allow myself to lose control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>I do certain things that are bad for me, if they are fun.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>People can count on me to keep on schedule.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Getting up in the morning is hard for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>I have trouble saying no.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>I change my mind fairly often.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>I blurt out whatever is on my mind.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>People would describe me as impulsive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>I refuse things that are bad for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>I spend too much money.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>I keep everything neat.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>I am self-indulgent at times.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>I wish I had more self-discipline.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>I am reliable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I get carried away by my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>I do many things on the spur of the moment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>I don’t keep secrets very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>People would say that I have iron self-discipline.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23.</td>
<td>I have worked or studied all night at the last minute.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24.</td>
<td>I’m not easily discouraged.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25.</td>
<td>I’d be better off if I stopped to think before acting.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26.</td>
<td>I engage in healthy practices.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27.</td>
<td>I eat healthy foods.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28.</td>
<td>Pleasure and fun sometimes keep me from getting work done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29.</td>
<td>I have trouble concentrating.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30.</td>
<td>I am able to work effectively toward long-term goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31.</td>
<td>Sometimes I can’t stop myself from doing something, even if I know it is wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>I often act without thinking through all the alternatives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33.</td>
<td>I lose my temper too easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
34. I often interrupt people.  
35. I sometimes drink or use drugs to excess.  
36. I am always on time.
The Barratt Simplified Measure of Social Status (BSMSS)

You will be asked to identify up to two parents (or parental figures) present in your life during CHILDHOOD and ADOLESCENCE and rate them according to their occupation and level of education.

Parent 1: _____________________ (e.g. mother, aunt, stepmother, grandmother, family friend etc.)

Please check one of the following 9 options that best describes your parent’s occupation while you were growing up.

___ Day laborer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy.
___ Garbage collector, short-order cook, cab driver, shoe sales, assembly line workers, masons, baggage porter.
___ Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk.
___ Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction laborer, hairdresser.
___ Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder.
___ Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer.
___ Nurse, skilled technician, medical technician, counselor, manager, police and fire personnel, financial manager, physical, occupational, speech therapist.
___ Mechanical, nuclear, and electrical engineer, educational administrator, veterinarian, military officer, elementary, high school and special education teacher.
___ Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant.

Please check one of the following 7 options that best describes your parent’s level of education.

___ Less than 7\textsuperscript{th} grade
___ Junior high / Middle school (9\textsuperscript{th} grade)
___ Partial high school (10\textsuperscript{th} or 11\textsuperscript{th} grade)
___ High school graduate
___ Partial college (at least one year)
___ College education
___ Graduate degree

Parent 2 (optional): _____________________ (e.g. father, uncle, stepfather, grandfather, family friend etc.)

Please check one of the following 9 options that best describes your parent’s occupation while you were growing up.
___ Day laborer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy.
___ Garbage collector, short-order cook, cab driver, shoe sales, assembly line workers, masons, baggage porter.
___ Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk.
___ Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction laborer, hairdresser.
___ Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder.
___ Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer.
___ Nurse, skilled technician, medical technician, counselor, manager, police and fire personnel, financial manager, physical, occupational, speech therapist.
___ Mechanical, nuclear, and electrical engineer, educational administrator, veterinarian, military officer, elementary, high school and special education teacher.
___ Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant.

Please check one of the following 7 options that best describes your parent’s level of education.

___ Less than 7th grade
___ Junior high / Middle school (9th grade)
___ Partial high school (10th or 11th grade)
___ High school graduate
___ Partial college (at least one year)
___ College education
___ Graduate degree
Parental Acceptance-Rejection/Control Questionnaire—Short Form (Father; PARCQF)

The following pages contain a number of statements describing the way fathers sometimes act toward their children. Read each statement carefully and think how well it describes the way your father treated you when you were about 7-12 years old. Work quickly. Give your first impression and move on to the next item. Do not dwell on any item.

Four boxes are drawn after each sentence. If the statement is basically true about the way your father treated you, then ask yourself “Was it almost always true?” or “Was it only sometimes true?” If you think your father almost always treated you that way put an X in the box ALMOST ALWAYS TRUE; if the statement was sometimes true about the way your father treated you then mark SOME TIMES TRUE. If you feel the statement is basically untrue about the way your father treated you then ask yourself, “Was it rarely true?” or “Was it almost never true?” If it is rarely true about the way your father treated you put an X in the box RARELY TRUE; if you feel the statement is almost never true mark ALMOST NEVER TRUE.

Remember, there is no right or wrong answer to any statement, so be as honest as you can. Respond to each statement the way you feel your father was rather than the way you might have liked him to be. For example, if in your memory he almost always hugged and kissed you when you were good, you should mark the item as follows:

<table>
<thead>
<tr>
<th>MY FATHER</th>
<th>TRUE OF MY FATHER</th>
<th>NOT TRUE OF MY FATHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Almost Always True</td>
<td>Sometimes True</td>
</tr>
<tr>
<td>Hugged and kissed me when I was good</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Respondent’s significant male caregiver (if not father)
<table>
<thead>
<tr>
<th>MY FATHER</th>
<th>TRUE OF MY FATHER</th>
<th>NOT TRUE OF MY FATHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Always True</td>
<td>Sometimes True</td>
</tr>
<tr>
<td>1. Said nice things about me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Paid no attention to me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Saw to it that I knew exactly what I may or may not do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Made it easy for me to tell him things that were important to me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Hit me, even when I did not deserve it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Saw me as a big nuisance</td>
<td></td>
<td></td>
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<tr>
<td>7. Was always telling me how I should behave</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Punished me severely when he was angry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Was too busy to answer my questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Seemed to dislike me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Was really interested in what I did</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Said many unkind things to me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Paid no attention when I asked for help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Insisted that I must do exactly as I was told</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Made me feel wanted and needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Paid a lot of attention to me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Went out of his way to hurt my feelings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Forgot important things I thought he should remember</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Made me feel not loved any more if I misbehaved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Let me do anything I wanted to do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Made me feel what I did was important</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Frightened or threatened me when I did something wrong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Cared about what I thought, and liked me to talk about it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Felt other children were better than I was no matter what I did</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Let me know I was not wanted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Wanted to control whatever I did</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Let me know he loved me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Paid no attention to me as long as I did nothing to bother him</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Treated me gently and with kindness</td>
<td></td>
<td></td>
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</tbody>
</table>
Parental Acceptance-Rejection/Control Questionnaire—Short Form (Mother; PARCQM)

The following pages contain a number of statements describing the way mothers sometimes act toward their children. Read each statement carefully and think how well it describes the way your mother treated you when you were about 7-12 years old. Work quickly. Give your first impression and move on to the next item. Do not dwell on any item.

Four boxes are drawn after each sentence. If the statement is basically true about the way your mother treated you, ask yourself “Was it almost always true?” or “Was it only sometimes true?” If you think your mother almost always treated you that way put an X in the box ALMOST ALWAYS TRUE; if the statement was sometimes true about the way your mother treated you then mark SOMETIMES TRUE. If you feel the statement is basically untrue about the way your mother treated you then ask yourself, “Was it rarely true?” or “Was it almost never true?” If it is rarely true about the way your mother treated you put an X in the box RARELY TRUE; if you feel the statement is almost never true mark ALMOST NEVER TRUE.

Remember, there is no right or wrong answer to any statement, so be as honest as you can. Respond to each statement the way you feel your mother was rather than the way you might have liked her to be. For example, if in your memory she almost always hugged and kissed you when you were good, you should mark the item as follows:

<table>
<thead>
<tr>
<th>MY MOTHER</th>
<th>TRUE OF MY MOTHER</th>
<th>NOT TRUE OF MY MOTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Almost Always True</td>
<td>Sometimes True</td>
</tr>
</tbody>
</table>

Hugged and kissed me when I was good X

Respondent’s significant female caregiver (if not mother)
<table>
<thead>
<tr>
<th></th>
<th>TRUE OF MY MOTHER</th>
<th>NOT TRUE OF MY MOTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Almost Always True</td>
<td>Sometimes True</td>
</tr>
<tr>
<td>1.</td>
<td>Said nice things about me</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Paid no attention to me</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Saw to it that I knew exactly what I may or may not do</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Made it easy for me to tell her things that were important to me</td>
<td></td>
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<tr>
<td>5.</td>
<td>Hit me, even when I did not deserve it</td>
<td></td>
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<tr>
<td>6.</td>
<td>Saw me as a big nuisance</td>
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<td>7.</td>
<td>Was always telling me how I should behave</td>
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<tr>
<td>8.</td>
<td>Punished me severely when she was angry</td>
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<tr>
<td>9.</td>
<td>Was too busy to answer my questions</td>
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<tr>
<td>10.</td>
<td>Seemed to dislike me</td>
<td></td>
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<td>12.</td>
<td>Said many unkind things to me</td>
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<td>13.</td>
<td>Paid no attention when I asked for help</td>
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<td>14.</td>
<td>Insisted that I must do exactly as I was told</td>
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<td>Went out of her way to hurt my feelings</td>
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<td>Forgot important things I thought she should remember</td>
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<td>19.</td>
<td>Made me feel not loved any more if I misbehaved</td>
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<td>20.</td>
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<td>Treated me gently and with kindness</td>
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</tbody>
</table>
Traumatic Life Events Questionnaire (TLEQ)

Here are some statements about distressing events that many people experience at some point in their life. Think of how often you personally experienced these events during CHILDHOOD and ADOLESCENCE and rate them according to the response options. If you have experienced an event more than twice as you grew up, choose “more than twice”, but also specify the approximate number of times the event has happened to you.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>More than Twice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Have you ever experienced a natural disaster (flood, hurricane, earthquake, etc.)?</td>
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<tr>
<td>2.</td>
<td>Were you involved in a motor vehicle accident for which you received medical attention or that badly injured or killed someone?</td>
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<tr>
<td>3.</td>
<td>Have you been involved in any other kind of accident in which you or someone else was badly hurt?</td>
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<tr>
<td>4.</td>
<td>Have you lived, worked, or had military service in a war zone? If yes, were you ever exposed to warfare or combat?</td>
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<tr>
<td>5.</td>
<td>Have you experienced the sudden and unexpected death of a close friend or loved one?</td>
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<tr>
<td>6.</td>
<td>Has a loved one ever survived a life-threatening or permanently disabling accident, assault, or illness?</td>
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<tr>
<td>7.</td>
<td>Have you ever had a life-threatening illness?</td>
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<tr>
<td>8.</td>
<td>Have you been robbed or been present during a robbery in which the robber(s) used or displayed a weapon?</td>
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<tr>
<td>9.</td>
<td>Have you ever been hit or beaten up and badly hurt by a stranger or someone you didn’t know very well?</td>
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<tr>
<td>10.</td>
<td>Have you seen a stranger (or someone you didn’t know very well) attack or beat up someone and seriously injure or kill him or her?</td>
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<tr>
<td>11.</td>
<td>Has anyone ever threatened to kill you or to cause you serious physical harm?</td>
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<tr>
<td>12.</td>
<td>While growing up: Were you physically punished in a way that resulted in bruises, burns, cuts, or broken bones?</td>
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<tr>
<td>13.</td>
<td>While growing up: Did you see or hear family violence?</td>
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<tr>
<td>14.</td>
<td>Have you ever been slapped, punched, kicked, beaten up, or otherwise physically hurt by your spouse (or former spouse), a boyfriend or girlfriend, or some other intimate partner?</td>
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<td></td>
</tr>
<tr>
<td>15.</td>
<td>Before your 13th birthday: Did anyone who was at least 5 years older than you touch or fondle your body in a sexual way or make you touch or fondle his or her body in a sexual way?</td>
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<td></td>
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</tr>
<tr>
<td>16.</td>
<td>Before your 13th birthday: Did anyone close to your age touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>After your 13th birthday and before your 18th birthday: Did anyone touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>After your 18th birthday: Did anyone touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
19. Were you ever subjected to uninvited or unwanted sexual attention?
20. Has anyone stalked you (in other words, followed you or kept track of your activities) causing you to feel intimidate or concerned for your safety?
21. Have you or an intimate partner ever had a miscarriage?
22. Have you or an intimate partner ever had an abortion?
23. Have you experienced (or seen) any other events that were life threatening, caused serious injury, or were high disturbing or distressing?
MACH-IV

Listed below are a number of statements. Each represents a commonly held opinion and there are no right or wrong answers. You will probably disagree with some items and agree with others. We are interested in the extent to which you agree or disagree with such matters of opinion. Read each statement carefully and answer according to your PRESENT experiences. Then indicate the extent to which you agree or disagree using the scale below.

<table>
<thead>
<tr>
<th></th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Agree</td>
<td>Agree Somewhat</td>
<td>Agree Slightly</td>
<td>Neutral</td>
<td>Disagree Slightly</td>
<td>Disagree Somewhat</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

1. Never tell anyone the real reason you did something unless it is useful to do so.
2. The best way to handle people is to tell them what they want to hear.
3. One should take action only when sure it is morally right.
4. Most people are basically good and kind.
5. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.
6. Honesty is the best policy in all cases.
7. There is no excuse for lying to someone else.
8. Generally speaking, men don’t work hard unless they’re forced to do so.
9. All in all, it is better to be humble and honest than to be important and dishonest.
10. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which carry more weight.
11. Most people who get ahead in the world lead clean, moral lives.
12. Anyone who completely trusts anyone else is asking for trouble.
13. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.
14. Most men are brave.
15. It is wise to flatter important people.
16. It is possible to be good in all respects.
17. Barnum was wrong when he said that there’s a sucker born every minute.
18. It is hard to get ahead without cutting corners here and there.
19. People suffering from incurable diseases should have the choice of being put painlessly to death.
20. Most men forget more easily the death of their father than the loss of their property.
Narcissistic Personality Inventory (NPI)

Instructions: In each of the following pairs of attitudes, choose the one that you MOST AGREE with. Mark your answer by writing EITHER A or B in the space provided. Only mark ONE ANSWER for each attitude pair, and please DO NOT skip any items. Answer these questions according to your PRESENT experiences.

1. A. I have a natural talent for influencing people.  
   B. I am not good at influencing people.
2. A. Modesty doesn’t become me.  
   B. I am essentially a modest person.
3. A. I would do almost anything on a dare.  
   B. I tend to be a fairly cautious person.
4. A. When people compliment me I sometimes get embarrassed  
   B. I know that I am good because everybody keeps telling me so.
5. A. The thought of ruling the world frightens the hell out of me.  
   B. If I ruled the world it would be a better place.
6. A. I can usually talk my way out of anything.  
   B. I try to accept the consequences of my behavior.
7. A. I prefer to blend in with the crowd.  
   B. I like to be the center of attention.
8. A. I will be a success.  
   B. I am not too concerned about success.
9. A. I am no better or no worse than most people.  
   B. I think I am a special person.
10. A. I am not sure if I would make a good leader.  
    B. I see myself as a good leader.
11. A. I am assertive.  
    B. I wish I were more assertive.
12. A. I like having authority over other people.  
    B. I don’t mind following orders.
13. A. I find it easy to manipulate people.  
    B. I don’t like it when I find myself manipulating people.
14. A. I insist upon getting the respect that is due to me.  
    B. I usually get the respect that I deserve.
15. A. I don’t particularly like to show off my body.  
    B. I like to show off my body.
16. A. I can read people like a book.  
    B. People are sometimes hard to understand.
17. A. If I feel competent I am willing to take responsibility for making decisions.  
    B. I like to take responsibility for making decisions.
18. A. I just want to be reasonably happy.  
    B. I want to amount to something in the eyes of the world.
19. A. My body is nothing special.  
    B. I like to look at my body.
20. A. I try not to be a show off.
21. A. I always know what I am doing.
   B. Sometimes I am not sure of what I am doing.

22. A. I sometimes depend on people to get things done.
   B. I rarely depend on anyone else to get things done.

23. A. Sometimes I tell good stories.
   B. Everybody likes to hear my stories.

24. A. I expect a great deal from other people.
   B. I like to do things for other people.

25. A. I will never be satisfied until I get all that I deserve.
   B. I take my satisfactions as they come.

26. A. Compliments embarrass me.
   B. I like to be complimented.

27. A. I have a strong will to power.
   B. Power for its own sake doesn’t interest me.

28. A. I don’t care about new fads and fashions.
   B. I like to start new fads and fashions.

29. A. I like to look at myself in the mirror.
   B. I am not particularly interested in looking at myself in the mirror.

30. A. I really like to be the center of attention.
   B. It makes me uncomfortable to be the center of attention.

31. A. I can live my life in anyway I want to.
   B. People can’t always live their lives in terms of what they want.

32. A. Being an authority doesn’t mean that much to me.
   B. People always seem to recognize my authority.

33. A. I would prefer to be a leader.
   B. It makes little difference to me whether I am a leader or not.

34. A. I am going to be a great person.
   B. I hope that I am going to be successful.

35. A. People sometimes believe what I tell them.
   B. I can make anybody believe anything I want them to.

36. A. I am a born leader.
   B. Leadership is a quality that takes a long time to develop.

37. A. I wish someone would someday write my biography.
   B. I don’t like people to pry into my life for any reason.

38. A. I get upset when people don’t notice how I look when I go out in public.
   B. I don’t mind blending in with the crowd when I go out in public.

39. A. I am more capable than other people.
   B. There is a lot that I can learn from other people.

40. A. I am much like everybody else.
   B. I am an extraordinary person.
Self-report Psychopathy Scale-III-R (SRPS-III-R)

Instructions: Listed below is a series of statements. Please write a letter next to each statement to indicate the extent to which you disagree or agree with that statement.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

____ 1. I enjoy driving at high speed.
____ 2. I think I could “beat” a lie detector.
____ 3. I like to change jobs fairly often.
____ 4. I am usually very careful about what I say to people.
____ 5. I have often done something dangerous just for the thrill of it.
____ 6. I get a kick out of “conning” someone.
____ 7. I get in trouble for the same things time after time.
____ 8. I am very good at most things I try to do.
____ 10. Rules are made to be broken.
____ 11. Not hurting other’s feelings is important to me.
____ 12. I would be good at a dangerous job because I like making fast decisions.
____ 13. I have sometimes broken an appointment because something more interesting came along.
____ 15. I almost never feel guilty over something I’ve done.
____ 16. It’s sometimes fun to see how far you can push someone before they catch on.
____ 17. People can usually tell if I am lying.
____ 18. Conning people gives me the “shakes” (i.e., I become nervous and jittery)
____ 19. When I do something wrong, I feel guilty even though nobody else knows it.
____ 20. I enjoy drinking and doing wild things.
____ 21. I am the most important person in this world and nobody else matters.
____ 22. I have had (or tried to have) sexual relations with someone against their will.
____ 23. I have avoided paying for things, such as movies, bus or subway rides, and food.
____ 24. I have cheated on school tests.
____ 25. I have been arrested.
____ 26. I have handed in a school essay that I copied from someone else.
____ 27. I have shoplifted.
____ 28. I have been involved in gang activity.
____ 29. I have stolen (or tried to steal) a motor vehicle, such as a car or motorcycle.
____ 30. I have broken into a building or vehicle (or tried to break in) to steal something
or just to look around.

31. I have attacked someone with the idea of seriously hurting him or her.
APPENDIX C
Recruitment Information

*Recruitment Information Available to Participants on Mechanical Turk:*

Study Title:
Research Study – Effects of childhood events on adult personality (self-report questionnaires)

Study Description:
This study asks ADULT participants (OVER THE AGE OF 18) to answer a battery of self-report questionnaires about experiences during childhood and adolescence and about their personality style. It should take approximately 1 hour to complete the study.

Search keywords:
Survey, questionnaires, psychology, personality, early risk factors, adults

*Mechanical Turk Instructions:*

Starting Instructions:
This study will require you to fill out a battery of self-report questionnaires about both your current and past experiences and feelings. It should take you about an hour to complete the study.

If you are under the age of 18 or cannot read and write proficiently in English, please STOP now. You do not qualify for this study.

To begin please copy and paste the following link into your Internet browser's search bar using a new tab/window (remember to keep this tab/window open):

http://www.surveymonkey.com/s/55QPNVN

This link will redirect you to survey monkey, where you will be able to complete the questionnaires.

Completion Instructions:

Once you have completed the questionnaires and read the debriefing form, a completion code will be displayed on the final page. Please return to this tab/window and enter the completion code below to indicate that you have completed the study so you can be paid.

Thank you for your participation in this research. Your input is invaluable :)

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APPENDIX D
Tables

| Traumatic Life Events Questionnaire (TLEQ) Scoring – Generating Subscales | Rotated Component Matrix |
|---|---|---|---|---|
| 1. Have you ever experienced a natural disaster (flood, hurricane, earthquake, etc.)? | .01 | .49 | .06 | .07 |
| 2. Were you involved in a motor vehicle accident for which you received medical attention or that badly injured or killed someone? | -01 | .31 | .03 | .32 |
| 3. Have you been involved in any other kind of accident in which you or someone else was badly hurt? | -.03 | .43 | .10 | .25 |
| 4. Have you lived, worked or had military service in a war zone? If yes, were you ever exposed to warfare or combat? | -.15 | .08 | .11 | .58 |
| 5. Have you experienced the sudden and unexpected death of a close friend or loved one? | .23 | .44 | .06 | .07 |
| 6. Has a loved one ever survived a life-threatening or permanently disabling accident, assault, or illness? | -.01 | .55 | .13 | -.04 |
| 7. Have you ever had a life-threatening illness? | -.10 | .15 | .38 | .36 |
| 8. Have you been robbed or been present during a robbery in which the robber(s) used or displayed a weapon? | .34 | .09 | -.04 | .56 |
| 9. Have you ever been hit or beaten up and badly hurt by a stranger or someone you didn’t know very well? | .47 | -.03 | -.04 | .56 |
| 10. Have you seen a stranger (or someone you didn’t know very well) attack or beat up someone and seriously injure or kill him or her? | .34 | .43 | -.14 | .39 |
| 11. Has anyone ever threatened to kill you or to cause you serious physical harm? | .50 | .55 | .01 | .09 |
| 12. While growing up: Were you physically punished in a way that resulted in bruises, burns, cuts, or broken bones? | .59 | .14 | .20 | -.01 |
| 13. While growing up: Did you see or hear family violence? | .63 | .10 | .20 | -.09 |
| 14. Have you ever been slapped, punched, kicked, beaten up, or otherwise physically hurt by your spouse (or former spouse), a boyfriend or girlfriend, or some other intimate partner? | .54 | .22 | .10 | -.04 |
| 15. Before your 13th birthday: Did anyone who was at least 5 years older than you touch or fondle your body in a sexual way or make you touch or fondle his or her body in a sexual way? | .30 | -.16 | .73 | .08 |
| 16. Before your 13th birthday: Did anyone close to your age touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent? | .32 | -.20 | .57 | -.03 |
| 17. After your 13th birthday and before your 18th birthday: Did anyone touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent? | .04 | .32 | .69 | .03 |
18. After your 18th birthday: Did anyone touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?

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19. Were you ever subjected to uninvited or unwanted sexual attention?

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20. Has anyone stalked you (in other words, followed you or kept track of your activities) causing you to feel intimidate or concerned for your safety?

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21. Have you or an intimate partner ever had a miscarriage?

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22. Have you or an intimate partner ever had an abortion?

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23. Have you experienced (or seen) any other events that were life threatening, caused serious injury, or were highly disturbing or distressing?

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| % of variance accounted for | 11.05 | 10.94 | 10.57 | 7.03 |

*Note.* Total variance accounted for is 39.58%. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
Figure 1
Hypothesized Model 1A: The Direct Environmental Effects Model
Figure 2
Hypothesized Model 1B: The Direct Environmental Effects Model

- Low SES
- Insecure Attachment
- Poor Parenting
- Low Self-Control
- Trauma
- Dark Triad Core
  - Psychopathy
  - Machiavellianism
  - Narcissism
Figure 3
Hypothesized Model 2A: The Parenting Mediated Model
Figure 4
Hypothesized Model 2B: The Parenting Mediated Model
Figure 5
Hypothesized Model 3A: The Fully Mediated Model
Figure 6
Hypothesized Model 3B: The Fully Mediated Model
Figure 7
Revised Model 1A: The Direct Environmental Effects Model
Figure 8
Revised Model 1B: The Direct Environmental Effects Model
Figure 9
Revised Model 2A: The Parenting Mediated Model
Figure 10
Revised Model 2B: The Parenting Mediated Model
Figure 11
Revised Model 3A: The Fully Mediated Model
Figure 12
Revised Model 3B: The Fully Mediated Model
Figure 13
The Final Model
APPENDIX F
Figure Captions

Figure 1
Note. Hypothesized latent variable structure and pathway structure of the Model included. Indicator variables not included.

Figure 2
Note. Hypothesized latent variable structure and pathway structure of the Model included. Indicator variables not included.

Figure 3
Note. Hypothesized latent variable structure and pathway structure of the Model included. Indicator variables not included.

Figure 4
Note. Hypothesized latent variable structure and pathway structure of the Model included. Indicator variables not included.

Figure 5
Note. Hypothesized latent variable structure and pathway structure of the Model included. Indicator variables not included.

Figure 6
Note. Hypothesized latent variable structure and pathway structure of the Model included. Indicator variables not included.

Figure 7
Note. ** p < .01; * p < .05; + p < .10; r² = square multiple correlation—amount of variance in the variable that is explained by the model.

Figure 8
Note. ** p < .01; * p < .05; + p < .10; r² = square multiple correlation—amount of variance in the variable that is explained by the model.

Figure 9
Note. ** p < .01; * p < .05; + p < .10; r² = square multiple correlation—amount of variance in the variable that is explained by the model.

Figure 10
Note. ** p < .01; * p < .05; + p < .10; r² = square multiple correlation—amount of variance in the variable that is explained by the model.

Figure 11
Note. ** p < .01; * p < .05; + p < .10; r² = square multiple correlation—amount of variance in the variable that is explained by the model.
Figure 12
Note. ** $p < .01$; * $p < .05$; + $p < .10$; $r^2$ = square multiple correlation—amount of variance in the variable that is explained by the model.

Figure 13
Note. ** $p < .01$; * $p < .05$; + $p < .10$; $r^2$ = square multiple correlation—amount of variance in the variable that is explained by the model.