NURTURING DEVIANCE: EXPLORING THE ASSOCIATION BETWEEN

ATTACHMENT AND CRIMINAL THINKING PATTERNS

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Abstract

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Background: Researchers who study both attachment and criminal thinking propose that
perceptions of the self and others explain why individuals engage in illegal behaviour
(e.g., Bowlby, 1944; Mitchell & Tafrate, 2012). The purpose of this study was to
combine these areas of research and examine how attachment views of self and others are
associated with self and other models of criminal thinking patterns. **Method:** The first
study included 582 undergraduate students and the findings were partially replicated in a
second sample of adults recruited through social media (n =142). Participants completed
measures of attachment, criminal thinking, and reported their engagement in illegal
behaviours. **Results:** Structural equation modelling was used to test associations between
models of the self and other. The respective models of the self and other for attachment
and criminal thinking were associated, however, the cross paths were also associated for
some groups and indicated a relationship where views of the self and other are predictive
of one another in the context of relationships and criminal thinking. The findings were
somewhat stronger for participants who reported engaging in deviant behaviour. **Impact:**
To date, this study is the first to study the connection between attachment representations
and criminal thinking, highlighting how our views of the self and others within
relationships impact the complex way of thinking associated with criminal behaviour.

Key words: adult attachment, criminal thinking, deviance

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Table of Contents

List of Figures

List of Tables

List of Appendices

Introduction

Researchers from multiple disciplines have studied engagement in deviant and socially unaccepted behaviours for decades. Specifically, two divergent areas of research have provided insight into how views of the self and others influence the interpretation of deviant acts and engagement in illegal behaviours (Ogilvie et al., 2014; Walters, 2009). Criminologists and clinical researchers have emphasized the importance of understanding how views of the self and others influence decision making by studying the thought patterns and thinking styles associated with criminal behaviours (Tafrate et al., 2018; Walters, 1995). Attachment researchers have also used the perspective of the self and others to predict the likelihood of engagement in crime and deviant behaviour (Ogilvie et al., 2014; Scharfe, 2002). Both areas of research have established that there is a connection between negative views of the self and others within intimate relationships and deviance. However, no previous researchers have explored the relationship between attachment and the thinking patterns associated with deviant behaviour. Therefore, the aim of this study was to combine these divergent areas of research to determine how the models of the self and others within attachment theory relate to the items associated with the self and others when measuring criminal thinking patterns.

Criminal Thinking Patterns and Deviant Behaviour

Criminal thinking is a social learning process that begins in the early years of an offender's life (Walters, 1995). These specific patterns of thought are associated with higher engagement in deviant behaviour, specific personality characteristics, and several interpersonal factors (Mitchell & Tafrate, 2012; Walters, 1995; Yochelson & Samenow, 1976). Criminal thinking styles were originally developed as a way to understand the

qualitative differences between the thoughts of offenders and the average person (Yochelson & Samenow, 1976). Walters (1995) then conceptualized criminal thinking styles as a way to understand patterns of thought. Criminal thinking has not always been defined consistently but can be understood as the study of *how* an offender thinks as opposed to *what* they think (Walters & Yurvati, 2017).

Research Related to Views of Others

Studies involving convicted or justice involved clients[1] have concluded that criminal thinking patterns are associated with a deficit in interpersonal skills and a disregard for others (Mitchell & Tafrate, 2012). Furthermore, other studies have found that taking part in a deviant act has been described as a way to experience social bonding with anti-social peers (Minna, 2015; Tafrate et al., 2018), or has been a result of peer pressure (Devlin & Gray, 2007; Newstead et al., 1996; Sarita, 2015). Though there is a disregard for others that is evident in the way offenders think, there also seems to be a need to fit in with others who take part in deviant acts. These relationships with peers are all examples of how views of others may influence personal decisions.

Research Related to Views of the Self

Criminal thinking patterns also reflect deficits in intrapersonal skills. Increased criminal thinking has been associated with deficits in healthy personality traits such as stress management and self-awareness (Mitchell & Tafrate, 2012). Furthermore, individuals who had been convicted have been found to have a sense of entitlement,

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[1] Mitchell and Tafrate (2012) refer to their clients and participants as "justice involved clients". This term summarizes the fact that the individuals have been involved in the justice system without always referring to them as offenders or criminals.

inflated views of themselves, and to seek power and dominance (Tafrate et al., 2018).

These views of the self also tend to reflect a fear of being taken advantage of (Tafrate et

al., 2018). These personal views of the self may indicate the presence of a particular self-

related thought pattern that is associated with engagement in deviant behaviour.

Research Related to Views of the Self and Others

A variety of scales have been developed to measure criminal thinking styles

including, but not limited to, the Criminogenic Cognitions Scale (CCS; Tangney et al.,

2012), Measures of Criminal Attitudes and Associates (MCAA; Mills et al., 2002),

Measure of Offender Thinking Styles (MOTS; Mandracchia et al., 2007), and the Texas

Christian University Criminal Thinking Scales (CTS; Knight, Garner, Simpson, Morey,

& Flynn, 2006). Among the most widely used scales is the Psychological Inventory of

Criminal Thinking (PICTS; Walters, 1995; Walters, 2006) and one of the most recently

developed scales is the Criminogenic Thinking Profile (CTP; Mitchell & Tafrate, 2012).

Each of these scales focuses on how offenders think in regard to their worldviews.

Originally, the PICTS was comprised of 8 subscales (Cutoff, Cognitive Indolence,

Discontinuity, Mollification, Entitlement, Super optimism, Power Orientation, and

Sentimentality; Walters, 1995). A layperson scale to measure criminal thinking styles in a

university sample was then created and validated using a bifactor model (Walters, 2002;

Mitchell et al.,2017). The bifactor model factored the PICTS into two distinct categories;

proactive criminal thinking (PCT; premeditated, intentional, and goal directed) and

reactive criminal thinking (RCT; impulsive and not premeditated) while also considering

general criminal thinking (GCT; overall score on the full measure). PCT measures goal

directed and intentional ways of thinking whereas RCT measures poor problem-solving

skills, aggression, difficulty relating to others, and thrill-seeking initiatives (Mitchell et al., 2017; Walters & Yurvati, 2017). Given these distinctions between PCT and RCT, these patterns may provide some insight into how individuals' views of themselves and others are also divided within the context of criminal thinking.

In addition to measurement differences, proactive criminal thinking has been found to be associated with crimes that require planning such as robbery whereas reactive criminal thinking has been associated with assault or violence (Walters, 2007). Interestingly, the influence of peers is also different between proactive and reactive thinkers. PCT is related to peer influence, whereas RCT relates to peer selection (Walters, 2016). Furthermore, PCT tends to predict positive outcomes as a result of criminal behaviour while RCT predicts hostile attributions (Walters & Geyer, 2005). This difference suggests that the influence of an anxious self (more reactive) and disregard for others (more proactive) is different for more impulsive thinkers versus individuals who plan out their deviant actions. This measure of criminal thinking is not the only measure to divide thought patterns into categories that seem to be related to views of the self and others.

The CTP was developed as a way to expand on existing criminal thinking measures. Mitchell and Tafrate (2012) used psychopathy subscales, cognitive behavioural therapy models, and the direct experiences of parole and probation officers to develop items that reflected the thought patterns of offenders. The eight subscales of the CTP (i.e., disregard for others, demand for excitement, poor judgement, emotional disengagement, parasitic/ exploitive, justifying, inability to cope, and grandiosity) each reflect various ways of thinking. These views were created to reflect actual statements made by

offenders and were factored into the eight categories using the psychopathy scale as a

reference point. However, these subscales each tend to reflect either views of the self or

views of others as well. Having a disregard for others and a tendency to remain

emotionally disengaged from others reflects the relationship between the offender and

other people. Likewise, views of the self are apparent in multiple subscales as well. A

demand for excitement indicates that one may have a low tolerance for boredom that is

self centered, while a parasitic and exploitive world-view may also be reflective of only

considering oneself. These subscales are each independent in their reflection of specific

thought tendencies but all have an underlying dimension that may be categorized as

pertaining to views of the self or others.

Attachment Theory

Research Related to Views of the Self and Others

In developing attachment theory, Bowlby (1969/1982, 1988) and Ainsworth

(1989) provided insight into the biological and social origins of individual world views.

These world views are known as attachment representations and shape the way in which

individuals understand and interpret the world around them. Beginning in infancy, the

people around us provide cues that either allow a secure bond and trust to form or are

negligent and foster distrust and insecurity (Bowlby 1969/1982). Bartholomew (1990)

furthered the understanding of these internal working models by developing a 4-category

model of attachment. Views of the self and views of others made up the two underlying

dimensions of the model.[2] Dimensions of the self and other combine to result in distinct

ways of socializing and navigating times of stress (Bartholomew, 1990; Bowlby, 1988;

Griffin & Bartholomew, 1994). Positive views of the self and others have consistently

been associated with pro-social behaviour (Bartholomew & Horowitz, 1991). Conversely,

negative views of the self and others have been related to reports of interpersonal

problems and avoidance (Bartholomew & Horowitz, 1991; Bowlby, 1988; Scharfe,

2002).

Research Related to Views of Others

Individuals who have positive views of others tend to be more empathetic and are

able to engage in perspective taking from the time they are in preschool (Panfile &

Laible, 2012; Stefan & Avram, 2019). However, positive views of others have also been

found to be associated with being more susceptible to peer pressure due to a need to

please (Lotar, 2011; Rihtarić & Kamenov, 2013). Conversely, negative views of others

are associated with distrust, being less sociable, fear of rejection, and self-dependence

(Bartholomew & Horowitz, 1991). In an effort to maintain self-preservation, a negative

view of others may lead to neglecting others while making an effort to meet one's own

needs. Individuals who have a negative view of others also score low on emotional

expressiveness, lack the capacity to rely on others, and can be competitive (Bartholomew

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[2] Bartholomew's (1990) two underlying dimensions form four distinct attachment styles: Secure (high approach, low anxiety/ positive self), fearful (high avoidance, high anxiety/ negative self), preoccupied (high approach, high anxiety/ negative self), and dismissing (high avoidance, low anxiety/ positive self). Each dimension has been found to be associated with several personality, social, and developmental outcomes (Bartholomew & Horowitz, 1991).

& Horowitz, 1991). Overall, it is important to consider how both positive and negative

views of others impact the thought patterns that lead to decision-making.

Research Related to Views of the Self

Positive and negative views of the self may affect decision making in different

ways. Positive views of the self are associated with traits that could be beneficial when

developing decision making skills. For example, individuals with a positive view of

themselves have better emotion regulation (Panfile & Laible, 2012; Stefan & Avram,

2019). Positive views of the self also allow individuals to maintain high self-confidence

and to be expressive (Bartholomew & Horowitz, 1991). Furthermore, the traits and

characteristics that are associated with positive views of the self make the management of

stress easier (Maunder & Hunter, 2001). These positive views of the self are associated

with the ability to manage stress and control arousal quickly which may help to reduce

the likelihood of rash decisions and deviancy (Maunder & Hunter, 2001; Ogilvie et al.,

2014). Conversely, negative views of the self can result in social inhibitions and a lack of

internal affect regulation, which can lead to a tendency to rely on risky external

regulators such as the use of psychoactive drugs (Maunder & Hunter, 2001; Scharfe &

Eldredge, 2001). These negative self views may therefore relate to the reactiveness and

difficulty with emotion regulation that are often prevalent in offender populations

(Walters, 2020).

Attachment, Criminal Thinking Styles, and Deviant Behaviour

There are several reasons why attachment and criminal thinking may be associated.

Research findings support the use of attachment style to predict engagement in deviant

behaviour but have not progressed to using attachment theory as a way of understanding

the thinking patterns associated with the behaviour. Insecurity has been argued as a

predictor of offending, but the way insecure individuals may perceive themselves and

others has not yet been associated with criminal thinking patterns (Ogilvie et al., 2014).

Additionally, findings that do support the use of criminogenic thinking patterns to predict

deviant behaviour allude to motivations that can be classified as either relating to the self

or others but have not specifically measured either (Tafrate et al., 2018). Though patterns

of thought exhibited by offenders have been attributed to criminal thinking styles, the

attachment perspective will allow for the categorization of these patterns into views of

the self and other. The internal working models of attachment, in particular the models of

the self and other, influence socio-behavioural choices that extend to the understanding of

deviant behaviour. The specific world views apparent within criminal thinking may

therefore be understood through the lens of the attachment relationships that influenced

the formation of overall world views initially.

Research Related to Views of Others

Both attachment and criminological based findings predict behaviour that is

influenced by individual perceptions of others. Specifically, deviance and risk behaviour

are associated with stress and the strength of interpersonal relationships (Kulick &

Rosenberg, 2000; Park, 2003). The difficulty of maintaining healthy relationships for

individuals who do not trust others also impacts their risk of involvement in deviancy.

Negative views of others have been strongly linked to violent and non-violent behaviour

(e.g., sexual offending, domestic violence, and property crime; Ogilvie et al., 2014).

When asked about specific behaviours such as reckless driving, infidelity, academic

cheating, or violent interpersonal encounters, individuals who had engaged in these acts

described their views of others differently than participants who had not (Devlin & Gray, 2007; Hosny & Fatima, 2014; Kulick & Rosenberg, 2000; Newstead et al., 1996). Individuals who engage in deviant behaviour and have developed criminal thinking patterns also discount the importance of others (Walters, 1990; Walters, 2006). The way in which individuals act is also a result of how views of themselves and others interact. Therefore, views of others can be argued as an influential aspect of decision making in the context of criminal behaviours.

Research Related to Views of the Self

Research supporting the associations between attachment, deviance, and how an individual views themselves has not been as fully examined. Along with a decrease in emotion regulation and social skills, negative views of the self have been found to be predictive of low self-control and deviance among adolescents (Miller et al., 2011). More research is needed to better understand the relationship between views of the self within attachment relationships and formally deviant behaviour.

Research Related to Views of the Self and Others

Most research has focused on the combination of negative views of the self and negative views of others. Bowlby (1944) posited that early experiences of separation leading to specific character types (e.g., affectionless) were the reason that a sample of juveniles had engaged in theft. Much like the research available today, Bowlby (1944) was alluding to the association between negative views of the self and other and crime (cf. Ogilvie et al., 2014). Positive views of the self and other however, have been associated with a lower tolerance of antisocial acts such as theft and aggression (Dane et al., 2012). By applying the self and other dimensions to how individuals interpret deviant

acts, attachment could further help to understand the relationship between individual motivations and deviancy.

When examining the personality traits associated with criminal thinking patterns, both impulsivity and boredom were common excuses for engaging in bad behaviour (Dahlen et al., 2005). Impulsivity and antisocial behaviour have not only been found to be related to deviancy but have also been found to be related to negative views of the self and other (Yocheleson & Samenow, 1976). Again, the characteristics of individuals who engage in more criminal styles of thinking are similar to the working models of attachment.

By outlining how both attachment and criminal thinking styles relate to interpersonal and intrapersonal characteristics, it is evident that these distinct theories have high predictive value independently. Together, the theories can provide insight into motivations for engaging in deviant behaviour by comparing each theory's view of the self and other. Criminal thinking styles provide insight into the thought patterns of individuals who engage in deviant behaviour whereas attachment theory has a history of relating specific characteristics of early environments to later life outcomes. Bowlby (1944) used attachment perspectives, studied juvenile delinquents, and connected early environments and adverse circumstances with committing offences as a juvenile. Walters (1995) studied criminal thinking patterns as a way to understand the differences between offenders thinking compared to the general population and found key differences in world views. To date, these theories have remained independent. By combining thought patterns with a measure of the self and other, broader insight into the origins and reasons for engaging in deviant behaviour can be gained.

Deviant behaviour

To fully understand how the self and other dimensions of attachment and criminal thinking patterns relate, it is important to consider how engagement in deviant behaviour will affect the relationship. Both the original PICTS and CTP were created with the expectation that participants had been involved with the justice system at some point in their lives (e.g., spent time in jail; Mitchell & Tafrate, 2012; Walters, 2006). Furthermore, the stress caused by criminal thinking may fall under one of the categories in which attachment representations are strongest (when stressed, ill, or afraid; Bowlby, 1969/1982). Therefore, the associations between attachment and criminal thinking are expected to be stronger for participants with increased engagement in illegal and formally deviant behaviour.

Since the development of the criminal thinking scales, most criminal thinking related studies have been conducted using offender populations (Tafrate & Mitchell, 2012; Walters, 2006). Recently, non-offenders and college students have also participated in studies to assess criminal thinking in the general population. Specific to this study, Mitchell et al. (2017) found that the proactive and reactive subscales of the PICT-L-SF were each positively associated with engagement in illegal risky behaviours such as driving over the speed limit and underage drinking. Despite not having a conviction, participants high in criminal thinking were still more likely to engage in self-reported risk behaviours.

The CTP has been found to have a better global fit when administered to probationers compared to college students (Mitchel & Tafrate, 2012; Newton et al., 2016). Though the 8-factor model still fits for college students and non-offenders, there

are a few items that reference re-offending, indicating why a criminal history would

result in a stronger fit of the proposed structural model. However, most items do

reference general patterns of thought without mentioning criminal activity. Crime does

not have to be explicitly mentioned to measure criminal thinking patterns, allowing the

general items to account for most of the survey (Walters et al., 2011). For the present

study, the survey will be administered to a variety of participants who are unlikely to

have been incarcerated. By separating participants who fit the original target

demographic for the survey, whether there is a stronger fit with the data can be observed.

Typically, engagement in deviant behaviour has been measured as a continuous

variable and no cut-off is explicit in the literature (Mitchell et al., 2017; Sadeh & Baskin-

Sommers, 2016). Thus, the definition of deviance was derived using a textbook definition

of formal deviance created by sociologists (see Appendix A for specific questions). The

main criterion for defining deviance is that the action deviates from what is accepted by

the general social audience (Erikson, 1962). Furthermore, deviance can be inferred by not

obeying group rules that are enforced by the group such as formally enacted laws

(Becker, 1963). Deviance can be informal (social norms-related) or formal (law-related).

The definition of formal-deviance was used, as this study did not explicitly use

participants who had been involved in the justice system. Asking participants to report on

their engagement in formal-deviance is more representative of previous studies that have

focused on offender-populations.

Hypotheses

For the present study, Structural Equation Modelling was used to explore the

relationship between views of the self and other within attachment relationships and

criminal thinking patterns. The model is presented in Figure 1 and outlines all paths and

subscales. It was expected that the self-dimension of attachment would be associated with

the views of the self within criminal thinking patterns, but not how others are viewed.

Likewise, the other-dimension of attachment was expected to be associated with the

views of others, but not views of the self within criminal thinking. Given the specific

context of criminal thinking within offender populations, the proposed model was

expected to have stronger associations for individuals who have engaged in formally

deviant behaviour compared to individuals who have abstained from engaging in

formally deviant behaviour.

Figure 1

Proposed Structural Equation Model Predicting the Relationship Between Attachment and Criminal Thinking
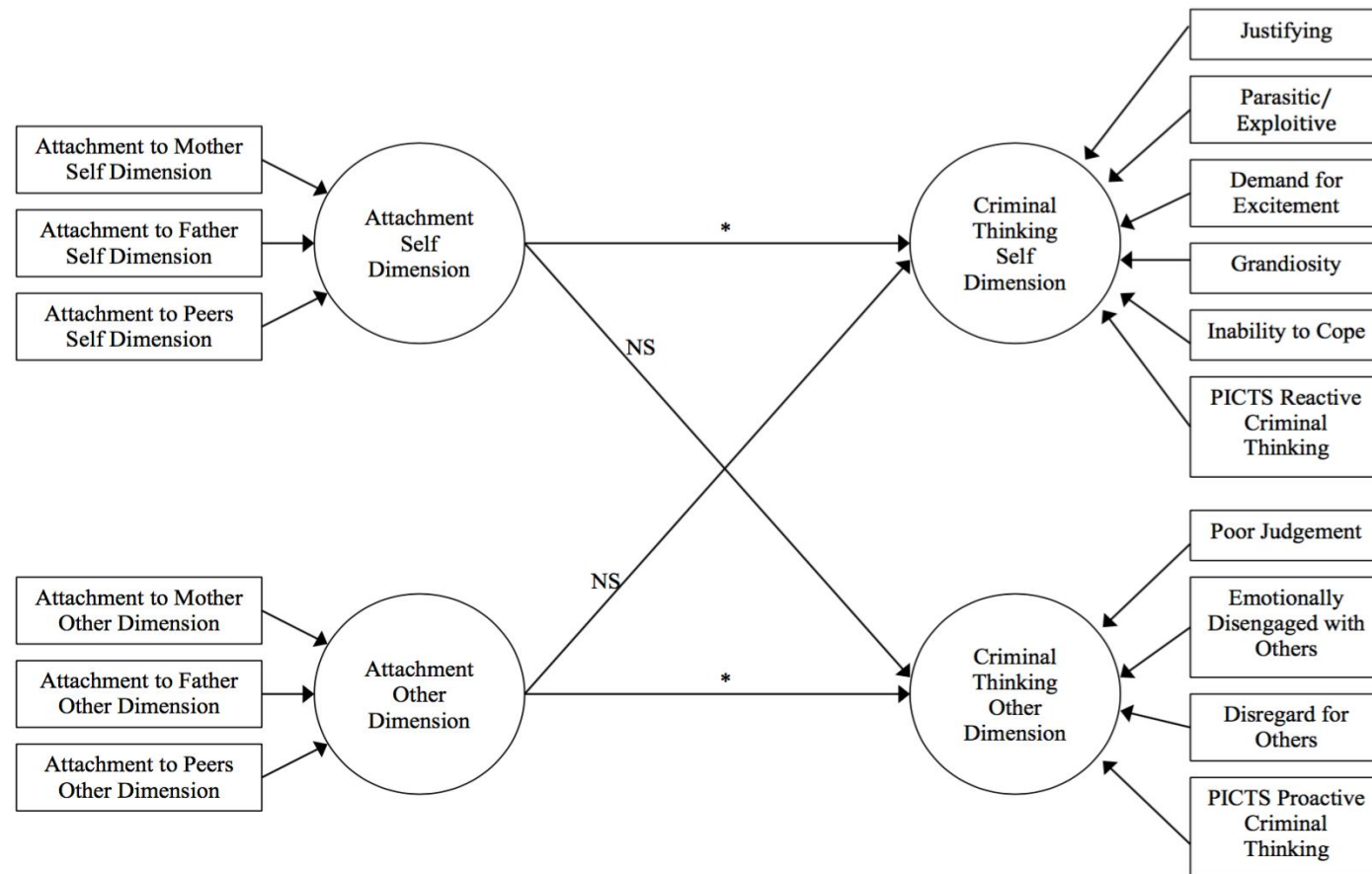
Note. This proposed structural model shows the predicted relationship between the self and other dimensions of attachment (T-RSQ) and the self and other factors proposed from the subscales of the Criminogenic Thinking Patterns (CTP) measure and the Psychological Inventory of Criminal Thinking Styles (PICTS-L-SF).

Study 1

Method

Data Screening

Before running the proposed model, the original sample of participants (N = 867) was screened to identify participants who did not complete all requirements (n = 285). Participants were only included in the analyses if they had provided completed data (n = 582). A series of steps were taken to determine whether the data provided by participants would be accurate and complete (see Figure 2). First, participants who had completed at least 70% of the items on each survey (n = 738) were included. Participants who did not complete the attachment to mother (n = 62), attachment to father (n = 45), attachment to peers (n = 6), criminal thinking (n = 6), or criminogenic thinking (n = 10) surveys were excluded. Second, I reviewed the answers to the question that instructed participants to pick "5" and identified 27 participants who did not follow those instructions (i.e., picked 1-4, not 5), leaving 711 participants. Third, I reviewed whether participants chose "disagree" when asked whether they had been abducted by aliens while completing the survey and identified 111 participants who responded with "uncertain", "agree", or "strongly agree", leaving 600 participants. Lastly, at the end of the survey participants were given questions about their survey responses. Of the remaining 600 participants, 582 stated that they had paid attention to the questions and still consented to have their data included in the final analyses, one participant did not respond to the question, one responded that they had not paid attention to the questions/ were dishonest, and 16 participants responded that they had paid attention but did not want their data included. After completing these steps, the final sample consisted of 582 participants.

Figure 2

Decision Tree Outlining Which Participants Were Excluded from and Included in the

Final Analyses for the Student Sample

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┌──────────────────────────┐
│  Original sample: 867 Trent │
│    University students.     │
└──────────────────────────┘
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738 participants completed all of the surveys.	129 participants did not complete all of the surveys.

711 participants did pick "5" as their response when instructed to pick "5".	27 participants did not pick "5" as their response when instructed to pick "5".

600 participants did pick "disagree strongly" as their response when asked if they had been abducted by aliens while completing the survey.	111 participants did not pick "disagree strongly" as their response when asked if they had been abducted by aliens while completing the survey.

582 participants responded that they did pay attention to the survey and that they did want their data included.	16 participants responded that they did not want their data included.	1 participant responded that they were not honest or did not pay attention to the survey.	1 participant did not responded to the question.

The final sample consisted of 582 participants.

There were many differences between participants who did not complete all

requirements for the survey (n = 285) and participants who were used in the final sample

(n = 582). The group included in the sample were younger (*M* = 20.39) than participants

who were not included (*M* = 21.64), *t*(865) = 3.43, *p* = 0.001. Views of the self within

relationships to mothers and fathers were also different between the two groups, with the

final group having a higher average for views of the self with their fathers (*M* = 0.07)

than the excluded group (*M* = -0.20), *t*(774) = -2.08, *p* < 0.05. Views of the self with

mothers were also lower for the excluded group (*M* = -0.19) than the included group (*M* =

0.07), *t*(803) = -2.27, *p* < 0.05. PICTS-L-SF scores for participants who were included in

the final sample were lower on general criminal thinking, *t*(814) = 3.85, *p* < 0.001,

proactive criminal thinking , *t*(814) = 4.58, *p* < 0.001, and reactive criminal thinking ,

t(814) = 2.81, *p* = 0.005. Additionally, the average scores were higher on the

Criminogenic Thinking Profile, *t*(804) = 5.73, *p* < 0.001, along with an inability to cope,

t(804) = 2.71, *p* = 0.007, demand for excitement, *t*(804) = 7.30, *p* < 0.001, poor

judgement, *t*(803) = 5.59, *p* = 0.00, parasitic and exploitive thinking, *t*(803) = 5.15, *p* <

0.001, justification of behaviour , *t*(803) = 3.17, *p* = 0.002, and a disregard for others,

t(804) = 6.53, *p* < 0.001. With the exception of emotion regulation and grandiosity,

participants who were not included in the final sample due to incomplete data scored

higher on each of the criminal thinking subscales than participants who were included.

Participants

Five hundred and eighty-two students participated in Study 1 and were mostly in

their first (n = 370, 64%) or second (n = 157, 27%) year at Trent University. The

participants represented a typical university population, as they identified as mostly

female (n = 488, 84%) and Caucasian (n =388, 67%) with an average age of 20.39 years

(ranging from 16 to 48). Additionally, most participants were heterosexual (n = 474,

81%) and either single (n = 256, 44%) or in a committed relationship (n = 230, 40%).

The demographics questions that were asked can be found in Appendix A.

Procedure

Student participants were recruited online through Trent University's SONA

participation system. Students were given 1 hour to complete the online questionnaire

anywhere they were able to access the Internet. After signing up to complete the study,

students were presented with the study's consent form (see Appendix B). If the students

read the consent form and agreed to participate, they were then presented with the

surveys. Each of the surveys included in the questionnaire are described in the measures

section and can be found in Appendices C through F. After completing the questions,

participants were asked a reliability question (see Appendix G) and presented with a

feedback form (see Appendix I). As compensation for their participation, participants

received a 1% course bonus credit in either their first- or second-year psychology course.

Students would still receive the credit if they exited the survey prior to completion.

Measures

Trent Relationship Scales Questionnaire (Scharfe, 2016). The T-RSQ was used

to assess attachment relationships with mothers, fathers, and peers. Participants were

asked to rate each of the 40 items on a scale ranging from 1 (*not at all like me*) to 7 (*very

much like me*). Of the 40 items, 10 items were used to measure each of the four

attachment styles. The secure scale (e.g., "I am honest and open in my relationships with

others"), fearful scale (e.g., "Although I want to be accepted, sometimes I feel like I do

not fit in"), preoccupied scale (e.g., "I worry that others do not value me as much as I

value them"), and the dismissing scale (e.g., "It is difficult to accept advice from others

because their views are so different from mine") each provide questions that indicate how

the participants view themselves and others within their relationships (self model =

secure + dismissing – fearful − preoccupied; other model = secure + preoccupied −

fearful − dismissing). The complete T-RSQ with all other items can be found in

Appendix C. Means, standard deviations, and reliabilities are all consistent with previous

research (Scharfe, 2016; see Table 1).

Psychological Inventory of Criminal thinking Styles- Layperson Edition- Short

Form (PICTS-L-SF; Walters, 2006; Walters et al., 2009). The PICTS was originally

developed to measure criminal thinking styles in offender populations (Walters, 2006).

Walters, Felox, and Reinoehl's (2006) layperson edition of the scale consisted of 80

items, which were then used to create the shorter 35-item scale that was used to measure

criminal thinking in our student sample (Mitchell, Bartholomew, Morgan, & Cukrowicz,

2017). Participants were asked to rate each item on a four-point Likert-scale ranging from

1 (*disagree*) to 4 (*strongly agree*). The PICTS-L-SF consists of two subscales that

measure reactive and proactive ways of thinking. Premeditated, goal directed and

intentional thoughts (PCT) items were used to measure proactive thinking (e.g., there are

times when I have done bad things and not gotten caught, and sometimes I feel

overconfident and feel like I could do just about anything and get away with it.).

Thoughts that are not premeditated but are impulsive (reactive thinking; RCT) were

measured as well (e.g., I rarely consider the consequences of my actions). Reliabilities for

the PICT-L-SF are consistent with the original PICTS and the PICTS-L-SF (see Table 1).

See Appendix D for the full PICTS-L-SF that was administered in this study.

Table 1

Table of Means, Standard Deviations, and Reliability Scores for the T-RSQ, PICT-L-SF,

and CTP (Student Sample)

	M	*SD*	α
T-RSQ Mother			
Secure	4.72	1.10	.76
Fearful	2.71	1.25	.85
Preoccupied	3.35	0.79	.48
Dismissing	3.51	1.22	.83
T-RSQ Father			
Secure	4.10	1.20	.79
Fearful	2.95	1.36	.85
Preoccupied	3.09	0.85	.49
Dismissing	3.84	1.42	.87
T-RSQ Peer			
Secure	4.83	0.96	.73
Fearful	3.11	1.20	.83
Preoccupied	4.03	0.88	.59
Dismissing	3.40	1.07	.80
PICT-L			
RCT	1.89	0.55	.90
PCT	1.47	0.41	.84
GCT	1.71	0.44	.92
CTP			
Inability to Cope	1.99	0.53	.76
Emotionally Disengaged	2.34	0.70	.85
Demand for Excitement	1.31	0.35	.78
Poor Judgement	1.20	0.30	.80
Parasitic/ Exploitive	1.27	0.36	.60
Justifying	1.62	0.49	.74
Grandiosity	2.29	0.58	.80
Disregard for Others	1.28	0.33	.87
Total	1.66	0.27	.92

Criminogenic Thinking Profile (CTP; Mitchell & Tafrate, 2012). The CTP was

developed to measure criminogenic thinking patterns using psychopathy subscales,

cognitive behavioural therapy models, and the direct experiences of parole and probation

officers. Participants in this study were asked to use a Likert-scale (ranging from 1 to 4)

to indicate whether they *disagree* or *strongly agree* with each of the 65-items. These

items are divided into eight subscales that measure specific ways of thinking. See Table 1

for means, standard deviations, and reliabilities of each subscale. A copy of the CTP can

be found in Appendix E.

Deviant Behaviour. To analyze whether participants had engaged in formal

deviance, questions were created based off sociological definitions of deviance (Erikson,

1962; Becker, 1963). Given that deviance is socially constructed, and definitions vary,

participants were asked to answer whether or not they had committed a crime that would

be considered going against a formally-enacted law. This question was created using a

common textbook definition of formal deviance; that formal deviance is defined as

violating social norms, including going against a formally-enacted law (Schmalleger &

Volk, 2014). To further understand whether participants would be willing to engage in

deviance if given the opportunity, they were also asked to use a Likert-scale that ranged

from 1 (*never okay*) to 7 (*always okay*) to rate how likely they were to agree with the

following statement: In some circumstances, I think it is okay to commit a crime that

would be considered going against a formally-enacted law. These questions are included

with the demographic questions in Appendix A. Specific behaviour questions that

included asking participants whether they had ever engaged in actions that are formally

deviant crimes in Canada recognized in the *Criminal Code* (e.g., assault and theft) were

also included as a way to ensure reliability (see Appendix F).

Results

Structural equation modelling (SEM) techniques were used to analyze the

relationship between models of the self and other of attachment and criminal thinking.

The self and other dimensions of attachment were expected to be significantly associated

with each other. It was also expected that the self and other dimensions of attachment

would be significantly associated with the corresponding self and other dimensions of

criminal thinking (see Figure 1). To test the fit of the model, I used predetermined cut-

offs for a variety of fit indices (cf. Hu & Bentler, 1995; Scharfe, 2007). These indices

included the Bentler-Bonett Normed Fit Index (NFI; indicates good fit if .90 or greater),

the Bentler Comparative Fit Index (CFI; indicates good fit if greater than 0.95), the

standardized Root Mean Square Residual (SRMR; good fit if less than 0.08), the Root

Mean Square Error of Approximation (RMSEA; good fit if less than 0.06), and the chi-

square/degrees of freedom ratio (χ^2/df; data and model are consistent if nonsignificant).

The model was tested using three groups (all participants, individuals who reported

engaging in formally-deviant behaviour, and individuals who did not report engaging in

any formally-deviant behaviours).

Attachment and Criminal Thinking: All Participants

To test the overall model that was hypothesized based on the available literature

(see Figure 1), a series of steps were completed. First, the correlations between all

attachment and criminal thinking variables were reviewed. See Table 2 for the means,

standard deviations, and correlations between the variables included in the final model.

Bivariate relationships between the variables in the attachment model and then the

variables included within the criminal thinking model were examined separately.

As expected, the bivariate correlations indicated a relationship between the self and

other variables of attachment (see Table 2). The attachment measurement model of the

self and other was then tested to determine whether the measurement model fit the data.

The same measures of fit outlined by Scharfe (2007) were used. To start, the standardized

residuals of the measurement model were reviewed for any residuals > 0.10. The model

resulted in a residual value of 0.12 between the model of the self for peers and the model

of others for peers. A residual value of 0.11 between the model of the self for mothers

and the model of others for peers was also present. These residuals indicated that the

model could be improved (i.e., they were > .10; Hu & Bentler, 1995). Residuals between

the model of the self for peers and the model of others for peers were correlated to help

improve the fit of the data. This step was enough to decrease the residuals and lowered

the residual value between the model of the self for mothers and the model of others for

peers to 0.10 (the highest residual value). Next, several fit indices were tested to further

examine the fit of the data. The chi-square was significant and indicated good fit ($\chi2$ (15)

= 546.419, $p < .01$). The other fit indices were calculated and while the RMSEA index

did not indicate good fit (RMSEA= 0.113, range from 0.087 to 0.140), the remainder of

the fit indices did (SRMR = 0.044; NFI = .889; CFI = .899). The smaller degrees of

freedom may have contributed to the RMSEA falling within a poorer range and supports

the need to use multiple fit indices when determining fit (Kenny et al., 2014). Lastly, the

parameter estimates for the model of the self (inclusive of the model of the self for

Table 2

Correlations, Means, and Standard Deviations of the Self Model, the Other Model, and the Criminal Thinking Measures

(Student Sample)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SelfM	.—												
2. OtherM	.26*	.—											
3. SelfF	.43*	.07	.—										
4. OtherF	.11*	.44*	.26*	.—									
5. SelfP	.42*	.14*	.39*	.17*	.—								
6. OtherP	-.04	.15*	.05	.19*	.19*	.—							
7. RCTAvg	-.30*	-.30*	-.23*	-.24*	-.34*	-.08	.—						
8. PCTAvg	-.17*	-.22*	-.15*	-.16*	-.14*	-.13*	.58*	.—					
9. EmotDisAvg	-.18*	-.31*	-.18*	-.28*	-.23*	-.31*	.41*	.28*	.—				
10. CopeAvg	-.29*	-.28*	-.22*	-.28*	-.34	-.12*	.71*	.41*	.47*	.—			
11. JudgeAvg	-.13*	-.17*	-.10*	-.14	-.03	-.15*	.32*	.53*	.22*	.28*	.—		
12. ExploitiveAvg	-.14*	-.13*	-.12*	-.07	-.05	-.07	.30*	.37*	.18*	.26*	.57*	.—	
13. DisOtherAvg	-.13*	-.23*	-.13*	-.22*	-.09*	-.20*	.38*	.53*	.32*	.43*	.65*	.45*	.—
M	0.07	0.06	0.07	0.01	0.03	0.05	1.89	1.47	2.33	1.99	1.20	1.27	1.28
SD	1.50	3.03	1.54	3.09	1.76	2.89	0.55	0.41	0.70	0.53	0.30	0.36	0.33

Note. n = 582. SelfM= model of the self for mother; OtherM= model of others for mother; SelfF= model of the self for father; OtherF= model of others for father; SelfP= model of the self for peers; OtherP= model of others for peers; RCTavg= average score for reactive criminal thinking of the Psychological Inventory of Criminal Thinking Styles- Layperson Edition-Short Form (PICTS-L-SF); PCTavg= average score for proactive criminal thinking of the PICTS-L-SF; EmotDisAvg= average score for the Emotionally disengaged subscale of the Criminogenic Thinking Profile (CTP); CopeAvg= average score for the inability to cope subscale of the CTP; JudgeAvg= average score for the poor judgement subscale of the CTP; ExploitiveAvg= average score for the parasitic/ exploitive subscale of the CTP; DisOtherAvg= average score for the disregard for others subscale of the CTP.

$*p < .05$

mothers, fathers, and peers) ranged from .245 to 0.940, $p < 0.001$. Parameter

estimates for the model of others (inclusive of the model of others for mothers, fathers,

and peers) ranged from .245 to 0.940, $p < 0.001$. The overall attachment measurement

model fit the data well enough to continue.

The original measurement model proposed for criminal thinking did not fit the data

(see Figure 1 for the self and other models that were proposed). Past research was used to

develop the model and predict which subscales may best represent the self and other

models. However, there were several standardized residuals with values $> .10$. The

proposed model had to be modified because too many of the subscale variables were

correlated. This study was the first to distinctly categorize the subscales into the self and

other so the need for revisions was not unexpected. Several steps were taken to review

the proposed model and determine which variables to include moving forward.

First, the subscales were analyzed at the item level to determine whether the

proposed categories of the self and other were correctly assigned. Items were sorted into

three categories: items related to the self, items related to views of others, or both/

ambiguous. For example, the emotionally disengaged subscale had more items that were

categorized as self (e.g., *When I don't understand things I give up*), while the disregard

for others subscale had more items relating to others (e.g., *It doesn't make sense to feel*

bad about other people's problems). The ambiguous items that included views of the self

and involved others (e.g., *There is no better feeling than the rush I get when stealing*

from the demand for excitement subscale) were prevalent and may indicate why there

was overlap within the residuals. Next, the total number of items related to each category

(self, other, both) were calculated to determine which model the subscales aligned with at

the item level. A new model was created that only included subscales that were

predominantly related to the self or others at the item level (see Figure 3). The

measurement model was re-run with only the subscales that presented as predominantly

self or other upon re-calculation.

Following the above steps, the criminal thinking measurement model of the self and

other was tested again to determine whether the adjusted model would fit. Several

residuals were correlated to continue (see Figure 3). The other fit indices indicated that

the new model was a good fit. The chi-square was significant ($\chi2$ (21)= 1685.182, $p <$

.001). The other fit indices were calculated and indicated good fit as well (SRMR =

0.046; NFI = 0.951; CFI = .958). However, as with the attachment measurement model,

the RMSEA index did not indicate good fit (RMSEA index = 0.101, range from 0.081 to

0.122). The parameter estimates for the model of the self (inclusive of the RCT,

emotionally disengaged, and inability to cope subscales) ranged from 0.256 to 0.862, $p <$

0.001. Parameter estimates for the model of others (inclusive of the PCT, poor

judgement, parasitic/ exploitive, and disregard for others subscales) ranged from 0.337 to

0.814, $p < 0.001$. The overall criminal thinking measurement model fit the data well

enough to continue.

Lastly, the full structural model for all participants was tested (see Figure 3). Only

the subscales that were included in the final criminal thinking measurement model were

added to the final model. Residuals were inspected and a few larger residuals (> .10)

between attachment and the emotionally disengaged subscale indicated that the data may

not have fit the proposed model. Additionally, the chi-square was not significant ($\chi2$

(78)=2510.195, $p > .05$). However, the remainder of the fit indices indicated good fit

Figure 3

Structural Model for All Study 1 Participants (Student Sample)
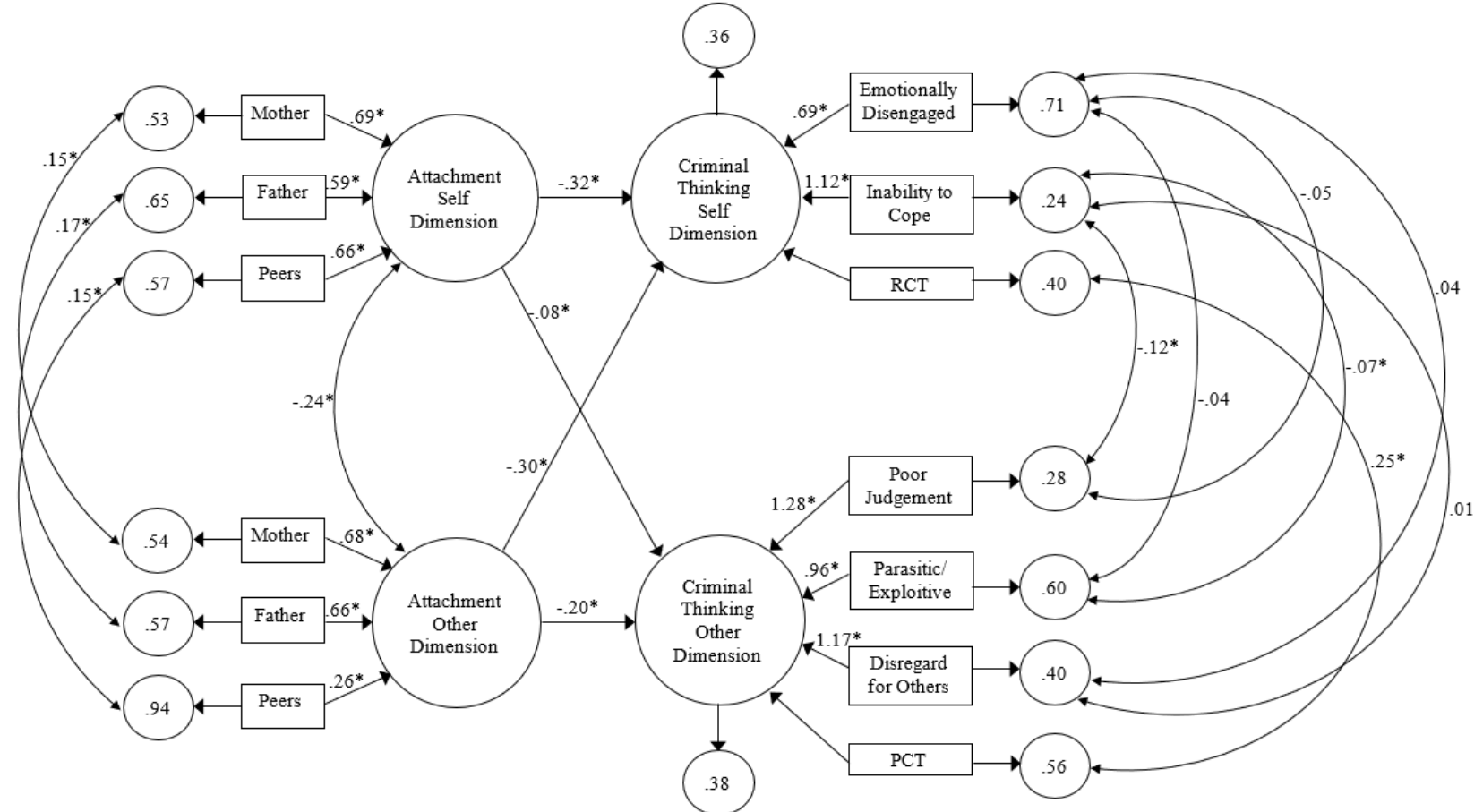
Note. The structural equation model predicts the relationship between attachment and criminal thinking. RCT = reactive

criminal thinking. PCT= proactive criminal thinking.

*p <.05

(RMSEA index = 0.063, range from .053 to .074; SRMR = 0.050; NFI = 0.935; CFI = .953).

Surprisingly, all paths were significant; the model accounted for 36% of the variance of criminal thinking self-dimension and 38% of the variance of criminal thinking other-dimension. There was a relationship between views of the self and others within attachment relationships and views of the self and others within criminal thinking patterns. Interestingly, although the proposed relationship was significant between the self and other models as predicted, the models for attachment negatively predicted the respective self and other models within criminal thinking (path coefficients: self–model = -.32; other-model = -.20). In contrast to the predicted outcome, the two cross paths were significant as well. First, the self–model of attachment was negatively associated with the other model of criminal thinking (-.08). Second, the other-model of attachment was negatively associated with the self-model of criminal thinking (–.30), indicating that both the views of the self and others within relationships predict how one views both themselves and others in regards to deviant behaviour and how they view their actions within a criminal context.

Attachment and Criminal Thinking: Engagement in Deviant Behaviour Vs. Not

To fully understand whether the hypothesized relationship between attachment and criminal thinking could be supported using the proposed model, it was necessary to test the model within specific groups of participants. Specifically, given the niche context of the criminal thinking surveys, it was necessary to test the model for participants that would relate to the context of the questions (i.e., had engaged in deviant behaviour).

To start, participants were divided into two groups (deviant vs. non-deviant).

Participants were included in the deviant group if they responded yes to any of the

criminal behaviour questions and put in the non-deviant group if they responded that they

were not found to be guilty or had not engaged in the behaviours. If they did not respond

to one or more questions, but did answer yes to committing another criminal offence,

they were included in the deviant group. Participants who responded "no" to most

offences listed but also did not respond or were unsure of whether their actions could be

classified as an offence for at least one other question were not included in the analyses,

as they could not confidently be put in either category. After creating the two groups, the

deviant group (n = 329) and the non-deviant group (n = 194) had smaller sample sizes

than initially proposed.

Next, the final SEM model was tested for the two groups (see Figure 4 and Figure

5). First, the model was tested with the non-deviant group. The residuals were inspected

and the few larger residuals (> .10) between attachment and the emotionally disengaged

subscale were still present. Additionally, the chi-square was not significant ($\chi2$

(78)=1355.944, p > .05). However, the remainder of the fit indices indicated moderate to

good fit (RMSEA index = 0.07, range from .055 to .085; SRMR = 0.063; NFI = 0.908;

CFI = .941).

As with the model for all participants, all paths were still significant; the model

accounted for 31% of the variance of criminal thinking self-dimension and 28% of the

variance of criminal thinking other-dimension. The relationship between views of the self

and others within attachment relationships and views of the self and others within

criminal thinking patterns was the same for participants that had not engaged in any

Figure 4

Structural Model for the Non-Deviant Group (Student Sample)
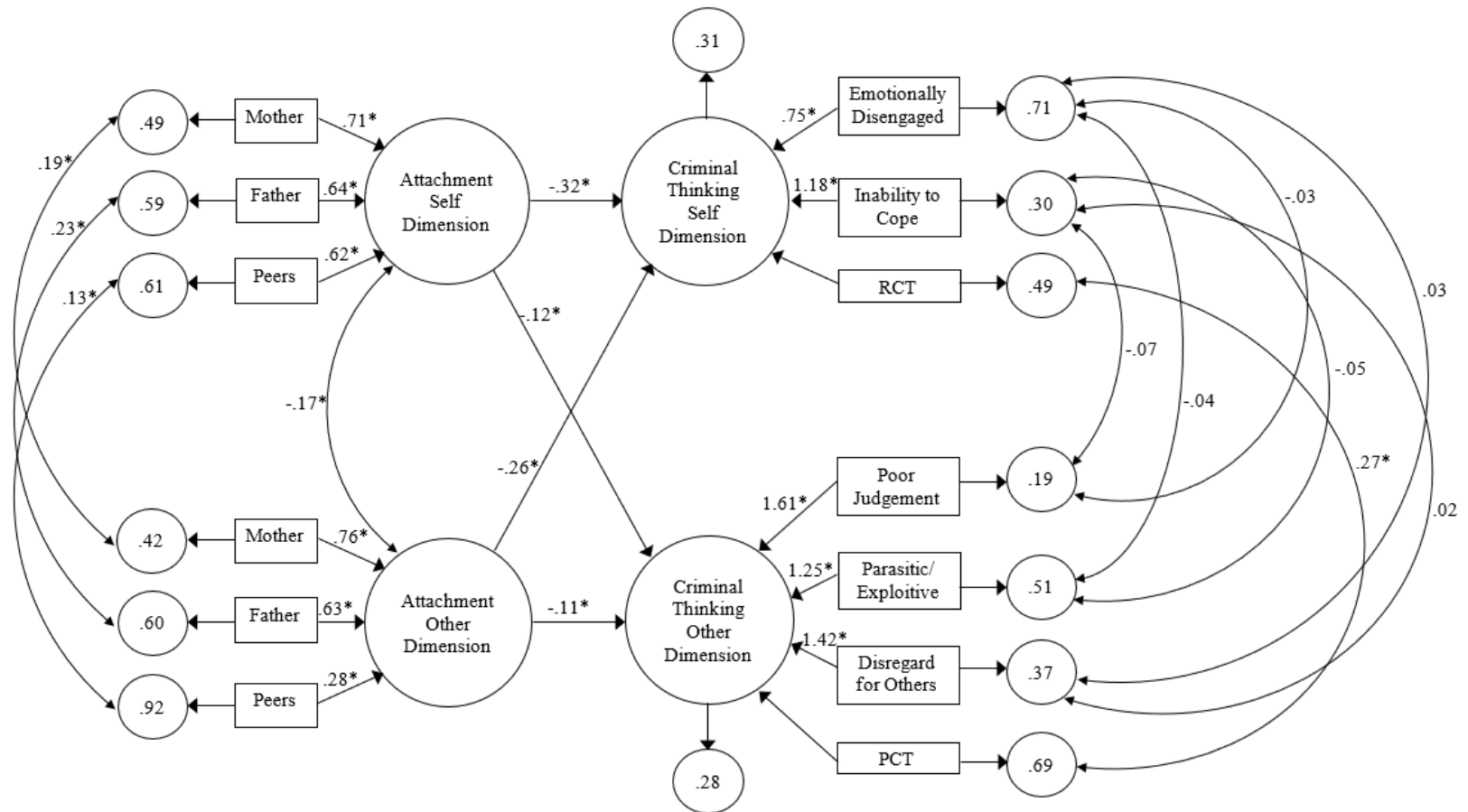
Note. The structural equation model predicts the relationship between attachment and criminal thinking for students that have not engaged in any formally-deviant behaviour. RCT = reactive criminal thinking. PCT= proactive criminal thinking.
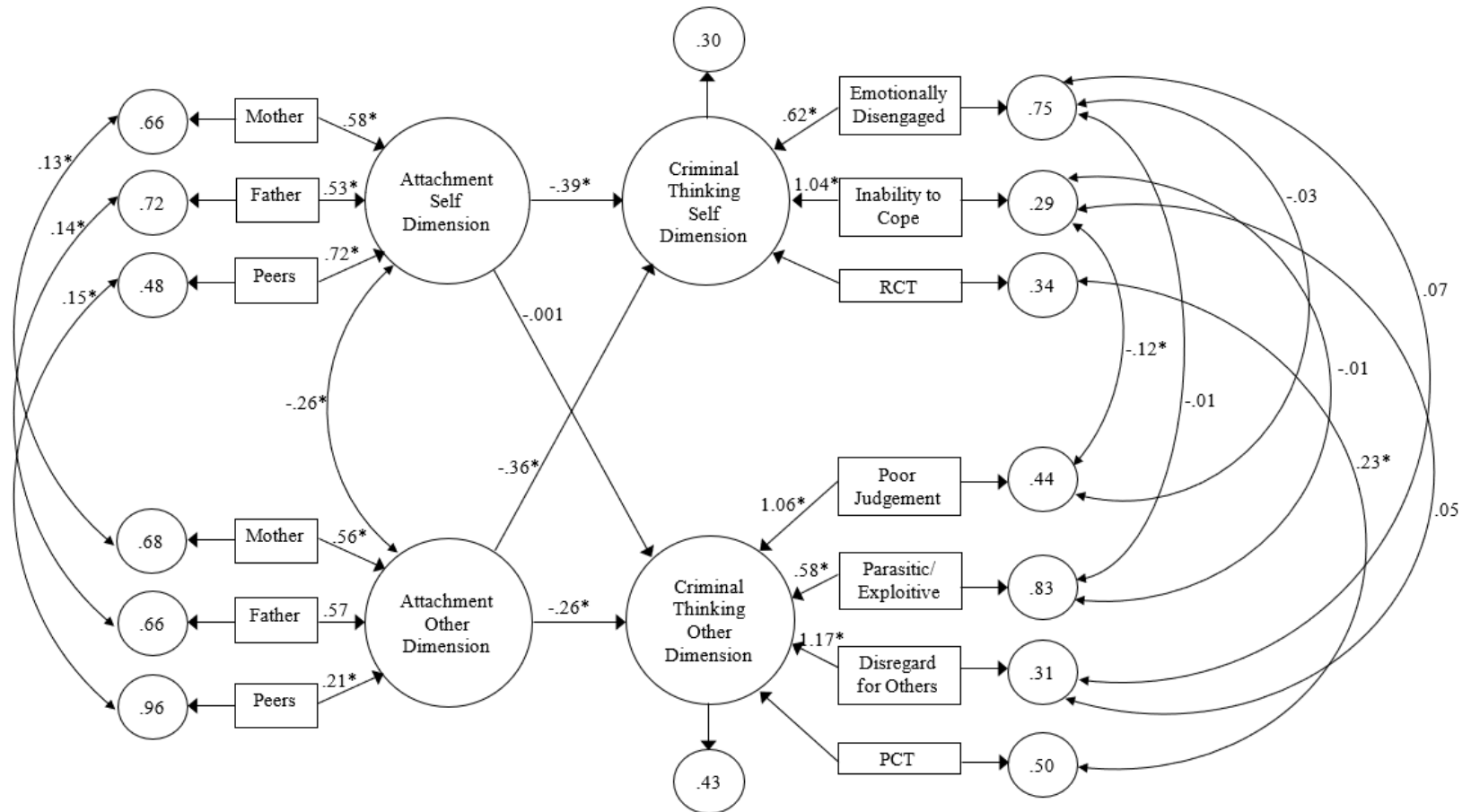*p <.05

Figure 5

Structural Model for the Deviant Group (Student Sample)

Note. The structural equation model predicts the relationship between attachment and criminal thinking for students that have engaged in formally-deviant behaviour. RCT = reactive criminal thinking. PCT= proactive criminal thinking.
p <.05

deviant behaviour. The models for attachment negatively predicted the respective self and other models within criminal thinking (path coefficients: self–model = -.32; other-model = -.11). In contrast to the initially predicted outcome, the two cross paths were still significant as well. The self–model of attachment was negatively associated with the other model of criminal thinking (path coefficient: self-other model = -.12) and the other-model of attachment was negatively associated with the self-model of criminal thinking (path coefficient: other-self model = –.26). These results indicate that the views of the self and others within relationships predict how one views both themselves and others in regards to deviant behaviour when they have no experience with engaging in deviant behaviour.

Second, the model was tested with the deviant group. The residuals were inspected and a few larger residuals (> .10) between variables were still present. The chi-square was not significant (χ^2 (78)=755.377, p > .05) and most fit indices indicated a poorer fit (RMSEA index = 0.085, range from .065 to .105; NFI = 0.840). However, the Comparative Fit Index (CFI= .897) and standardized root-mean-square residual (SRMR = 0.084) indicated a more moderate fit. Generally, the model seemed to have a poorer fit with just the deviant group.

All paths were still negative but views of the self within attachment relationships no longer predicted views of others within criminal thinking (as hypothesized originally). In contrast to the original hypotheses, the views of others within attachment relationships still predicted views of the self within criminal thinking. The model accounted for 30% of the variance of criminal thinking self-dimension and 43% of the variance of criminal thinking other-dimension. The models for attachment negatively predicted the respective

self and other models within criminal thinking (path coefficients: self–model = -.39;

other-model = -.26). The other-model of attachment was negatively associated with the

self-model of criminal thinking (path coefficient other-self model = –.36). As predicted,

these associations were stronger than the non-deviant group.

Study 2

For Study 2 the purpose was to replicate Study 1 (the student sample) using a

broader community population. Participants were recruited using social media and the

only exclusion criteria was that they had to be at least 18 years of age to consent. The

community sample was expected to have a more diverse group of participants than the

sample in Study 1 which was limited to Trent University students. The results were

partially replicated but due to a lack of statistical power, comparisons could not

confidently be made between the deviant and non-deviant groups. The initial hypotheses

were partially supported.

Method

Data Screening

In total, only 142 participants completed the necessary requirements to be included

in the final analyses. Although 487 participants initially opened the survey, only

participants with accurate and complete data could be included. See Figure 6 for the steps

taken to determine whether participants could be included in the final analyses. The series

of steps taken were the same as Study 1 with the addition of the last question which asked

whether the survey had been completed before. First, participants who had completed at

least 70% of the items on each survey (n = 169) were included. Participants who did not

complete the attachment to mother (n = 265), attachment to father (n = 43), attachment to

Figure 6

Decision Tree Outlining Which Participants Were Excluded from and Included in the

Final Analyses for the Community Sample
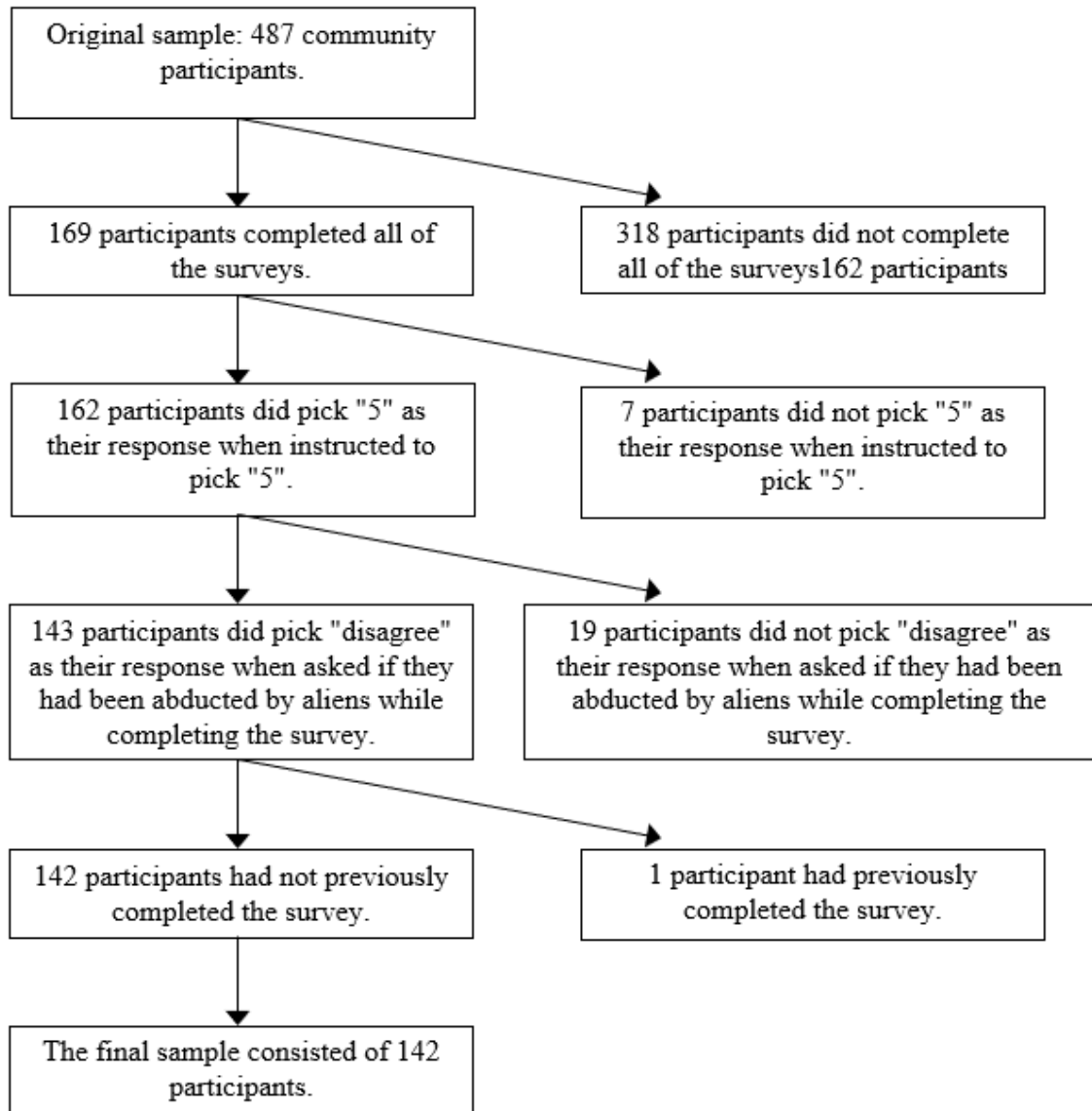
peers (n = 1), criminal thinking (n = 5), or criminogenic thinking (n = 4) surveys were

excluded. Second, I reviewed the answers to the question that instructed participants to

pick "5" and identified 7 participants who did not follow those instructions (i.e., picked

1-4, not 5). Third, I reviewed whether participants chose "disagree" (n =143) when asked

whether they had been abducted by aliens while completing the survey and identified 19

participants who chose either "uncertain", "agree", or "strongly agree". Lastly, at the end

of the survey participants were given questions about their survey responses. Of the

remaining 143 participants, 1 participant responded that they had completed the survey

before. In order to avoid replicating one person's data within the sample, the participant

was removed from the analyses. Of the final 142 participants, everyone stated that they

had paid attention to the questions and still consented to have their data included in the

final analyses. After the data was screened using these steps, the final sample consisted of

142 participants.

Participants included in the final analyses were then compared with participants

who were not included in the analyses. There were only two key differences between the

participants who did not complete all requirements for the community survey (n = 345)

and participants who were used in the final sample (n = 142). First, the group included in

the sample were younger (M = 22.51) than participants who were not included (M =

33.39), $t(436)$ = -4.03, $p < .001$. Next, after running t-tests for all of the survey variables,

views of the self and others within relationships were not different between the groups,

however participants that were included scored lower on dismissing attachment to

mothers (M = 3.92) than the group that was not included (M = 4.28). No other differences

between survey responses were found.

Participants

Study 2 had a total of 142 participants that were included in the final analyses. The

participants were similar to the student sample in Study 1: mostly female (n = 104, 73%)

or male (n =27, 19%), and Caucasian (n = 108, 76%), with an average age of 28 years

(ranging from 18 to 51). Additionally, most participants were heterosexual (n = 89, 63%)

and either single (n = 41, 29%), in a committed relationship (n = 41, 29%), or married (n

= 36, 25%). Interestingly, the community sample also had a high number of participants

who continued their education and had completed an undergraduate degree (n = 44,

31%), some college or university (n = 33, 23%), a graduate degree (n = 25, 18%), or

college (n = 19, 13%). There were however participants who reported completing high

school or less (n = 17, 12%) as well.

Procedure

For the community sample, participants were recruited using social media and

online forums (e.g., Facebook, Twitter, Reddit, and Instagram). The survey was posted in

groups and pages with the option for others to share. The public and non-private groups

that the survey was posted in were recorded along with the date and time of the posting

(See Appendix K). Potential participants were presented with a brief description of the

study that provided participants with an understanding of the research goals, along with

the link to the consent form and survey on Qualtrics. The full post read as follows:

> Are you interested in participating in an anonymous online survey? We are
>
> conducting a study at Trent University to explore how our view of relationships
>
> relates to how we think about deviant behaviours. If you choose to participate,
>
> you will be asked to complete an online survey. All of your responses will remain
>
> completely anonymous. The questions will ask you about your relationships with
>
> your parents and close friends. You will also be asked about your experiences and
>
> thoughts on deviant behaviours. Click here for the survey.

To post on Twitter, the text had to be shortened to 280 characters. The shortened

quotation included a brief description that read, "We are conducting an anonymous

online survey at Trent University to explore how our view of different relationships

relates to how we think about deviant behaviours. If you want to participate, click here."

The link lead directly to the consent form with more information about the study,

followed by the survey. The survey included a demographics questionnaire, the Trent

Relationship Scales Questionnaire (T-RSQ; Scharfe, 2016), Psychological Inventory of

Criminal thinking Styles- Layperson Edition- Short Form (PICTS-L-SF; Walters, 2006;

Walters et al., 2009*),* Criminogenic Thinking Profile (CTP; Mitchell & Tafrate, 2012),

and questions about deviant behaviour. Aside from contributing to the research,

participants were not compensated for their time.

Measures

Trent Relationship Scales Questionnaire (Scharfe, 2016). The T-RSQ from

Study 1 was used again to assess attachment relationships with mothers, fathers, and

peers (see Appendix C). The alphas in the present study ranged from $\alpha = .47$ to .88.

Means, standard deviations, and reliabilities were all consistent with previous research

(Scharfe, 2016; see Table 3).

Psychological Inventory of Criminal thinking Styles- Layperson Edition- Short

Form (PICTS-L-SF; Walters, 2006; Walters et al., 2009). The layperson edition of the

PICTS that was used in Study 1 was administered again for Study 2. Reliabilities for the

PICT-L-SF were consistent with the original PICTS and the PICTS-L-SF, displaying a

high range from $\alpha = .85$ to .92 (see Table 3). See Appendix D for the full PICTS-L-SF

that was administered in this study.

Table 3

Table of Means, Standard Deviations, and Reliability Scores for the T-RSQ, PICT-L-SF, and CTP (Community Sample)

	M	*SD*	α
T-RSQ Mother			
Secure	4.46	1.09	.73
Fearful	3.02	1.39	.86
Preoccupied	3.36	0.82	.47
Dismissing	3.92	1.31	.86
T-RSQ Father			
Secure	3.85	1.21	.79
Fearful	3.24	1.42	.86
Preoccupied	3.14	0.88	.51
Dismissing	4.21	1.39	.86
T-RSQ Peer			
Secure	4.70	1.09	.80
Fearful	3.39	1.34	.88
Preoccupied	4.10	0.84	.54
Dismissing	3.49	1.11	.82
PICT-L			
RCT	1.99	0.60	.91
PCT	1.49	0.43	.85
GCT	1.78	0.47	.92
CTP			
Inability to Cope	2.05	0.49	.71
Emotionally Disengaged	2.31	0.67	.85
Demand for Excitement	1.46	0.43	.83
Poor Judgement	1.41	0.37	.75
Parasitic/ Exploitive	1.40	0.41	.50
Justifying	1.83	0.54	.76
Grandiosity	2.20	0.55	.78
Disregard for Others	1.41	0.37	.85
Total	1.76	0.29	.90

Criminogenic Thinking Profile (CTP; Mitchell & Tafrate, 2012). The CTP used in Study 1 to measure criminal thinking patterns was also used in the present study (see Appendix E). Reliability ranged from $\alpha = .50$ to .90, with the parasitic and exploitive behaviour subscale scoring lower on reliability ($\alpha = .50$) than the rest of the subscales (α

= .71 to .90). See Table 3 for means, standard deviations, and reliabilities of each

subscale.

      Deviant Behaviour. The questions that were created for Study 1 based off

sociological definitions of deviance (Erikson, 1962; Becker, 1963) and the Canadian

Criminal Code were used for Study 2 as well. These questions can be found in Appendix

A and Appendix F.

Results

      Structural equation modelling (SEM) techniques were used to analyze the

relationship between models of the self and other of attachment and criminal thinking.

Initially, the hypotheses were that the self and other dimensions of attachment would be

significantly associated with only the corresponding self and other dimensions of

criminal thinking (see Figure 1). However, in Study 1 (the student sample) I found that

most paths were significant. For this study (Study 2), I followed the same steps presented

in Study 1 to determine if the original hypotheses would be supported or if the results

from Study 1 could be replicated in a community sample. The same fit indices to

determine the fit of the model with predetermined cut-offs outlined in Hu and Bentler

(1995) and Scharfe (2007) were used to determine the fit of the data for Study 1 were

calculated. Again, the Bentler-Bonett Normed Fit Index (NFI; indicates good fit if .90 or

greater), the Bentler Comparative Fit Index (CFI; good fit if greater than 0.95), the

standardized Root Mean Square Residual (SRMR; good fit if less than 0.08), the Root

Mean Square Error of Approximation (RMSEA; good fit if less than 0.06), and the chi-

square/degrees of freedom ratio (χ^2/df; data and model are consistent if nonsignificant)

were used. The model was only able to be tested for two of the groups (all participants

and participants who reported engaging in formally-deviant behaviour). There were not

enough participants to properly run the model for the non-deviant group.

Attachment and Criminal Thinking: All Participants Community Sample

To test the proposed model (see Figure 1), the steps taken in Study 1 were

replicated. First, the correlations between all attachment and criminal thinking variables

were reviewed. See Table 4 for the means, standard deviations, and correlations between

the variables included in the final model.

As expected, the bivariate correlations indicated a relationship between the self and

other variables of attachment (see Table 4). Several correlations were also noted between

the attachment and criminal thinking variables. Next, the full structural model for all

community participants was tested (see Figure 7). Only the subscales that were included

in the final criminal thinking measurement model from Study 1 were added to the final

model. Residuals were inspected and similarly to Study 1, a few larger residuals (> .10)

between attachment and the emotionally disengaged subscale indicated that the data may

not have fit the proposed model. In order to replicate Study 1, no further correlated

residuals were added to the model. Additionally, the chi-square was not significant ($\chi 2$

(78)=678.53, $p > .05$). However, the remainder of the fit indices indicated moderate to

good fit (RMSEA index = 0.059, range from .026 to .086; SRMR = 0.064; NFI = 0.88;

CFI = .94).

In contrast to the hypotheses and to Study 1, not all paths were significant (see

Figure 7). The model accounted for 40% of the variance of criminal thinking self-

dimension and 57% of the variance of criminal thinking other-dimension. As predicted,

there was a significantly negative relationship between views of the self and others within

Table 4

Correlations, Means, and Standard Deviations of the Self Model, the Other Model, and the Criminal Thinking Measures
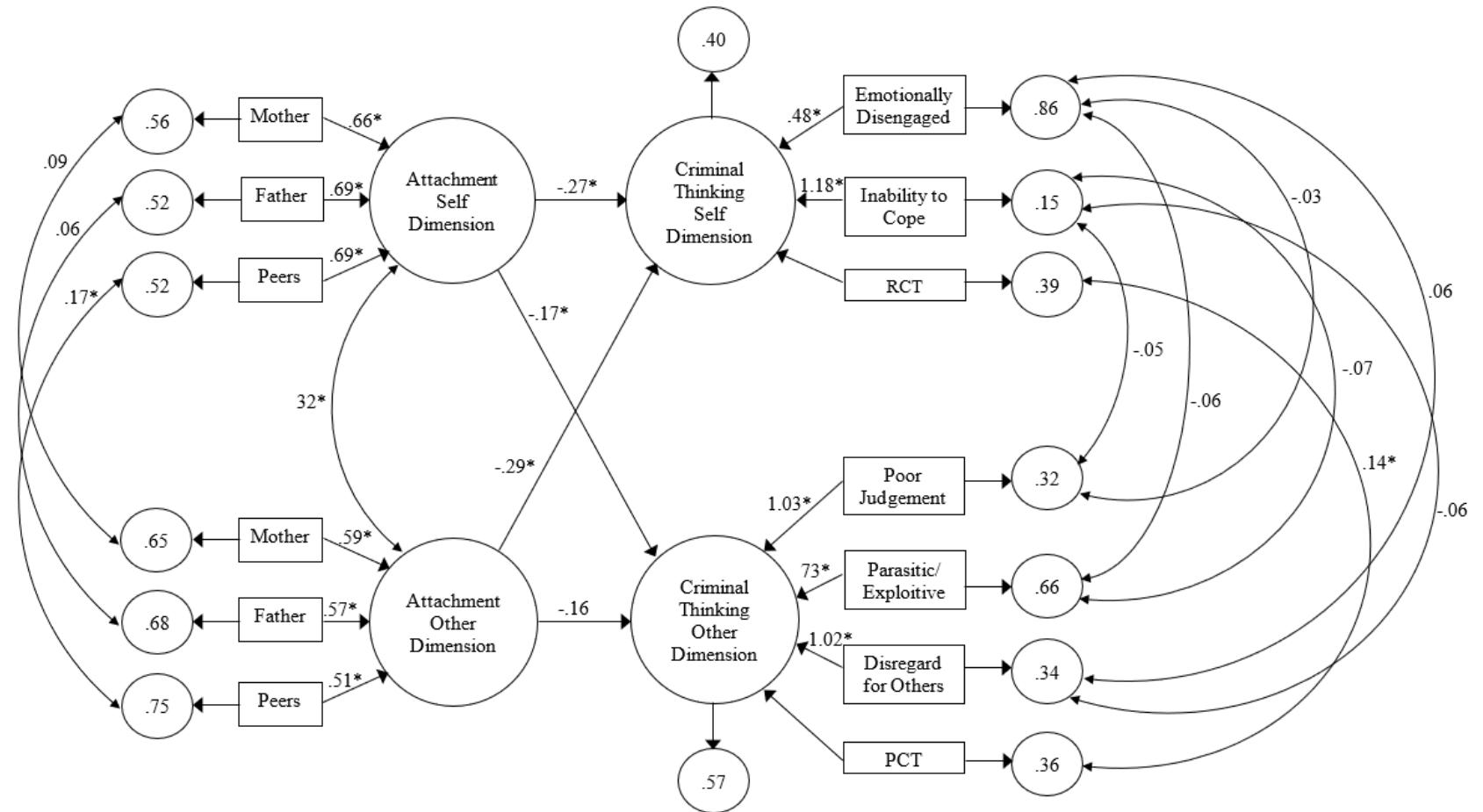
(Community Sample)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SelfM	.—												
2. OtherM	.17*	.—											
3. SelfF	.45*	.03	.—										
4. OtherF	.21*	.39*	.22*	.—									
5. SelfP	.33*	.06	.50*	.24*	.—								
6. OtherP	.06	.29*	.13	.24*	.30*	.—							
7. RCTAvg	-.23*	-.21*	-.22*	-.18*	-.31*	-.29*	.—						
8. PCTAvg	-.10	-.09	-.21*	-.22*	-.19*	-.12	.55*	.—					
9. EmotDisAvg	-.23*	-.15	-.20*	-.32*	-.19*	-.46*	.32*	.23*	.—				
10. CopeAvg	-.31*	-.20*	-.28*	-.24*	-.30*	-.30*	.74*	.54*	.32*	.—			
11. JudgeAvg	-.11	-.15	-.19*	-.10	-.18*	-.15	.32*	.63*	.17*	.43*	.—		
12. ExploitiveAvg	-.11	-.05	-.22*	-.08	-.06	-.01	.26*	.44*	.09	.29*	.50*	.—	
13. DisOtherAvg	-.08	-.08	-.19*	-.08	-.13	-.21*	.40*	.64*	.27*	.44*	.68*	.46*	.—
M	-0.03	0.16	0.02	-0.01	-0.17	0.19	1.99	1.50	2.31	2.05	1.41	1.40	1.41
SD	1.51	2.97	1.64	3.06	1.85	2.88	0.60	0.43	0.67	0.49	0.37	0.41	0.37

Note. n = 142. SelfM= model of the self for mother; OtherM= model of others for mother; SelfF= model of the self for father; OtherF= model of others for father; SelfP= model of the self for peers; OtherP= model of others for peers; RCTavg= average score for reactive criminal thinking of the Psychological Inventory of Criminal Thinking Styles- Layperson Edition-Short Form (PICTS-L-SF); PCTavg= average score for proactive criminal thinking of the PICTS-L-SF; EmotDisAvg= average score for the Emotionally disengaged subscale of the Criminogenic Thinking Profile (CTP); CopeAvg= average score for the inability to cope subscale of the CTP; JudgeAvg= average score for the poor judgement subscale of the CTP; ExploitiveAvg= average score for the parasitic/ exploitive subscale of the CTP; DisOtherAvg= average score for the disregard for others subscale of the CTP.

*p < .05

Figure 7

Structural Model For all Study 2 Participants (Community Sample)

Note. The structural equation model predicts the relationship between attachment and criminal thinking for all community sample participants. RCT = reactive criminal thinking. PCT= proactive criminal thinking. n = 142.
*p < .05

attachment relationships and views of the self within criminal thinking patterns (path coefficient: self–model = -.27). However, in contrast to the expected hypotheses, there was no relationship between views of others within attachment relationships and views of others within criminal thinking. The cross paths were both significant, indicating a negative relationship between the self-model of attachment with the other-model of criminal thinking as well as the other-model of attachment and the self-model of criminal thinking (path coefficient: self-other model = -.17; other-self model = -.29). These cross paths were not initially expected to be significant but were significant for the student sample and therefore were expected as a possibility in this replication sample.

Attachment and Criminal Thinking: Engagement in Deviant Behaviour Vs. Not

Community Sample

The original hypotheses predicted that the associations between attachment relationships and criminal thinking would be stronger for individuals that have engaged in deviant behaviour compared to those that had reported no instances of deviance. However, for Study 2 only 39 participants who completed enough of the surveys to be included in the final analyses could be included in the non-deviant group. Due to the small number of participants, the final model could not be run for the non-deviant group. Though comparisons cannot be made between the groups, when the model was run for the deviant group (n = 89; see Figure 8), the associations were all stronger than when the model was run for all participants (deviant and non-deviant group included; Figure 7). The importance of using a sample that may relate more easily to the context of the questions was still evident despite the sample size being smaller than initially proposed.

Figure 8

Structural Model for the Deviant Group (Community Sample)
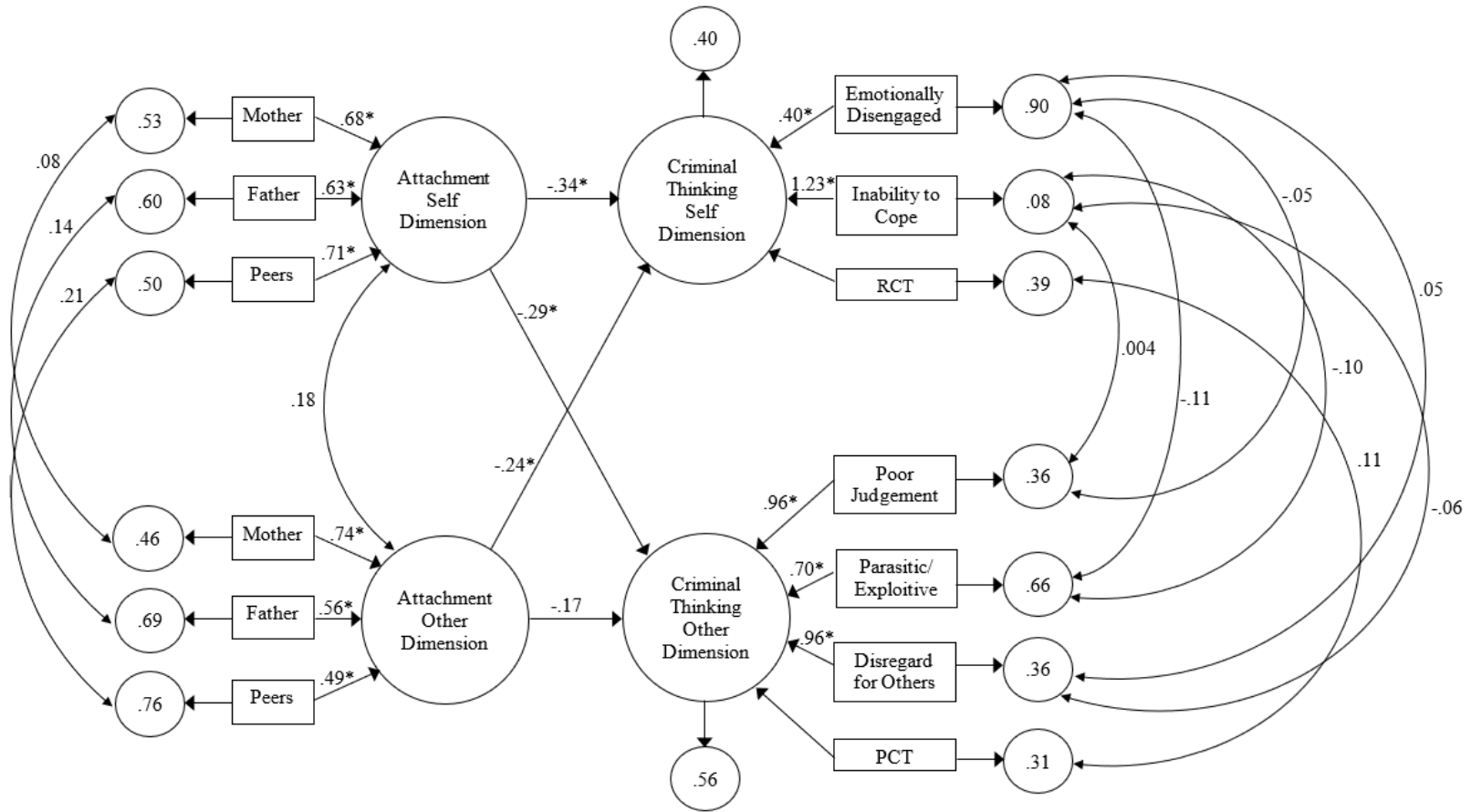
Note. The structural equation model predicts the relationship between attachment and criminal thinking. RCT = reactive criminal thinking. PCT= proactive criminal thinking. n = 89.
p < .05

The final SEM model was still tested for the deviant group (see Figure 8). The residuals were inspected and the few larger residuals (> .10) between attachment and the emotionally disengaged subscale were still present in this study. Additionally, the chi-square was not significant ($\chi2$ (78)= 472.375, p > .05). However, the remainder of the fit indices indicated moderate to good fit again (RMSEA index = 0.061, range from .000 to .098; SRMR = 0.079; NFI = 0.848; CFI = .942). The model for just the deviant group will be discussed below.

As with the model for all participants, only the attachment- other to criminal thinking- other path was insignificant; the model accounted for 40% of the variance of criminal thinking self-dimension and 56% of the variance of criminal thinking other-dimension. There was a significantly negative relationship between views of the self and others within attachment relationships and views of the self within criminal thinking patterns (path coefficient: self–model = -.34). The cross paths were both significant for this deviant group as well, indicating a negative relationship between the self-model of attachment with the other-model of criminal thinking as well as the other-model of attachment and the self-model of criminal thinking (path coefficients: self-other model = -.29; other-self model = -.24). These findings were consistent with the findings for the student sample deviant group.

Discussion

The purpose of this study was to gain further insight into how views within attachment relationships relate to the views expressed within criminal thinking patterns. Specifically, the present study was the first to explore whether the views of the self and others within attachment relationships could predict corresponding views of the self and

others within criminal thinking. To test the hypothesis that only the self attachment- self criminal thinking and other attachment- other criminal thinking models would be associated, Structural Equation Modelling (SEM) was used. In both Study 1 and Study 2, the models suggested that views of the self within attachment relationships are predictive of views of the self within criminal thinking, however, relationships between both views of the self and views of others within attachment with both views of the self and views of others within criminal thinking were also evident. Additionally, SEM was used to examine whether the relationship would be stronger for participants that had engaged in formally deviant behaviour. Study 1 supported a stronger relationship for participants that had engaged in deviant behaviour, however, the sample for Study 2 was not large enough to replicate or refute this finding. The results form both studies indicated a more complex relationship than expected, both supporting and challenging the expected findings.

The proposed model did not fit all the data, but some conclusions could still be drawn. Both Study 1 and Study 2 supported the hypothesis that the self model of attachment and the self model for criminal thinking would be associated. Apart from this finding, not all results were able to be replicated. Study 1 indicated that the associations were stronger for the deviant group than the non-deviant group. However, each model had different paths that were significant. When all students and only the non-deviant group were included in the model, every path was significant. Views of the self and others within relationships predicted both views of the self and others within criminal thinking. For the deviant group, all paths were significant except for the self attachment - other criminal thinking association, which as predicted, was not significant.

Study 2 (the community sample) partially replicated these findings. As with the student sample, when all participants were included in the model, the views of the self within relationships predicted views of self and others within criminal thinking. Contrary to the student sample and proposed hypotheses, the views of others within relationships predicted views of the self but not others within criminal thinking. All paths except for the other attachment - other criminal thinking path were also significant for the community sample deviant group. A larger sample and further replications will need to be completed to further understand how our views within relationships affect criminal thinking patterns for deviant vs. non-deviant groups, as the model could not be replicated for the non-deviant group in Study 2. Though direct comparisons between a deviant and non-deviant group could not be made for the community sample, the model for the deviant group did have stronger associations than when all participants were included in the sample. Overall, both Study 1 and Study 2 confirmed a relationship between the self models but have primarily highlighted key areas that require further inquiry.

Views of the Self

The significant relationship between the self-model of attachment and criminal thinking was consistent across both studies. The measures used for criminal thinking and attachment each represented world views that were expected to be associated between the self-dimensions. For example, individuals with negative views of the self within their relationships tend to have lower confidence (Bartholomew & Horowitz, 1991). Similarly, having an *inability to cope* (a subscale of the self-model criminogenic thinking patterns) indicates that individuals may give up in times of difficulty (Mitchell & Tafrate, 2012). As expected, the self-model supported the ability of attachment relationships between

parents and friends to predict these criminal thinking patterns. The ability for negative

views of the self within the context of relationships to predict criminal thinking helps to

extend and support previous findings. In support of findings such as insecure attachment

as a predictor for reliance on risky external regulators, attachment clearly has a place

within the context of criminal thinking and deviant behaviour literature (Scharfe &

Eldredge, 2001). This extension offers support for a deeper understanding of why

criminal thinking tends to be associated with deficits in self-awareness and intrapersonal

skills as well (Mitchell & Tafrate, 2012). Attachment relationships begin in infancy and

are integral to the development of trust in the self (Bowlby, 1969/1982; Bartholomew &

Horowitz, 1991).

      Though exploratory in nature as the first study to make these connections between

attachment and criminal thinking, this finding was supportive of the current trends in the

literature. Previous work has established links between insecure attachment and criminal

behaviour (Boduszek, 2014; Bowlby, 1944; Ogilvie et al., 2014) and criminal thinking

and criminal behaviour (Mills et al., 2002; Walters, 2016; 2020; Walters & Yurvati,

2017). Whereas, recent findings, such as the articles in Walter's (2022) meta-analysis,

have considered the developmental roots of criminal thinking apart from the personality

traits associated with criminal behaviour (e.g., psychopathy; Mitchell & Tafrate, 2012).

Socially-related measures such as self-efficacy, reflected appraisals, and moral

disengagement were found to be related to criminal thinking (Walters, 2022). However,

attachment relationships were not included as one of the developmental roots. The

current findings from Study 1 and Study 2 support the need for views of the self within

attachment relationships to be considered both generally as a predictor for criminal

thinking and specifically, as a predictor for the self-related model of criminal thinking that was explored in this study. The direct association between views of the self within attachment relationships and views of the self apparent within criminal thinking patterns should be included when studying the social forces that affect criminal thinking and behaviour.

Views of Others

Views of others within the context of relationships were only predictive of views of others within criminal thinking for the student sample. A significant association between the other-dimension of attachment and criminal thinking was expected. The socially "cold" behaviour towards others in attachment relationships (Bartholomew & Horowitz, 1991) and the lack of concern and empathy for others within criminal thinking (e.g., disregard for others and their feelings; Mitchell & Tafrate, 2012; Mitchell et al., 2017; Walters, 2006) was expected to be enough for the other attachment - other criminal thinking prediction to be supported.

Similarly to how attachment relationships may form to create a sense of distrust in parents and friends, criminal thinking patterns reflect a deficit in interpersonal skills (Bartholomew & Horowitz, 1991; Mitchell & Tafrate, 2012). The need for attachment to be considered as a social predictor for criminal thinking patterns is also evident when considering the influence of others that was found (Walters, 2022). Additionally, this study extended the importance of others as a factor within the context of criminal thinking, beyond only considering the influence of peer pressure (Rihtarić & Kamenov, 2013). Though Study 1 (the student sample) did support this predictive relationship, the results were not replicated in the community sample. Relationships with parents and

friends were not predictive of criminal thinking for the other model. However, analysis of both the self and other models may explain why the other-model of attachment was unexpectedly predictive of the self model of criminal thinking.

Views of the Self and Others

The results varied between the models. Though the self-model between attachment and criminal thinking appeared reliable, each model differed slightly. The cross-paths were unexpectedly significant in some instances. Measurement variations, the complexity of relationships, and reflective appraisals could each contribute an explanation for these findings.

The self and other have been identified as the underlying dimensions of the 4-categry model of attachment for decades (Bartholomew & Horowitz, 1991; Scharfe, 2007; 2016). Therefore, the research has clearly identified items and an equation to distinguish between the self and other when measuring relationships (Scharfe, 2016). In contrast, this study was the first to clearly categorize the subscales for criminal thinking into models of the self and others. Views of the self and others influenced the items created for the Criminogenic Thinking Profile while the Psychological Inventory of Criminal Thinking Patterns was categorized between proactive and reactive patterns (Mitchell et al., 2014; Tafrate et al., 2018; Walters, 2006). These underlying views were evident when analyzing the subscales and reviewing the literature as a whole, however, the crossover that was discovered in this study may be a result of the amalgamation of both the self and other into each of the items. Despite efforts to create a distinct self and other model, the items may be too generalizable to each. The CTP (e.g., *I could care less about tragedies reported in the news because they don't relate to my life*) and

comparably, the PICTS-L-SF (e.g., *There have been times when I have made plans to do
something with my family and then cancelled these plans so that I could hang out with my
friends, and behave irresponsibly)* each had items that seem to involve a sense of
superiority of self and disregard for others.

        Another possibility for the significant cross paths may be that the views of the self
and others within attachment and criminal thinking are theoretically interconnected,
similarly to the items mentioned above. When considering criminal thinking and
behaviours, the self and other may be harder to distinguish. The unexpected crossover
between the views of the self and other with relationships and criminal thinking suggests
that views of both the self and others within personal relationships may be associated
with how the self and others are perceived in the context of criminal thinking. Minna
(2015) and Tafrate et al. (2018) were introduced previously because their findings
suggested taking part in a deviant act could be a way to experience social bonding with
anti-social peers. However, this bond could also be interpreted as maintaining a
relationship with others to satisfy an insecure self. In other words, delinquency is an act
that considers both the self and others. Therefore, the thought patterns regarding the self
and others associated with the act would intersect similarly. Past research has also
established that poor attachment is more likely to lead to delinquency (cf. Bowlby, 1944;
Scharfe, 2002). The research connecting attachment to delinquency may be more
prominent in younger individuals (Hoeve et al., 2012), but insecurity has been associated
with a decrease in social skills. Specifically, negative views of the self and positive views
of others were associated with higher rates of delinquency in adolescent samples (Allen
et al., 2002). Insecurity in relationships, or a negative view of oneself, combined with a

positive view of others or need for approval, has been linked to the act of delinquency. The associated thought patterns may intersect in this pattern as well. Views of the self and views of others may intersect to create a criminal thinking pattern that results in these behaviours.

Lastly, reflective appraisals were not considered when this study was initially proposed. While only the individual categories of self and other were considered in this study, reflective appraisals can be defined as how a person perceives others view them. This perception considers the social factors that influence views of the self (Sullivan, 1953, as cited in Walters, 2022). Though attachment relationships are social and influence the self, reflective appraisals seem to be acknowledging the correlated part of this relationship (Bartholomew & Horowitz, 1991; Bowlby, 1988; De Coster & Lutz, 2018; Scharfe, 2016; Walters, 2022). These reflective appraisals in which the views of the self are created using an identity from their role amongst others seem to be more common in the literature that focuses on justice involved clients (De Coster & Lutz, 2018). Altogether, the self and other dimensions do seem to exist within criminal thinking but may be more intertwined in some instances, explaining the differences in the models for this study.

Limitations and Future Directions

An effort was made to increase generalizability and reliability by studying both a student and community sample. However, the results of the replication could only be partially analyzed and did differ in some aspects. Therefore, the replication did not fully extend the research and could only provide partial support for the initial conclusions made from the student sample.

Generalizability into the community remains a limitation and future studies should continue to test this model in community populations. Past research on criminal thinking patterns has typically been restricted to samples that consist of offenders or justice involved clients. For example, predictors of criminal behaviour have been studied using prison samples (e.g., Flórez et al., 2019; Mitchell & Tafrate, 2012). The Criminogenic Thinking Pattern measure was designed for offender populations and consisted of the majority of the criminal thinking subscales in the model (Mitchell & Tafrate, 2012). Whereas, the PICTS-L-SF that was used did have adjustments that were more geared towards the general population, only two of the subscales in the model consisted of subscales from the PICTS-L-SF (Mitchel et al., 2017). When the model was tested with the deviant group, associations were stronger (as expected). However, to best test the proposed model, future studies should also recruit participants who have more experience with the justice system. Thus, participants may relate more to the criminal thinking and deviant behaviour questions. Alternatively, the CTP measure could be adjusted for a layperson population. For example, items such as, *The types of crimes that I commit won't hurt me down the road*, could be replaced with more general statements, e.g., *The bad decisions I make will not hurt me down the road*. By creating a layperson edition of the scale, university and general populations can continue to be of use by measuring general deviance and thinking patterns when offender populations are not accessible.

Sample size was an issue for the community sample. Structural equation modelling requires a larger number of participants (typically 10 participants for every parameter estimated; Schreiber et al., 2006). This number was not achieved for the community sample. In addition to posting about the survey online, offering compensation,

administering the survey in a supervised setting, or posting flyers in public areas, could

help to increase participation from the community. For ethical purposes, the parent

attachment questionnaires were not given to participants who reported that their parent

was no longer living. Another question to gauge comfort level with discussing the

relationship that they did have with their parent may also help to increase the number of

eligible participants.

Measures of attachment are quite variable in the literature. In this study, the T-RSQ

(Scharfe, 2016) was used to clearly define the models of the self and other within

attachment relationships. However, not all attachment- deviant behaviour studies used

common measures of attachment or measures that included the dimensions of the self and

other (e.g., Boduszek et al., 2013; Ogilvie et al., 2013). Therefore, a main extension of

the research was the focus on views of the self and others distinctly apart from just

insecure or poor vs. secure and strong attachments. Future research should continue to

use measures of attachment that are reliable and consistent.

Lastly, this study did not include a qualitative component and could have been

influenced by the social desirability bias. When asking individuals about their

relationships and deviant behaviour, it may be beneficial to allow them a text space to

provide feedback. The survey did not include a feedback box or qualitative component

but the social media format allowed for public comments to be made under posted links.

One commenter expressed that they did not like being referred to as a deviant and were

not a deviant just because they had made mistakes. Given the opportunity to provide

feedback anonymously within the survey may have allowed for a richer analysis of each

participant's emotions and thoughts. Additionally, the use of words like "deviance" may

have resulted in responses that were not as honest as they could have been. The term

"deviance" may have been interpreted as negative to more than just this commenter and

contributed to participants responding to appear more socially desirable. The addition of

open communication may have contributed to a deeper analysis, an understanding of

participant's views on the topic, and provided further reasons for why the self and other

appear to be so interconnected.

Implications and Conclusions

Though attachment and criminal thinking patterns have been explored separately,

this study was exploratory and rooted in theoretical hypotheses. Attachment relationships

are fundamental in shaping individuals and their world views from infancy (Bowlby,

1988). Criminal thinking patterns also begin to emerge early in life and were identified as

a way to understand how criminals think (Walters 1995). By presenting a model that uses

attachment relationships to predict criminal thinking patterns, the importance of creating

strong bonds from infancy extends beyond mild relational aggression and can act as a

barrier for dangerous ways of thinking that could result in serious harm.

The results of this study provide a model to help understand the attachment

relationships with parents and friends within the context of the justice system. Criminal

thinking patterns extended beyond *what* an offender thinks to explain *how* an offender

thinks (Walters, 1995; Walters & Yurvati, 2017). Further understanding criminal thinking

patterns through the lens of attachment can help to answer *why* they developed those

thought patterns to begin with. The world views created from infancy as a result of the

relationships formed with parents and later with friends are influential in the development

of specific thinking patterns that are predictive of deviant behaviour. In conclusion, the

present study emphasizes the importance of fostering secure, dependable, and healthy

relationships.

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Appendix A

Demographic Questionnaire

What is your age?: _____

Indicate your gender:
□ Male
□ Female
□ Non-binary
□ Other, please specify _____
□ Prefer not to disclose

What is your year of education at Trent University? (Note. This question was only included in Study 1)
□ 1st year
□ 2nd year
□ 3rd year
□ 4th year
□ Graduate studies
□ Other (please specify:_____)

Ethnicity (please fill in all that apply)
□ White
□ Aboriginal (e.g., First Nations, Metis)
□ South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
□ East Asian (e.g., Chinese, Japanese, Korean)
□ South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese, etc.)
□ Filipino
□ Latin American/Hispanic
□ West Indian (e.g., Guyanese, Trinidadian, etc.)
□ Black (e.g., African, Haitian, Jamaican, Somali, etc.)
□ Arab / West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan, etc.)
□ Other (please specify) _____

Growing up, what was the primary language(s) spoken at home? _____

Relationship Status (check option that best describes your *current* situation):
□ Single, not seeing someone
□ Single, seeing someone
□ In a committed relationship
□ In an open relationship
□ Engaged
□ Married/ Common law/ Domestic Partnership
□ Separated/divorced
□ Widowed

□ Other (Please specify) _____

How long have you been in the relationship? _____
Is this a sexual relationship?
□ Yes
□ No

Are you living together?
□ Yes
□ No

Sexual Orientation:
□ Heterosexual
□ Homosexual/Gay/Lesbian
□ Bisexual
□ Pansexual
□ Queer
□ Questioning
□ Asexual
□ Other _____

What is your highest level of education? (choose all that apply)
□ High school or less
□ Some college or university
□ Completed college
□ Complete undergraduate degree
□ Completed a professional degree (e.g.., BEd, LLB, MD)
□ Completed a graduate degree (e.g., MA, MSc, PhD)

What is your current employment status?
□ Employed full-time (30 or more hours/week)
□ Employed part-time (less than 30 hours/week)
□ Unemployed (out of work but looking for work)
□ Student employed part-time or full-time
□ Student not employed
□ Retired
□ Homemaker
□ Other (please specify) _____

What type of contact do you *currently* have with your biological/adopted mother (Check all that apply)? (note. If participants parent was deceased, t-rsq questions were not given)
□ No contact, my mother is deceased
□ No contact, my mother is living but I do not have contact with her
□ Letters or emails
□ Skype
□ Phone calls or texts

□ Visits during the day
□ Overnight visits
□ I live with my mother
□ My mother lives far away but I have visited her at least once in the past year

If applicable. How often do you have contact with your biological/adopted mother *now*?
□ Never or rarely
□ Once year or less
□ Twice/year
□ Three or four times each year
□ At least once month
□ At least once week
□ Daily or almost every day

What type of contact do you *currently* have with your biological/adopted father (Check all that apply)?
□ No contact, my father is deceased
□ No contact, my father is living but I do not have contact with him
□ Letters or emails
□ Skype
□ Phone calls or texts
□ Visits during the day
□ Overnight visits
□ I live with my father
□ My father lives far away but I have visited him at least once in the past year

If applicable. How often do you have contact with your biological/adopted father *now*?
□ Never or rarely
□ Once year or less
□ Twice/year
□ Three or four times each year
□ At least once month
□ At least once week
□ Daily or almost every day

What is your biological/adopted parent's relationship status now:
□ Never married
□ Married or common-law
□ Separated
□ Divorced
□ Widowed

Were you separated from one or both of your parents for at least one month at anytime before you finished your high school education?
□ Yes
□ No

If yes, they got the following questions (see below). If they said no, they were taken to the T-RSQ-mother.

Were you separated from your mother for at least one month at any time before you finished your high school education?
□   Yes
□   No

If yes, they were given the questions below; if no they were directed to father separation questions.

Were you separated from your mother because (check all that apply)
□   Your mother was in jail
□   Your mother was deployed (in the armed forces)
□   Your mother was working
□   Your mother was hospitalized
□   Your mother went to live somewhere else
□   You were in jail
□   You were away at school
□   You were away at camp
□   You were hospitalized
□   You went to live somewhere else
  □   with relatives
  □   with friends
  □   in a foster home
  □   in a group home
  □   other _____
□   Other _____

Were you separated from your father for at least one month at any time before you finished your high school education?
□   Yes
□   No

If yes, they got the question below; if no they skipped to the next questions.

Were you separated because (check all that apply)
  □   Your father was in jail
  □   Your father was deployed (in the armed forces)
  □   Your father was working
  □   Your father was hospitalized
  □   Your father went to live somewhere else
  □   You were in jail
  □   You were away at school
  □   You were away at camp
  □   You were hospitalized

□ You went to live somewhere else
    □ with relatives
    □ with friends
    □ in a foster home
    □ in a group home
    □ other _____
□ Other _____

Have you ever committed a crime that would be considered going against a formally-enacted law?
□ Yes
□ No
□ I do not wish to respond to this question

Have you ever been charged by the police for committing a crime that would be considered going against a formally-enacted law?
□ Yes
□ Yes but I was not found to be guilty and/or the charges were dropped
□ No
□ I do not wish to respond to this question

If applicable, Have you ever been incarcerated?
□ Yes
□ No
□ I do not wish to respond to this question

1	2	3	4	5	6	7
never okay			sometimes okay			always okay

_____ Using the scale above, how likely are you to agree with the following statement – In some circumstances, I think it is okay to commit a crime that would be considered going against a formally-enacted law.

Using the scale below rate how likely are you to agree with the following statements about COVID health directives

1	2	3	4	5	6	7
always			sometimes			never

_____ 1. How likely are you to wear a face mask when indoors (e.g., inside campus buildings or inside stores)?
_____ 2. How likely are you to wear a face mask when outdoors (e.g, walking in your neighbourhood, waiting for the bus)?
_____ 3. How likely are you to adhere to 2 metre social distancing requirements when indoors (e.g., inside campus buildings or inside stores).?

_____ 4. How likely are you to adhere to 2 metre social distancing requirements when outdoors (e.g, walking in your neighbourhood, waiting for the bus)?

_____ 5. How likely are you to use hand sanitizers when entering and leaving a building/store/restaurant?

_____ 6. How likely are you to adhere to the current guidelines around the size of your social bubble?

_____ 7. How likely are you to adhere to the current shelter in place guidelines?

_____ 8. What % of time did you stay home last week? (range from 0 to 100% of the time)

_____ 9. How likely are you to get a flu vaccine this year? (range from 0 to 100% likely)

_____ 10. How likely are you to get a COVID vaccine when it is available? (range from 0 to 100% likely)

Appendix B

Student Consent Form (Study 1)

TRENT ✧
UNIVERSITY

Consent Agreement

You are being invited to participate in a research study. Please read this consent form so that you understand what your participation will involve. Before you consent to participate, ask any questions you need to be sure you understand what your participation will involve.

Title: The price of good behaviour: The effects of individual differences of attachment, childhood adversity and stress symptoms on behaviour

Faculty Researcher: Elaine Scharfe, PhD., Department of Psychology, 705-748-1011 ext. 7354, escharfe@trentu.ca

Psychology MSc student researchers
        Hannah Cahill (hannahcahill@trentu.ca), Scottie Curran (scottiecurran@trentu.ca), Emmilie Lindon (emmilielindon@trentu.ca)

If you have any questions or concerns about the research, please feel free to contact Dr. Elaine Scharfe, 705-748-1011 ext. 7354 or escharfe@trentu.ca

THE PURPOSE OF THIS RESEARCH:
It has long been accepted that personality influences our tendency to follow the rules. For example, researchers using the "Big 5" personality traits (you can find an explanation of this model of personality in your first year PSYC textbook) have demonstrated that individuals with higher levels of openness to experience and conscientiousness and lower levels of neuroticism are more likely to "obey the rules". In this study, we will expand the examination of these findings by exploring the effect of a number of additional variables that we believe may also be important. First, we believe that the quality of our close relationships may be important. In particular, our view of ourselves and our view of others may be associated with a disregard of some rules or our perceptions of breaking rules. These effects may be exacerbated depending on our childhood experiences (e.g., abuse or neglect) or our current symptoms (e.g., feelings of distress after a particularly traumatic experience). The purpose of this study is to explore how our views of our relationships, our childhood experiences, and our feelings of distress influence our tendency to follow the rules. Some of the data will be analyzed by the student researchers (listed above) to fulfill the requirements of their MSc thesis.

WHAT YOU WILL BE ASKED TO DO:

If you volunteer to participate in this study, you will be asked to complete an online survey which will include demographic questions and surveys about your relationships with others, including your relationships with your parents and adverse events that may have happened in your childhood, your feelings and perceptions of criminal acts, your COVID related behaviour, and your current distress and symptoms of stress following traumatic events. If you would like to review these questionnaires before you decide to participate email escharfe@trentu.ca for a copy of the survey. It will take approximately 50-55 minutes to complete the online questionnaires but will be open and available to you for up to 4 hours in case you need a break.

WHAT ARE THE POTENTIAL BENEFITS FOR YOU AS A PARTICIPANT:
Some people report that the survey gets them to think about their behaviors, feelings, experiences in childhood, and their relationships with others more deeply than they might do otherwise and that may be a benefit or a risk depending on the nature of your behaviours and relationships. You may also feel that the opportunity to participate in research and learn a bit more about the research process is a benefit to you. I cannot guarantee, however, that you will receive any benefits from participating in this study.

WHAT ARE THE POTENTIAL RISKS TO YOU AS A PARTICIPANT:
There is no expected harm from completing these questionnaires, however, the purpose of the study requires us to ask about potentially unsavory parts of humanity. For instance, some questions in this survey will ask you about your participation or beliefs about antisocial and/or illegal behaviours. It is important to note that all survey responses are confidential unless required by law (i.e., a subpoena). Furthermore, some of the questions about your relationships or your childhood experiences may be viewed as personal and potentially triggering for some participants. You can skip any question(s) without penalty and may stop participating at any time. While there are no known harms associated with reporting your experiences on a survey, a small possibility exists that some participants may experience an emotional reaction when completing the questionnaire.

CONFIDENTIALITY:
Your responses will be completely confidential and you can skip any question(s) that you are not comfortable answering. Your data will be identified by a SONA id number and that number will be recorded on all data – your name will never linked to your SONA data for the purposes of this study. No information regarding your identity will ever appear in any reports, presentations or publications. All data from the questionnaires will be completely anonymous and will be stored in a computer file using the SONA ID number for identification purposes. As stated above, your responses will remain confidential and will not be revealed to anyone unless required by law (i.e., a subpoena).

Electronic questionnaire data will be hosted on the servers of the survey hosting company Qualtrics. Qualtrics servers are both anonymous and secured/encrypted (i.e., via Transport Layer Security and an Intrusion Detection System). Qualtrics will not make this data available to any party unless required by a valid court order, search warrant, or subpoena. The data stored on Qualtrics is anonymous and could not be linked to your identity without considerable assistance from Trent University (which, once again would

require a subpoena). During data analysis, the researchers will store the anonymous data on a secured/password-protected computer. This anonymous data will be analyzed by members of Dr. Scharfe's research lab which will include Dr. Scharfe, her research collaborators, and graduate and undergraduate students working in her research lab. The anonymous data will be kept for at least five years after publication of the results and may be archived if required by journals for publication. All of the data will be used for research and teaching purposes by Dr. Elaine Scharfe. Some of the data will be used by Hannah Cahill, Scottie Curran, and Emmilie Lindon for their MSc thesis. The data will be published in journals, chapters, books or other venues."

INCENTIVES FOR PARTICIPATION:
Participants who continue to the end of the survey will be awarded 1% credit bonus toward their psychology course grade. If you stop the survey part way through, your credit will be prorated but if you continue to the end of the survey, regardless of how many questions you complete, you will receive the full credit.

COSTS TO PARTICIPATION:
There are no costs associated with participation in this study with the exception of your time. Participants who continue to the end of the survey will be awarded 1% credit bonus toward their psychology course grade. If you stop the survey part way through your credit will be prorated but if you continue to the end of the survey, regardless of how many questions you complete, you will receive the full credit.

VOLUNTARY PARTICIPATION AND WITHDRAWAL:
Participation in this study is completely voluntary. You can choose whether to participate or not. You can refuse to answer any question or quit participating at any time and there will be no negative consequences to you whatsoever. You may stop participating at any time and you will still be given the incentives and reimbursements described above. At the end of the survey you will be given an opportunity to decide if you would like your data to be retained and analyzed. If you decide at a later date that you would not like your data to be used in this study, you will need to email that request and your SONA ID to Dr. Elaine Scharfe (escharfe@trentu.ca). Your choice of whether to participate will not influence your future relations with Trent University or the investigators (Dr. Elaine Scharfe, Hannah Cahill, Scottie Curran, and Emmilie Lindon) involved in the research.

QUESTIONS ABOUT THE STUDY:
If you have any questions about this study, you can take this opportunity to ask questions now, so that your concerns are addressed to your satisfaction before you agree to participate, by emailing Dr. Elaine Scharfe (escharfe@trentu.ca; 748-1011 ext. 7354). A summary of the data will be posted on Dr. Elaine Scharfe's website (www.attachmentmatters.ca) when the study is completed (Fall 2021). If you would like clarification regarding any part of this research, you can contact Dr. Elaine Scharfe.

This study has been reviewed by the Trent University Research Ethics Board, the study number is REB 26416. If you have questions regarding your rights as a participant in this study please contact:

Michele J McIntosh, Chair Research Ethics Board
c/o Office of the Vice President, Research and Innovation
Trent University
1600 West Bank Dr
Peterborough, ON K9L 0G2
705-748-1011 ext. 7896
jmuckle@trentu.ca

CONFIRMATION OF AGREEMENT:
By agreeing to participate in this research, you are not giving up or waiving any legal right in the event that you are harmed during the research.

“I have read and given consent to completing the following questionnaire. I agree to participate in this study and I understand that by proceeding I am giving informed consent. I understand that I should print a copy of my consent form—now before I continue—for my records.”

To confirm that I agree to the consent form I will check the boxes below:

☐ I have read the information in this agreement;
☐ I have asked any questions I have about the study;
☐ I agree to participate in the study;
☐ I am aware I can change my mind and withdraw consent to participate at any time;
☐ I understand that these data will be used for research purposes; and
☐ I understand that these data will be used for educational purposes; and
☐ I have printed a copy of this agreement; and
☐ I am not giving up any legal rights by signing this consent agreement.

If you do not wish to participate, do not continue and please close your browser

Appendix C

T-RSQ (mother, father, peer; Scharfe, 2016)

Trent Relationship Scales Questionnaire (T-RSQ)- Mother
Please read each of the following statements and rate the extent to which it describes your feelings about your **relationship with your mother (or your most significant mother figure)** on the 7-point scale. Please think about your relationship with your mother past and present and respond in terms of how you generally feel in this relationship. If you do not have a mother or mother-figure, please skip to the next survey.

1	2	3	4	5	6	7
Not at all Like me			somewhat like me			very much like me

_____ 1. I find it difficult to depend on my mother.
_____ 2. It is very important to me to feel independent from my mother.
_____ 3. I find it easy to get emotionally close to my mother.
_____ 4. I worry that I will be hurt if I allow myself to become too close to my mother.
_____ 5. I am comfortable without a close emotional relationship with my mother.
_____ 6. I want to be completely emotionally intimate with my mother.
_____ 7. I worry about being alone.
_____ 8. I am comfortable depending on my mother.
_____ 9. I find it difficult to trust my mother completely.
_____ 10. I am comfortable having my mother depend on me.
_____ 11. I worry that my mother does not value me as much as I value her.
_____ 12. It is very important to me to feel self-sufficient from my mother.
_____ 13. I prefer not to have my mother depend on me.
_____ 14. I am somewhat uncomfortable being close to my mother.
_____ 15. I find that my mother are reluctant to get as close as I would like.
_____ 16. I prefer not to depend on my mother.
_____ 17. I worry about having my mother not accept me.
_____ 18. I tend to let problems build up with my mother before dealing with them.
_____ 19. I would like to spend more time with my mother, but she does not have enough time for me.
_____ 20. It took a long time for me to become close to my mother.
_____ 21. I am affectionate in my relationship with my mother.
_____ 22. I am too busy form a close relationship with my mother.
_____ 23. I tend to be emotionally expressive in my relationship with my mother.
_____ 24. I am honest and open in my relationship with my mother.
_____ 25. I am shy in social situations with my mother.
_____ 26. When I disagree with my mother, I find that she is often defensive.
_____ 27. I do not disclose personal information to my mother.
_____ 28. It is difficult to accept advice from my mother because her views are so different from mine.

_____ 29. I like to deal with conflict with my mother immediately, regardless of how long it takes to resolve the conflict.

_____ 30. I am usually a good judge of how my mother is feeling.

_____ 31. I cry easily with my mother.

_____ 32. I handle conflicts differently with my mother.

_____ 33. I do not express my feelings openly for fear that my mother might disagree with me.

_____ 34. I believe that it is a waste of time to argue/disagree with my mother.

_____ 35. I am comfortable crying in front of my mother.

_____ 36. Many of the problems in my relationship with my mother are primarily my fault.

_____ 37. When I am upset, I go to my mother for comfort or support.

_____ 38. I do not go to my mother when I am upset because I like to deal with problems on my own.

_____ 39. Although I want to be accepted, sometimes I feel like I do not fit in with my mother.

_____ 40. I wish that I could be more open in my relationship with my mother, but I do not know how to change.

_____ 41. I can go to my mother to help me feel better when I am upset or when something bad happens.

_____ 42. I can count on my mother to always be there for me and care about me no matter what.

_____ 43. I need to see or talk regularly with my mother.

_____ 44. I would be upset if I knew that I was not going to see my mother for a long time.

_____ 45. I am anxious and I worry when I cannot have immediate contact with my mother.

_____ 46. I know that my mother will always accept me, no matter what I say or do.

_____ 47. My resolution of conflicts with my mother changes depending on the situation.

_____ 48. My resolution of conflicts with my mother is always the same – we always do the same thing when we disagree.

_____ 49. I prefer to deal with problems on my own so I do not go to my mother for support or advice.

_____ 50. I am comfortable not having a close emotional relationship with my mother.

51. Who did you think about when you completed the questions above? (Select all that apply)

☐   your biological mother

☐   your adopted mother

☐   your step mother

☐   your foster mother

☐   a relative who fulfilled a mother role (specify who _____)

T-RSQ Father

Please read each of the following statements and rate the extent to which it describes your feelings about your **relationship with your father (or your most significant father figure)** on the 7-point scale. Please think about your relationship with your father past and present, and respond in terms of how you generally feel in this relationship.

1	2	3	4	5	6	7
Not at all			somewhat			very much
Like me			like me			like me

_____ 1. I find it difficult to depend on my father.
_____ 2. It is very important to me to feel independent from my father.
_____ 3. I find it easy to get emotionally close to my father.
_____ 4. I worry that I will be hurt if I allow myself to become too close to my father.
_____ 5. I am comfortable without a close emotional relationship with my father.
_____ 6. I want to be completely emotionally intimate with my father.
_____ 7. I worry about being alone.
_____ 8. I am comfortable depending on my father.
_____ 9. I find it difficult to trust my father completely.
_____ 10. I am comfortable having my father depend on me.
_____ 11. I worry that my father does not value me as much as I value them.
_____ 12. It is very important to me to feel self-sufficient from my father.
_____ 13. I prefer not to have my father depend on me.
_____ 14. I am somewhat uncomfortable being close to my father.
_____ 15. I find that my father is reluctant to get as close as I would like.
_____ 16. I prefer not to depend on my father.
_____ 17. I worry about having my father not accept me.
_____ 18. I tend to let problems build up with my father before dealing with them.
_____ 19. I would like to spend more time with my father, but he does not have enough time for me.
_____ 20. It took a long time for me to become close to my father.
_____ 21. I am affectionate in my relationship with my father.
_____ 22. I am too busy form a close relationship with my father.
_____ 23. I tend to be emotionally expressive in my relationship with my father.
_____ 24. I am honest and open in my relationship with my father.
_____ 25. I am shy in social situations with my father.
_____ 26. When I disagree with my father, I find that he is often defensive.
_____ 27. I do not disclose personal information to my father.
_____ 28. It is difficult to accept advice from my father because his views are so different from mine.
_____ 29. I like to deal with conflict with my father immediately, regardless of how long it takes to resolve the conflict.
_____ 30. I am usually a good judge of how my father is feeling.
_____ 31. I cry easily with my father.
_____ 32. I handle conflicts differently with my father compared to others.
_____ 33. I do not express my feelings openly for fear that my father might disagree with

_____ me.

_____ 34. I believe that it is a waste of time to argue/disagree with my father.

_____ 35. I am comfortable crying in front of my father.

_____ 36. Many of the problems in my relationship with my father are primarily my fault.

_____ 37. When I am upset, I go to my father for comfort or support.

_____ 38. I do not go to my father when I am upset because I like to deal with problems on my own.

_____ 39. Although I want to be accepted, sometimes I feel like I do not fit in with my father.

_____ 40. I wish that I could be more open in my relationship with my father, but I do not know how to change.

_____ 41. I can go to my father to help me feel better when I am upset or when something bad happens.

_____ 42. I can count on my father to always be there for me and care about me no matter what.

_____ 43. I need to see or talk regularly with my father.

_____ 44. I would be upset if I knew that I was not going to see my father for a long time.

_____ 45. I am anxious and I worry when I cannot have immediate contact with my father.

_____ 46. I know that my father will always accept me, no matter what I say or do.

_____ 47. My resolution of conflicts with my father changes depending on the situation.

_____ 48. My resolution of conflicts with my father is always the same – we always do the same thing when we disagree.

_____ 49. I prefer to deal with problems on my own so I do not go to my father for support or advice.

_____ 50. I am comfortable not having a close emotional relationship with my father

51. Who did you think about when you completed the questions above? (Select all that apply)

□ your biological father
□ your adopted father
□ your step father
□ your foster father
□ a relative who fulfilled a father role (specify who_____)

T-RSQ Peer

Please read each of the following statements and rate the extent to which it describes your feelings about **close friendships** on the7-point scale. Think about all of your close friendships, past and present, and respond in terms of how you generally feel in these relationships.

1	2	3	4	5	6	7
Not at all			somewhat			very much
Like me			like me			like me

_____ 1. I find it difficult to depend on my close friends.
_____ 2. It is very important to me to feel independent from my close friends.
_____ 3. I find it easy to get emotionally close to my close friends.
_____ 4. I worry that I will be hurt if I allow myself to become too close to my friends.
_____ 5. I am comfortable without close emotional relationships with my close friends.
_____ 6. I want to be completely emotionally intimate with my close friends.
_____ 7. I worry about being alone.
_____ 8. I am comfortable depending on my close friends.
_____ 9. I find it difficult to trust my close friends completely.
_____ 10. I am comfortable having my close friends depend on me.
_____ 11. I worry that my close friends do not value me as much as I value them.
_____ 12. It is very important to me to feel self-sufficient from my close friends.
_____ 13. I prefer not to have my close friends depend on me.
_____ 14. I am somewhat uncomfortable being close to my close friends.
_____ 15. I find that my close friends are reluctant to get as close as I would like.
_____ 16. I prefer not to depend on my close friends.
_____ 17. I worry about having my close friends not accept me.
_____ 18. I tend to let problems build up with my close friends before dealing with them.
_____ 19. I would like to spend more time with my close friends, but they do not have enough time for me.
_____ 20. It takes a long time for me to become close to someone new.
_____ 21. I am affectionate in my relationships with my close friends.
_____ 22. I am too busy for many close friendships.
_____ 23. I tend to be emotionally expressive in my relationships with my close friends.
_____ 24. I am honest and open in my relationships with my close friends.
_____ 25. I am shy in social situations with my close friends.
_____ 26. When I disagree with my close friends, I find that they are often defensive.
_____ 27. I do not disclose personal information to friends that I am close to.
_____ 28. It is difficult to accept advice from my close friends because their views are so different from mine.
_____ 29. I like to deal with conflict with my close friends immediately, regardless of how long it takes to resolve the conflict.
_____ 30. I am usually a good judge of how my close friends are feeling.
_____ 31. I cry easily with my close friends.
_____ 32. I handle conflicts with my close friends differently depending on the issues and the people involved.

_____ 33. I do not express my feelings openly with my close friends for fear that someone might disagree with me.

_____ 34. I believe that it is a waste of time to argue/disagree with my close friends.

_____ 35. I am comfortable crying in front of my close friends.

_____ 36. Many of the problems in my relationships with my close friends are primarily my fault.

_____ 37. When I am upset, I go to my close friends for comfort or support.

_____ 38. I do not go to my close friends when I am upset because I like to deal with problems on my own.

_____ 39. Although I want to be accepted, sometimes I feel like I do not fit in with my close friends.

_____ 40. I wish that I could be more open with my close friends, but I do not know how to change.

_____ 41. I can go to others to help me feel better when I am upset or when something bad happens.

_____ 42. I can count on others to always be there for me and care about me no matter what.

_____ 43. I need to see or talk regularly with others.

_____ 44. I would be upset if I knew that I was not going to see others for a long time.

_____ 45. I am anxious and I worry when I cannot have immediate contact with those that I am close to.

_____ 46. I know that others will always accept me, no matter what I say or do.

_____ 47. My resolution of conflicts with others changes depending on the situation.

_____ 48. My resolution of conflicts with others is always the same – I always do the same thing when we disagree.

_____ 49. I prefer to deal with problems on my own so I do not go to others for support or advice.

_____ 50. I am comfortable not having a close emotional relationship with others

_____ 51. Pick five as the answer to this question (note. current best practices for online survey research suggest including 1-2 questions like this to determine if participants are reading the questions; this question is not a part of the T-RSQ).

52. Who did you think about when you completed the questions above about your close friends? (select all that apply)

☐ your closest or best friend
☐ 2-4 of your current close friends
☐ more than 5 of your current close friends
☐ your closest or best friend in the past (not currently your best friend)
☐ 2-4 of your close friends from the past (you no longer consider them close friends)
☐ more than 5 of your close friends from the past (you no longer consider them close friends)

Appendix D

Psychological Inventory of Criminal Thinking Styles – Layperson Edition – Short Form
(Mitchell et al., 2017; Walters, 2006; Adapted by James C. Kaufman, Ph. D.)

Directions: The following items, if answered honestly, are designed to help you better understand your thinking and behavior. Please take the time to complete each of the 35 items on this inventory using the four-point scale defined below:

4= strongly agree (SA)
3= agree (A)
2= uncertain (U)
1= disagree (D)

_____ 1. I will allow nothing to get in the way of me getting what I want…

_____ 2. Even though I may start out with the best of intentions I have trouble remaining focused and staying "on track"…

_____ 3. When pressured by life's problems I have said "the hell with it" and followed this up by doing whatever I want to do…

_____ 4. The way I look at it, I've paid my dues in life just like anyone else, and am therefore justified in taking what I want …

_____ 5. The more I get away with in life, the more I think there's no way I will ever be caught…

_____ 6. I believe that breaking the law is no big deal as long as you don't physically hurt someone...

_____ 7. I would not hesitate to get money in any way (legally or illegally) if my friends or family needed help…

_____ 8. I am uncritical of my thoughts and ideas to the point that I ignore the problems and difficulties associated with these plans until it is too late…

_____ 9. When frustrated I find myself saying "screw it" and then engaging in some irresponsible or irrational act...

_____ 10. I find myself taking shortcuts, even if I know these shortcuts will interfere with my ability to achieve certain long-term goals...

_____ 11. I will frequently start an activity, project, or job but then never finish it...

_____ 12. When it's all said and done, society owes me…

_____ 13. I tend to let things go which should probably be attended to, based on my belief that they will work themselves out…

_____ 14. I have used alcohol or drugs to eliminate fear or apprehension before doing something risky…

_____ 15. I sometimes think that I would be willing to do anything, even something illegal, in order to live the life I have coming.

_____ 16. When questioned about my motives for making poor choices, I have justified my behavior by pointing out how hard my life has been…

_____ 17. I have trouble following through on good initial intentions…

_____ 18. There have been times in my life when I felt I was above the law

_____ 19. I tend to act impulsively under stress

_____ 20. I tend to put off until tomorrow what should have been done today…

_____ 21. Although I have always realized that I might get caught for doing something, I would tell myself that there was "no way they would catch me this time"…

_____ 22. I have difficulty critically evaluating my thoughts, ideas, and plans...

_____ 23. I still find myself saying, "the heck with working a regular job, I'll just take it"...

_____ 24. I think that I can use drugs and avoid the negative consequences (such as addiction) that I have observed in others...

_____ 25. I tend to be rather easily sidetracked so that I rarely finish what I start...

_____ 26. I have trouble controlling my angry feelings...

_____ 27. I believe that I am a special person and that my situation deserves special consideration...

_____ 28. Even when I set goals I frequently do not obtain them because I am distracted by events going on around me...

_____ 29. When frustrated I will throw rational thought to the wind with such statements as "screw it" or "the hell with it"...

_____ 30. There have been times when I have felt entitled to break the rules or behave poorly in order to pay for a vacation, new car, or expensive clothing that I told myself I needed

_____ 31. I rarely consider the consequences of my actions...

_____ 32. There are times when I have done bad things and not gotten caught, and sometimes I feel overconfident and feel like I could do just about anything and get away with it...

_____ 33. There have been times when I have made plans to do something with my family and then cancelled these plans so that I could hang out with my friends, and behave irresponsibly...

_____ 34. I tend to push problems to the side rather than dealing with them...

_____ 35. I have used good behavior or various situations to give myself permission to do things that may be irresponsible or dangerous…

_____ 36. I was abducted by aliens while completing this survey (note. current best practices for online survey research suggest including 1-2 questions like this to determine if participants are reading the questions; this question is not a part of the T-RSQ).

Appendix E

Criminogenic Thinking Patterns (Mitchell & Tafrate, 2012)

Instructions: A number of statements that people say to themselves are listed below.
Please indicate how much you agree with each statement using the Strongly Agree to
Strongly Disagree scale to the right. There are no right or wrong answers. Please do not
skip any items.
1= strongly disagree
2= disagree
3= agree
4= strongly agree

_____ 1. When I don't understand things I give up.
_____ 2. Life has more responsibilities than I can deal with.
_____ 3. I have tried to change things about me, but it's too hard.
_____ 4. When someone irritates me I can't control myself.
_____ 5. Getting drunk or high helps me deal with my problems.
_____ 6. I look to hurt others when I feel bad inside or have problems.
_____ 7. I can't deal with people who want a lot from me.
_____ 8. Every time I open up to someone it comes back to hurt me.
_____ 9. It's important not to show sadness in front of others.
_____ 10. It's important not to show weakness by letting others know your feelings.
_____ 11. When it comes to my emotions, I can't look weak in front of others.
_____ 12. When something upsets me, people need to leave me alone.
_____ 13. If I show too much emotion people will take advantage of me.
_____ 14. There is no better feeling than the rush I get when stealing.
_____ 15. I would rather steal or sell drugs than take a low paying job.
_____ 16. I cannot do boring things like chores around the house without being buzzed or
           high.
_____ 17. It's OK to cut in front of a line of people if you're in a hurry.
_____ 18. It's OK to miss work or school to do something more fun.
_____ 19. It doesn't make sense to plan for the future because you may not be around to
           see it.
_____ 20. It's OK to take something if you can't afford it.
_____ 21. I'll use drugs if someone offers them to me.
_____ 22. If I see something I want, I can't resist the urge to take it.
_____ 23. People who make mistakes should never be given a second chance.
_____ 24. I don't need an education because I will always find ways to make money.
_____ 25. It's no big deal to go to jail, I'll just do my time and get out.
_____ 26. If I choose to commit a crime in the future, it's unlikely that I will get caught.
_____ 27. Gambling or playing the lottery is a good investment because if you play long
           enough you're bound to win.
_____ 28. It's OK to drink and drive as long as you don't get caught.
_____ 29. The types of crimes that I commit won't hurt me down the road.
_____ 30. I won't get caught again because I'm smarter than the police.

_____ 31. One of the problems I had in school is that I'm smarter than most of the teachers.

_____ 32. Treatment programs can't help me because I'm smarter than most of the counsellors.

_____ 33. When it comes to sex, it's the woman's responsibility to take care of the birth control.

_____ 34. Prisons and halfway houses are a good deal because they pay for your housing, meals, and medical expenses.

_____ 35. It doesn't make sense to work full-time if you can get on a government program.

_____ 36. When it comes to kids, it's the woman's responsibility to raise them.

_____ 37. Police officers and judges who break the law should face the same penalties as everybody else.

_____ 38. Breaking the law is no big deal everybody does it.

_____ 39. It's OK to break the law if you need to support your family.

_____ 40. It's OK to get drunk or high, as long as you don't do it around your kids.

_____ 41. If you don't lock your door, you deserve to get robbed.

_____ 42. It's OK to use drugs sometimes because even the President has gotten high.

_____ 43. Someone is going to profit from illegal activity so it might as well be me.

_____ 44. I have more positive qualities than most people.

_____ 45. I am destined for greatness.

_____ 46. I have the talent to be a professional athlete, entertainer, or celebrity.

_____ 47. I command respect in my community.

_____ 48. It is very important to be well respected by people in your neighbourhood.

_____ 49. People who really know me think I'm an extraordinary person.

_____ 50. My positive qualities make my faults seem small.

_____ 51. If I ever break the law, I should be entitled to a fair trial.

_____ 52. It doesn't make sense to feel bad about other people's problems.

_____ 53. I don't worry about people that I have hurt.

_____ 54. People who get conned deserve it.

_____ 55. It's OK to take things from people who have more than you.

_____ 56. Stealing from businesses doesn't hurt anybody because insurance pays for it.

_____ 57. Case workers, probation officers, and counsellors will never be able to help me.

_____ 58. If someone wrongs me, I will get them back twice as bad.

_____ 59. It's OK to use other people to get what you want.

_____ 60. When I think about people I have hurt, I don't feel bad because I know they deserved it.

_____ 61. I could care less about tragedies reported in the news because they don't relate to my life.

_____ 62. If I'm forced to go to a treatment program, I will make it difficult for everybody.

_____ 63. I have an anger problem, but that is just who I am.

_____ 64. I sometimes hit others when I'm angry, but that is my culture.

_____ 65. I need to act angry in my neighbourhood.

Appendix F

Illegal Behaviour Questions

Have you ever committed an act against the right to property that you could have been arrested and/or convicted of if you had been caught? (e.g., stealing)
- □ Yes
- □ No
- □ I do not know if what I have done would be considered committing a property offence
- □ Prefer not to disclose

Have you ever committed an act against a person or their reputation that you could have been arrested and/or convicted of if you had been caught? (e.g., physical aggression, bodily harm)
- □ Yes
- □ No
- □ I do not know if what I have done would be considered committing an offence against a person
- □ Prefer not to disclose

Have you ever committed an act against public order that you could have been arrested and/or convicted of if you had been caught? (e.g., fraud or piracy)
- □ Yes
- □ No
- □ I do not know if what I have done would be considered committing an offence against public order
- □ Prefer not to disclose

Have you ever committed an act against road safety that you could have been arrested and/or convicted of if you had been caught? (e.g., driving under the influence, excessive speeding)
- □ Yes
- □ No
- □ I do not know if what I have done would be considered committing an offence against road safety
- □ Prefer not to disclose

Appendix G

Participant Reliability Questions

Thank you for completing this survey. We rely on participants to read the survey questions carefully and answer to the best of their ability. In other words, the results of our study are only as good as the responses we receive from our participants. We understand that people sometimes find it difficult to give online survey questions their complete attention throughout and to answer the questions carefully and honestly. You can help us maximize the quality and integrity of our data--and thus our results--by responding honestly to the question below.

Is this the first time you have completed this survey?
□ Yes, this is the first time I completed this survey
□ No, I complete this survey earlier

Given the attention you gave to this survey, and how carefully and thoughtfully you answered the questions, please answer the following question. Did you read the survey questions carefully and answer to the best of your ability?

□ Yes I did.
□ No I did not read the questions carefully or answer honestly.
□ Yes, I did but I would rather you did not use my data in your final analyses.

Appendix H

Student Feedback Form (Study 1)

Title: The price of good behaviour: The effects of individual differences of attachment, childhood adversity and stress symptoms on behaviour

Faculty Researcher: Elaine Scharfe, PhD., Department of Psychology, 705-748-1011 ext. 7354, escharfe@trentu.ca

Psychology MSc student researchers
    Hannah Cahill (hannahcahill@trentu.ca), Scottie Curran (scottiecurran@trentu.ca), Emmilie Lindon (emmilielindon@trentu.ca)

If you have any questions or concerns about the research, please feel free to contact Dr. Elaine Scharfe, 705-748-1011 ext. 7354 or escharfe@trentu.ca

Participant Feedback
It has long been accepted that personality influences our tendency to follow the rules. In this study, we are particularly interested in who is likely to break the rules and why. We expect that the quality of your close relationships will be associated with your views of rules about antisocial or illegal activities and more recently COVID restrictions In particular, our view of ourselves and our view of others may be associated with a disregard of some rules or our perceptions that it is okay to break some rules, sometimes. These effects may be exacerbated depending on your childhood experiences (e.g., abuse or neglect) or your current symptoms (e.g., feelings of distress after a particularly traumatic experience). We expect that participants with negative childhood experiences may be more likely to report a higher tolerance to some rule breaking. Similarly, your current levels of distress may also be associated with a higher tolerance with rule breaking.

If you have any questions about this study, or you would like clarification regarding any part of this research, please email Dr. Elaine Scharfe (escharfe@trentu.ca). A summary of the data will be posted on Dr. Elaine Scharfe's website (www.attachmentmatters.ca) when the study is completed (Fall 2021). If you have any problems or concerns as a result of your participation in this study, please contact Trent Research Ethics Board by either phoning Jamie Muckle at 748 1011 x 7050 or e-mailing him at jmuckle@trentu.ca

Thank you for your participation.

Suggested Readings
Bartholomew, K., & Horowitz, L. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*, 226-244. doi: 10.1037/0022-3514.61.2.226
Götz, F. M., Gvirtz, A., Galinsky, A. D., & Jachimowicz, J. M. (2020). How personality and policy predict pandemic behavior: Understanding sheltering-in-place in 55 countries at the onset of COVID-19. *American Psychologist,* doi:10.1037/amp0000740

Simha, A., & Parboteeah, P. K. (2019). The big 5 personality traits and willingness to justify unethical behavior—a cross-national examination. *Journal of Business Ethics,* doi:10.1007/s10551-019-04142-7

If you have experienced any distress while completing the study, personal counselling is available to all students through the Counselling Centre. Many students seek support for specific concerns related to anxiety, depression, grief, and relationship challenges. Other students come to the Centre with less clearly defined difficulties such as low motivation, poor self-image/esteem, stress, loneliness and adjustment issues, all of which can seriously interfere with one's daily functioning and academic performance. Through discussion and goal-setting, counsellors can help students to more fully understand themselves, their concerns and to learn effective coping strategies. A few sessions of individual counselling are often sufficient to find a solution or at least to view the problem from a more manageable perspective. The opportunity to speak freely about one's concerns in a confidential and non-judgemental atmosphere can provide a source of comfort and relief. Relevant referrals within the Trent and Peterborough communities can be arranged as appropriate. Group therapy and workshops on selected topics are offered throughout the year. Limited psychiatric services are also provided. To book an appointment, please call (705) 748-1386 or drop by Blackburn Hall, Suite 113.

Counselling Centre	Web: www.trentu.ca/counselling
Blackburn Hall, Suite 113	Office Hours: Monday - Friday
Telephone: (705) 748-1386 Fax: 705: 748-1137	9:00-12:00, 1:00-4:00
E-mail: counselling@trentu.ca	Please phone ahead for an appointment

You may also find some of the resources below helpful

Kids Help Phone: www.kidshelpphone.ca

Canadian Mental Health Association: www.ontario.cmha.ca

Telehealth Ontario: This is a confidential phone service, where you can talk to a Registered Nurse for free 24 hours a day, 7 days a week. Phone Number: 1-866-797-0000

Appendix I

Community Participant Consent Form (Study 2)

TRENT
UNIVERSITY

Consent Agreement

You are being invited to participate in a research study. Please read this consent form so that you understand what your participation will involve. Before you consent to participate, ask any questions you need to be sure you understand what your participation will involve.

Title: Exploring the association between attachment relationships and thoughts on deviant behaviour.

Psychology MSc student researcher
Scottie Curran, MSc candidate, Department of Psychology, Trent University, Peterborough, ON, Canada, scottiecurran@trentu.ca

Faculty Researcher: Elaine Scharfe, PhD., Department of Psychology, Trent University, Peterborough, ON, Canada, 705-748-1011 ext. 7354, escharfe@trentu.ca

If you have any questions or concerns about the research, please feel free to contact Scottie Curran scottiecurran@trentu.ca or Dr. Elaine Scharfe escharfe@trentu.ca

THE PURPOSE OF THIS RESEARCH:

This study will bring together two areas of research. Researchers who study relationships and deviance are interested in why we behave in certain ways. Relationship researchers suggest that our view of self and others explains whether we partake in deviant acts. Researchers who study deviant behaviour suggest that our view of self and others explains why we partake in deviant acts. Both areas have made progress in understanding deviant behaviours but no research has studied these ideas in one study. We believe that our view of self and others may be linked to a disregard for some rules or our perceptions of breaking rules. The purpose of this study is to explore how our views of self and others relate to our views of deviant behaviour.

WHAT YOU WILL BE ASKED TO DO:
If you volunteer to participate in this study, you will be asked to complete an online survey. The survey includes demographic questions and surveys about your relationships. Questions about your relationships with your parents will be asked if you have contact with them. Next, you will be asked about your participation in some deviant acts and your views of illegal acts. You will also be asked about your COVID related behaviour. If you would like to view these questionnaires before you decide to participate, email attachmentmatters@trentu.ca for a copy of the survey. It will take approximately 20-30

minutes to complete the online questionnaires. The survey will be open and available to you for as long as you need. This way, you can take a break if you want to.

WHAT ARE THE POTENTIAL BENEFITS FOR YOU AS A PARTICIPANT:
Some people report that the survey gets them to think more deeply about their behaviours. You may also think more deeply about your feelings and relationships with others. These thoughts may be a benefit or a risk to you. You may also feel that the opportunity to participate in research and learn more about the process is a benefit to you. However, I cannot guarantee that you will receive any benefits from participating in this study.

WHAT ARE THE POTENTIAL RISKS TO YOU AS A PARTICIPANT:
There is no expected harm from completing these questionnaires. However, the purpose of the study requires us to ask questions about humanity. For example, some questions in this survey will ask you about your views of illegal behaviours. It is important to state that all survey responses are completely anonymous. Even if required by law (i.e., a subpoena), we would have no way to identify you. Furthermore, some of the questions about your relationships may be viewed as personal. You can skip any question(s) and may stop participating at any time. There are no known harms associated with reporting your experiences on a survey. A small possibility still exists that some participants may experience an emotional reaction when completing the questionnaire. We have provided some links to supports at the end of the survey.

CONFIDENTIALITY:
Your responses will be completely anonymous. You can skip any question(s) that you are not comfortable answering. No identifying information will ever appear in any reports, presentations and publications. All data from the questionnaires will be completely anonymous. Your responses will remain annonymous and will not be revealed to anyone.

Electronic questionnaire data will be hosted on the servers of the survey hosting company Qualtrics. Qualtrics servers are both anonymous and secured/encrypted (i.e., via Transport Layer Security and an Intrusion Detection System). Qualtrics will not make this anonymous data available to any party unless required by a valid court order, search warrant, or subpoena. The data stored on Qualtrics is anonymous and could not be linked to your identity. During data analysis, the researchers will store the anonymous data on a secured/password-protected computer. Members of Dr. Scharfe's research lab will analyze this anonymous data. These members include Dr. Scharfe, her research collaborators, graduate students, and undergraduate students working in her research lab. The anonymous data will be kept for at least five years after publication of the results. The data may be archived if required by journals for publication. The data will be used for research and teaching purposes by Dr. Elaine Scharfe. The data will also be used by Scottie Curran for her MSc thesis. The data will be published in journals, chapters, books or other venues.

INCENTIVES FOR PARTICIPATION:

You may feel that the participating in research is a beneficial opportunity. You may also learn more about the research process. This was stated above as a potential benefit as well. I cannot guarantee that you will receive any benefits from participating in this study. There are no financial incentives for participation.

COSTS TO PARTICIPATION:
There are no costs associated with participation in this study with the exception of your time.

VOLUNTARY PARTICIPATION AND WITHDRAWAL:
Participation in this study is completely voluntary. You can choose whether to participate or not. You can refuse to answer any question. You can also quit participating at any time. There will be no negative consequences to you whatsoever if you stop participating. At the end of the survey you will be given an opportunity to decide if you would like your data to be used in the study. Your choice of whether to participate will not influence your future relations with Trent University or the investigators (Dr. Elaine Scharfe and Scottie Curran) involved in the research.

QUESTIONS ABOUT THE STUDY:
If you have any questions about this study, you can ask questions now. To ask questions and address any concerns before you agree to participate, email Dr. Elaine Scharfe (escharfe@trentu.ca). A summary of the data will be posted on Dr. Elaine Scharfe's website (www.attachmentmatters.ca) when the study is completed (Fall 2021). If you would like clarification regarding any part of this research, you can contact Dr. Elaine Scharfe.

This study has been reviewed by the Trent University Research Ethics Board, the study number is 26513. If you have questions regarding your rights as a participant in this study please contact:

Michele J McIntosh, Chair Research Ethics Board
c/o Office of the Vice President, Research and Innovation
Trent University
1600 West Bank Drive
Peterborough, ON K9L 0G2
705-748-1011 ext. 7896
jmuckle@trentu.ca

CONFIRMATION OF AGREEMENT:
By agreeing to participate in this research, you are not giving up or waiving any legal right in the event that you are harmed during the research.

"I have read and given consent to completing the following questionnaire. I agree to participate in this study and I understand that by proceeding I am giving informed consent. I understand that I should print a copy of my consent form—now before I continue—for my records."

To confirm that I agree to the consent form I will check the boxes below:

☐ I have read the information in this agreement;

☐ I have asked any questions I have about the study;

☐ I agree to participate in the study;

☐ I am aware I can change my mind and stop participating at any time;

☐ I am aware that the data are completely anonymous and once I complete the survey it will not be possible to delete my personal data;

☐ I understand that these data will be used for research purposes;

☐ I understand that these data will be used for educational purposes;

☐ I have printed a copy of this agreement;

☐ I am not giving up any legal rights by signing this consent agreement; and

☐ I am 18 years of age or older.

If you do not wish to participate, do not continue and please close your browser

Appendix J

Community Participant Feedback From (Study 2)

Title: Exploring the association between attachment relationships and thoughts on deviant behaviour

Psychology MSc student researcher: Scottie Curran, MSc candidate, Department of Psychology, Trent University, Peterborough, ON, Canada, scottiecurran@trentu.ca

Faculty Researcher: Elaine Scharfe, PhD., Department of Psychology, Trent University, Peterborough, ON, Canada, 705-748-1011 ext. 7354, escharfe@trentu.ca

If you have any questions or concerns about the research, please feel free to contact Scottie Curran scottiecurran@trentu.ca or Dr. Elaine Scharfe escharfe@trentu.ca

Participant Feedback

        This study brings together two areas of research to understand why we behave in certain ways. Relationship researchers suggest that when we feel like we can depend on others, we are less likely to participate in illegal behaviours. Researchers who study deviance suggest that our view of self and others explains why we participate in illegal behaviours. They suggest that people who participate in illegal behaviours think more negatively about themselves and others. Both research areas have made progress towards understanding deviance. We believe that our view of self and others may be linked to breaking rules and our perceptions of breaking rules. The purpose of this study is to explore how our views of self and others may provide some insight into reasons for engaging in deviance.

If you have any questions about this study, please email Scottie Curran (scottiecurran@trentu.ca) or Dr. Elaine Scharfe (escharfe@trentu.ca). Please email if you would like related readings or clarification about this research as well. A summary of the data will be posted on Dr. Elaine Scharfe's website (www.attachmentmatters.ca) when the study is completed (Fall 2021). If you have any problems or concerns as a result of your participation in this study, please contact Trent Research Ethics Board by either phoning Jamie Muckle at 748 1011 x 7050 or e-mailing him at jmuckle@trentu.ca.

Thank you for your participation.

Suggested Readings

To learn more about Attachment Relationships, click this link to a PDF version of an academic research article (Bartholomew & Horowitz, 1991): https://pdfs.semanticscholar.org/6b60/00ae9911fa9f9ec6345048b5a20501bdcedf.pdf?_ga=2.196618028.1804098414.1612926596-7237194.1598319302

To learn more about the research involving Criminal Thinking Patterns (CTP), click this link to a Blog by the authors that created the survey to assess CTP: http://www.correcttech.com/blog/author/raymond-chip-tafrate-phd-damon-mitchell-phd-david-j-simourd-phd

You may also find some of the resources below helpful
If you have experienced any distress while completing the study, please refer to the information listed below for resources to deal with this distress.

Resources in Canada

Canadian Mental Health Association: www.ontario.cmha.ca

Telehealth Ontario: This is a confidential phone service, where you can talk to a Registered Nurse for free 24 hours a day, 7 days a week. Phone Number: 1-866-797-0000

Kids Help Phone: www.kidshelppphone.ca

Canadian Association of Elizabeth Fry Societies: https://www.caefs.ca/

John Howard Society of Canada: http://www.johnhoward.ca/

Resources in the United States

The Osborne Association: www.osborneny.org

National Suicide Prevention Lifeline: This resource is a national helpline that offers support for anyone that requires emotional support. Emotional support is available whether you are thinking about suicide or need someone to talk to for any other reason. This resource also provides specific options for individuals that are deaf or hard of hearing. https://suicidepreventionlifeline.org/talk-to-someone-now/

Centre for Suicide Awareness Hopeline: You can text this service at any time to receive emotional support. Text HOPELINE to 741741 to talk with a trained specialist that can help you with any stressful or emotional experiences you may have. https://centerforsuicideawareness.org/hopeline

Additional Resources
World Health Organization: This organization provides global resources that promote access to mental health supports and guides to managing your own mental stress https://www.who.int/teams/mental-health-and-substance-use

Appendix K

Social Media Recruitment Information

Facebook	
Group Name	**Date(s) Posted**
Attachment Matters	February 11; February 16
Personal Profile: Scottie Jean Curran	February 16; March 10; March 19; March 29; April 12; May 25; June 25; July 20; August 3, 2021
Gimme some of that sweet sample size for this survey	February 17, 2021
Inmates looking for pen pals	February 23, 2021
Beyond Prison Walls Canada	February 24, 2021
Canada Proud	February 24, 2021
hire formerly incarcerated campaign	February 26, 2021
True Crime Daily	March 1, 2021
I know we're all bored in quarantine but God damn.	March 2, 2021
Student Survey Exchange	March 2; April 16, 2021
International Prisoners Justice Day	March 2, 2021
Humble Opinions	March 4, 2021
meme life	March 4, 2021
Toronto public health	March 4, 2021
womens health	March 4, 2021
mens health	March 4, 2021
Survey Sharing 2020	March 8, 2021
Parents	March 7, 2021
Ben Shapiro	March 7, 2021
Daily Wire	March 7, 2021
Buzzfeed	March 7, 2021
Fox News	March 8, 2021
CTV News	March 8, 2021
Bored?	March 8, 2021
88.7 MyFM	March 8, 2021
Felons helping felons	March 11, 2021
Former felons for Trump 2020	March 10, 2021
FELONS helping FELONS	March 30, 2021
What's Going on Napanee?	March 19, 2021
What's Going on Napanee? Uncensored	March 19, 2021
Dissertation Survey Exchange – Share … Participants	March 30; September 7, 2021
Dark Minds True Crimes	April 14, 2021
Criminal & Forensic Psychology Research	September 7, 2021
The Dissertation Coach	September 1, 2021
a group where we can share our surveys … group	September 7, 2021
survey exchange/ survey group/ survey … Thesis	September 7, 2021

crime nerds: crime stories, missing … unsolved	September 8, 2021
criminal and forensic psychology research	September 7, 2021
psychology research	September 7, 2021
I was bored so I made this group	September 15, 2021

Twitter

Group Name	Date(s) Posted
Attachment Matters	February 14; March 9; March 30; April 12, 2021
Personal Profile: Scottie Curran	February 26; March 9; March 10; March 30; 1 August 21, 2021

Instagram

Group Name	Date(s) Posted
Attachment Matters	February 19, 2021
Personal Profile: Scottie Curran	March 1; March 8; March 9; April 12, 2021

Reddit

Group Name	Date(s) Posted
Profile: Attachment Matters	February 14; March 8, 2021
r/Sample Size	February 19; February 26; March7; March 9; March 19; March 29; April 12; July 23; August 10; August 31; September 15; October 21; October 14, 2021
r/legaladvice	February 19, 2021
r/narcissisticparents	February 22, March 29, 2021
r/prison	February 22, 2021
r/studies	February 22; March 29, 2021
r/ExCons	February 23; March 29; August 31, 2021
r/MensRights	February 23, 2021
r/Bored	February 25, 2021
r/EndMassIncarceration	February 26, 2021
r/COVID	March 1, 2021
r/takemysurvey	March 2, 2021
r/Coronavirus	March 2, 2021
r/relationships	March 8, 2021
r/surveyexchange	March 8, 2021
r/humanbehaviour	March 31, 2021
r/ BehaviouralScience	March 31, 2021
r/ school	March 31, 2021
r/findareddit	April 12, 2021
r/self_promote	August 31, 2021
r/redditforgrownups	April 18, 2021

r/psychology	April 15; August 31, 2021
r/psychologystudents	April 15, 2021
r/truecrimediscussion	April 19, 2021
r/posttraumaticgrowth	August 31, 2021

Note. Private groups were only posted in after receiving permission from the admin. Once posted, other social media users could share the content on their own profiles or in other groups.