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Publication Date

2024

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UNIVERSITY OF CALIFORNIA,

IRVINE

The Predictive Utility of Youth Psychopathic Traits on Subsequent Psychopathy and Offending

MASTER'S THESIS

submitted in partial satisfaction of the requirements
for the degree of

MASTER OF ARTS

in Social Ecology

by

Scarlet Jinae Cho

Thesis Committee:
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2024

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ACKNOWLEDGEMENTS

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Nogalska, A., Henderson, H., **Cho, S.,** & Lyon, T. (2023). Novel forms of reluctance among suspected child sexual abuse victims in adolescence. *Child Maltreatment.*

Nogalska, A., Henderson, H., **Cho, S.,** & Lyon, T. (2021). Police interviewing behaviors and commercially sexually exploited adolescents' reluctance. *Psychology, Public Policy, and Law.*

Henderson, H., **Cho, S.,** Nogalska, A., & Lyon, T. (2021). Identifying novel forms of reluctance in commercially sexually exploited adolescents. *Child Abuse and Neglect.*

ABSTRACT OF THE THESIS

The Predictive Utility of Youth Psychopathic Traits on Subsequent Psychopathy and Offending

by

Scarlet J. Cho

Master of Arts in Social Ecology

University of California, Irvine, 2024

Professor Elizabeth Cauffman, Chair

Tools for measuring psychopathy have been widely used as predictive assessments of future violence and antisocial behavior in correctional settings. Yet, research concerning juvenile psychopathy has yielded mixed conclusions as to its use as a long-term predictive measure of future psychopathy and offending in adulthood. The current study assesses the predictive utility of both the Psychopathy Checklist – Youth Version (PCL-YV) and the Youth Psychopathic Traits Inventory (YPI) on subsequent psychopathic traits, self-reported offending, and arrests across seven key years of development. This study used data from Pathways to Desistance, a longitudinal study of 1,170 male youth adjudicated for a serious crime (aged 14-17 at baseline; $M = 16.6$). PCL-YV and YPI total scores at the first study follow up predicted YPI total scores at every following study time point, up to 6.5 years later (Betas ranged from .311-.680, p-values ranged from <.01 to < .001). Descriptively, though, YPI scores declined over time ($M = 109.8$ at 6 months; $M = 100.2$ at 7 years). PCL-YV and YPI scores predicted subsequent offending behavior consistently for 2.5 years only (Betas ranged from .007-.031, p-values ranged from <.01 to < .001), while official arrests were not consistently predictive for any time period.

While short-term predictive utility of juvenile psychopathy measures was evidenced, these findings call into question whether psychopathic traits measured in adolescence should be used to make predictions about long-term recidivism risk, especially across developmental periods.

The Predictive Utility of Youth Psychopathic Traits on Subsequent Psychopathy and Offending

Introduction

The criminal justice system encompasses a disproportionate number of individuals with psychopathy (Hare, 2003), a psychological construct marked by egocentricity, callousness, manipulative behavior, impulsivity, and an inability to maintain close relationships (Cleckley, 1976). Psychopathy has been shown to increase harmful behaviors, such as criminal offending, violence, and other negative outcomes (Glover et al., 2002; Serin, 1996). However, research on the long-term predictive utility of psychopathy measures has commonly been conducted within adult samples, and the reliable presentation of "juvenile psychopathy" is highly debated in the field (Cauffman et al., 2016; De Brito et al., 2021; Shepherd & Strand, 2016). Beyond the consideration that normative development may impact the presentation and accuracy of detection of psychopathy in juveniles, previous research highlights a lack of consensus as to whether psychopathic traits identified in adolescence reliably persist into adulthood. While some extant literature has longitudinally assessed the stability of psychopathic traits across the developmental period (Cauffman et al., 2009; McCuish & Lussier, 2018; Salihovic et al., 2014), results have varied. Further, there is a paucity of research on psychopathy's long-term predictive utility across time from adolescence into adulthood, specifically.

The predictive value of juvenile psychopathy on future offending in adulthood has been previously assessed (Edens & Cahill, 2007; Cauffman et al., 2009); though many studies have only explored outcomes using official arrest records (Lynam et al., 2009a; Corrado et al., 2015; Gretton et al., 2004), and consequently, assess detection rather than offending behavior. As such, the current study will employ a prospective analysis of psychopathic traits from adolescence through young adulthood to elucidate the persistence of psychopathy across time and its ability

to predict offending in both the short- and long-term. In doing so, this study will identify to what extent, if any, psychopathy remains predictive across the transition from adolescence to young adulthood, or whether its presentation should only be applied to adult populations. Additionally, this study will ascertain whether certain components, or dimensions, of psychopathy may differentially stabilize or dissipate through adolescence and into adulthood.

These research questions will be investigated by analyzing data from the Pathways to Desistance Study, a longitudinal study of serious juvenile offenders, who were followed and interviewed for seven years across adolescence and into young adulthood. By assessing psychopathic traits during adolescence and comparing them prospectively with future psychopathic traits, self-reported offending, and official arrest records across the subsequent seven years, this study elucidates the predictive utility of two "juvenile psychopathy" measures. Study findings will provide insight into how valid these measures are for predicting future psychopathic traits, deleterious behaviors, and legal outcomes.

Literature Review

Juvenile Psychopathy

Researchers have long debated whether psychopathy is a construct that can be reliably identified among youth (Cauffman et al., 2009, Lee & Kim, 2021). Regardless of some evidence of predictive qualities (Edens et al., 2001), many researchers argue that the stigma of labeling an adolescent as a psychopath may be unduly harmful (Petrila & Skeem, 2003). Further, some researchers have noted that some key features of psychopathy, such as impulsivity and sensation-seeking, are also normative developmental features observed in adolescence (Cauffman et al., 2016), and as such, they cannot reliably indicate psychopathy in developing youth. Further, adolescence is a key developmental period during which important changes in both personality

and identity development occur (Klimstra, 2013), potentially making assessment of psychopathic personality more volatile during this time. Yet, some research has found evidence of stability in psychopathic traits from childhood to adolescence (Lynam et al., 2009b). Methodological limitations may underlie mixed findings concerning juvenile psychopathy due to reliance on cross-sectional data and rank-order analysis (Farrington, 2005; Skeem & Cauffman, 2003). Despite a lack of consensus on the reliable presentation, and detection, of psychopathy in juvenile populations, measures of psychopathic traits are used when making important legal decisions about youths' lives. For example, these determinations influence whether a youth is tried in juvenile versus adult court, or whether sentencing should prioritize risk reduction versus punishment, etc. (Viljoen et al., 2010; Seagrave & Grisso, 2002).

As such, a prospective longitudinal approach to the analysis of psychopathy may be better suited to bridge the current gaps in developmental research. As individuals with psychopathy in the adult literature have shown mixed reception to treatment (Baskin-Sommers et al., 2015), and because psychopathy across adulthood has exhibited strong stability, it is of the utmost importance to examine whether these traits are accurately measurable and potentially malleable during adolescence. Early identification may elucidate pathways to interventions implemented during adolescence, which may show more efficacy than interventions implemented in adulthood (da Silva et al., 2021).

Psychopathy across the Lifespan

Because scholars have not agreed on whether psychopathy can be accurately measured in youth, much research concerning the stability of psychopathy over time has been conducted in adult populations. Yet, some studies have provided evidence that psychopathy may manifest in adolescence and is fairly stable across time (Lynam et al., 2007; Neumann et al., 2011; Lee &

Kim, 2021). Lynam and colleagues (2007) assessed psychopathy in a community sample of 13-year-olds via mother-report which significantly predicted adult psychopathy at age 24, but positive predictive power for psychopathy cut points was poor. Most 13-year-olds identified as psychopathic did not fit such classification at age 24. Some research has even assessed stability of psychopathic traits from childhood all the way through adulthood (Hawes et al., 2018). Hawes and colleagues found evidence for significant variability in growth trajectories, and namely the malleability of these traits for some individuals in a community sample. Meanwhile, Salihovic and colleagues (2014) found variability in psychopathy from ages 16-19 in a twin study, suggesting that environmental factors may impact the development of psychopathy. Conversely, McCuish & Lussier (2018) found that adolescents with the highest psychopathy scores were actually more likely to show decreases in psychopathy over time. To date, only one study has utilized group-based trajectory modeling (GBTM) to study stability of psychopathic traits from adolescence to young adulthood in a justice-involved sample, though this study did not necessarily test predictive utility of a juvenile psychopathy measure (Lee & Kim, 2021). Results again revealed differing trajectories of psychopathic traits: some individuals remained stable across time, while others increased or decreased across development. Beyond this study's contributions, no such research has conducted prospective analyses to discern for how long psychopathic traits identified in adolescence remain significantly predictive of future psychopathic traits in a justice-involved sample, if at all, across adolescence and into adulthood.

Psychopathy and Offending

Some prior work has evidenced predictive capacities of juvenile psychopathy measures on future offending in adulthood (Lynam et al., 2009a; Gretton et al., 2004; Lussier et al., 2022). Yet, other studies have found psychopathy assessed in youth does not reliably predict offending

in the long-term (Edens & Cahill, 2007; Cauffman et al., 2009). Namely, Cauffman and colleagues (2009) used juvenile measures of psychopathic traits to predict offending at six, 12, and 36 months after assessment, and found that these measures did predict offending up to one year later but could not predict up to three years later. Further, many of the seminal studies which have provided evidence for a link between juvenile psychopathic traits and subsequent adult offending have relied solely on official arrest records (Edens & Cahill, 2007; Lynam et al., 2009a; Corrado et al., 2015; Gretton et al., 2004; Lussier et al., 2022). While this work has important implications, longitudinal studies that utilize reports of offending behavior itself may give greater insight into the predictive utility of juvenile psychopathy measures on future antisocial behavior, and not just detection of such behavior. Much work has lent itself to elucidating this "dark figure of crime," whereby self-reported crime rates are substantially higher than crime which is officially reported (Piquero et al., 2014; Scurich, 2020). Thus, while prior work has assessed psychopathy's predictive utility for later offending, crime rates may have been grossly underreported in previous work. Studies specifically utilizing self-reported offending behavior as an outcome have not extended past a three-year developmental period (Cauffman et al., 2009). Another limitation of the prior work using arrest data is that measures of arrest in both adolescence and adulthood were merged together, failing to disentangle crime committed within each distinct developmental period (Lynam et al., 2009a; Corrado et al., 2015). This is important because adolescent arrest records might be driving conclusions drawn from these studies.

Some evidence for varying predictive properties of psychopathy's dimensions also exists (Corrado et al., 2015; McMahon et al., 2010). Corrado and colleagues (2015) studied psychopathic traits in adolescence using GBTM to assess offending trajectory membership into adulthood and found that the interpersonal and affective symptoms of psychopathy were not

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related to membership in the chronic offending trajectory group, but only the behavioral symptoms were. Further, callous-unemotional traits (i.e., psychopathy's affective dimension) have been much more explored in childhood and adolescent populations than psychopathy's other symptoms (e.g., interpersonal and behavioral) in regard to its influence on subsequent antisocial behavior and conduct problems (Frick & White, 2008; McMahon et al., 2010). This is because some child and adolescent researchers consider callous-unemotional traits as core features of psychopathy in youth, indicating a causal pathway to later adult psychopathy (Viding & McCrory, 2012). Callousness identified in youth populations has been found to increase later antisocial outcomes in early adulthood, such as delinquency, conduct problems, and arrests (McMahon et al., 2010; Hawes et al., 2016; Docherty et al., 2019). Because of the evidence this provides for callous-unemotional traits identified in youth being predictive of long-term offending outcomes, psychopathy as a holistic construct that includes a callous-unemotional (i.e., affective) dimension might also boast predictive utility for delinquent behaviors. Alternatively, it is possible that the affective dimension may be driving this potential predictive capability of a juvenile psychopathy measure for predicting future offending, while the other dimensions may be differentially predictive of these outcomes.

Yet, other researchers posit that it is the constellation of interpersonal, affective, and behavioral traits of psychopathy that culminate into greater criminogenic risk than any one of the dimensions alone (Colins et al., 2018; Lussier et al., 2022). Thus, future work should seek to disentangle the potential differential predictive capabilities of psychopathy's subdimensions on subsequent offending across the transition from adolescence to adulthood, in addition to utilizing total scores for predictive utility.

Measurement of Psychopathic Traits

The measurement of psychopathy, even in the adult literature, has been a subject of much discourse. The current "gold standard" measure of psychopathy is the Psychopathy Checklist – Revised (PCL-R), which is a semi-structured interview assessment for which an interviewer comprehensively evaluates and rates the interviewee on how well 20 items comprising psychopathic personality applies to them (Forth et al., 2003). Yet, some researchers believe the family of PCL-R measures, including the Psychopathy Checklist – Youth Version (PCL-YV), inadequately represent the construct (Corrado et al., 2015; Sandvik et al., 2012). Some tautological concerns as to the predictive validity of psychopathy measures such as the PCL-R on antisocial behavior exist. First, some researchers still debate as to whether criminal behavior is an inherent feature of psychopathic personality or merely a byproduct of it (Skeem & Cooke, 2010; Hare & Neumann, 2010). Second, some assessment measures of psychopathy like the PCL-R and PCL-YV include antisocial behavior in the scales and are then used to predict antisocial behavior, yielding a concern for an inflation of predictive capacity. Thus, many prior studies have not adequately addressed this tautological problem by parsing out dimensions that may include items assessing antisocial behavior and rely solely on a total score to predict offending.

Prior studies have also rarely used multiple methods of assessing psychopathic traits to differentially predict offending within the same sample, though some exist (Cauffman et al., 2009). For example, Cauffman and colleagues, in addition to the PCL-YV, used the Youth Psychopathic Traits Inventory (YPI), which is a 50-item self-report measure of psychopathy (Andershed et al., 2002), to assess predictions of offending over three years. The YPI, in addition to providing a different method of assessment (i.e., self-report vs. interview), avoids the

aforementioned tautological concerns, as the measure does not include antisocial behavior in the items assessed and instead focuses on core features of psychopathy. It also was developed within community samples, which differentiates it from other measures historically developed within carceral settings.

While both above measures were somewhat tailored for use in youthful populations, both constructs were relatively commensurate with adult conceptualizations of psychopathy and have similar factor loadings to adult measures (Salekin et al., 2006). Though this could be artifact due to the direct downward extension of the construct which was developed specifically for use in adult populations (Viljoen et al., 2010; Skeem & Cauffman, 2003). For example, the PCL-YV assesses the same 20 items assessed in adults, but differs in how items apply to adolescents' life experiences (e.g., in school, peer, and family domains). Thus while adapted for use with adolescents, questions arise as to how well-suited these measures are developmentally, and if psychopathy may manifest differently in juveniles than in adults.

Hypotheses/Research Questions

As results are mixed in terms of the predictive utility of psychopathic traits measured in adolescence and previous studies have had limitations in measurement of key variables, this study uses a multi-assessment approach to studying psychopathy and its predictive utility over seven key years in development—from adolescence to young adulthood. In addition to prospectively assessing whether adolescents' scores on the Youth Psychopathic Traits Inventory (YPI) and the Psychopathy Checklist – Youth Version (PCL-YV) predict adult psychopathy through the utilization of a series of regression analyses, this study also seeks to identify whether these juvenile psychopathy measures predict long-term offending (both behavior and detection).

This was done in a sample of serious youthful offenders, for whom this research may have direct implications on public policy and legal considerations.

Research question 1: Do psychopathic traits measured in adolescence predict subsequent psychopathic traits in the short- and long-term? In other words, for how long does the predictive utility of adolescent psychopathy on subsequent psychopathy last?

Hypotheses: My first hypothesis is that both the YPI and the PCL-YV will exhibit diminished predictive utility across time into adulthood. I also hypothesize that specific subcomponents of psychopathy will show variability in predictive utility: adolescent-typical immaturity-related components (e.g., behavioral traits such as impulsivity) may be temporary and developmentally overcome as one ages; whereas others (e.g., affective traits such as callousness) may remain more stable into adulthood.

Research question 2: Do psychopathic traits in adolescence predict offending in the short- and long-term? In other words, for how long does the predictive utility of adolescent psychopathy on subsequent offending behavior last?

Hypotheses: I hypothesize that the predictive capacities of the YPI and the PCL-YV on both self-reported offending (SRO) and official arrests will diminish at an earlier time point, as offending behaviors decrease normatively as youth enter adulthood (Piquero et al., 2003), and perhaps measuring psychopathy during adolescence unduly conflates the constructs of psychopathy and antisociality. Similarly to the above hypothesis, I conjecture that the underlying dimensions of psychopathy will exhibit differential predictive abilities (e.g., the behavioral dimension may be more strongly predictive of offending behavior).

Taken together, these analyses seek to uncover whether psychopathy is reliably identifiable early on in development (i.e., if "juvenile psychopathy" is predictive of subsequent

adult psychopathy) and whether it is predictive of self-reported offending behavior and official arrests over a series of seven years using the YPI (Youth Psychopathic Traits Inventory) and the PCL-YV (Psychopathy Checklist – Youth Version), and at which point these potential predictive capabilities become nonsignificant. Additionally, this study will differentially assess the longitudinal nature of the different factors underlying psychopathy (i.e., interpersonal, affective, and behavioral), and whether these factors differentially maintain or diminish in their predictive utility across time.

Method

Participants and Sampling Procedure

Participants for this study were adolescent boys enrolled in the Pathways to Desistance Study (Mulvey et al., 2004; $N = 1,170$), a longitudinal study comprised of 1,354 serious juvenile offenders (largely felony convictions, with some misdemeanor weapons offenses) following their arrest at ages 14-17 (e.g., "baseline"; $M = 16.6$). Data were collected in Phoenix, Arizona ($n = 654$) and Philadelphia, Pennsylvania ($n = 700$), sites with relatively high crime rates and ethnically heterogeneous populations (Mulvey et al., 2004). Female offenders were excluded from the present analysis due to gender differences in manifestations of psychopathy (de Vogel & Lancel, 2016; $N = 184$). The sample is representative of the socioeconomic makeup of incarcerated individuals in the United States, with most coming from low socioeconomic households. The ethnic makeup of the sample also reflects incarcerated individuals in the United States, with 42.1% Black, 34.0% Hispanic, 19.2% White. 4.6% identified as multiracial or had a race/ethnicity unaccounted for using the census options.

Design and Procedure

Information on eligibility of adolescent participants was provided by the local juvenile courts in Maricopa County and Philadelphia County. Those eligible were contacted with the opportunity to participate, and if interest was expressed, parent or guardian consent was obtained. Interviews with participants were conducted at correctional facilities, in juveniles' homes, and other locations within the community where privacy and confidentiality could be preserved. Participants were interviewed every six months for three years, and then every year for an additional four years (i.e., a total of 11 waves of data collection). The retention rate ranged from 90-93% at each follow-up, reflecting far better than typical rates of attrition normally observed in longitudinal studies (Kendler et al., 2009). Participants were compensated $50 for completing the baseline interview and up to $150 for subsequent follow-up interviews (contingent upon facility rules for compensation). In addition to interviews with the youth, information was also gathered via official court records.

Measures

Psychopathy. *Youth Psychopathic Traits Inventory (YPI).* This 50-item self-report measure was designed to capture the construct of psychopathy in youth, commensurate with adult models of psychopathy (Andershed et al., 2002). Participants indicated how well each item described them by responding on a 4-point Likert scale ranging from "Does not apply at all" to "Applies very well." In accordance with the three-factor model of psychopathy, this measure has ten subscales (dishonest charm, grandiosity, lying, manipulativeness, remorselessness, unemotionality, callousness, thrill-seeking, impulsiveness, and irresponsibility) that combine to assess three dimensions of psychopathy: Grandiose/Manipulative Dimension (i.e., interpersonal), Callous/Unemotional Dimension (i.e., affective), and Impulsive/Irresponsible Dimension (i.e.,

behavioral). Both total and dimension scores are derived by summing items assessed, with higher scores indicating greater extent of psychopathic traits. The YPI is strongly correlated with measures of aggression, delinquency, and impulsivity (Dolan & Rennie, 2007), and has strong construct validity (Neumann & Pardini, 2014), and internal consistency (Total YPI: α = .93 to .94; Grandiose/Manipulative: α = .91 to .92; Callous/Unemotional: α = .73 to .79; Impulsive/Irresponsible: α = .82 to .87). All analyses assessing the prediction of psychopathy classification used a cutoff score of 133 for the YPI (derived from 1 SD above the mean; 15.9% of sample at 6-mo followup; 5.7% of sample at 84-mo followup) as a predictor and outcome variable. The clinical cut-off score of the YPI, which is 112.25 (47.5% of sample at 6-mo followup; 32.4% of sample at 84-mo followup) classified much of the sample as psychopathic, so the more conservative cut point was utilized for analyses (Cauffman et al., 2009). The YPI was not collected at baseline, but was collected at each follow-up interview thereafter, beginning at the six-month follow-up (i.e., collected at ten timepoints).

Psychopathy Checklist: Youth Version (PCL-YV). This tool measures psychopathy comprehensively using a 20-item scale intended for use with adolescents over the age of 13 years (Forth et al., 2003). Components of the PCL-YV included a semi-structured interview with the youth, official court documents, and an interview with a parent or guardian. This assessment calls for scorers to evaluate the interviewee's interpersonal style and attitudes, psychological, educational, occupational, familial, and peer domain functioning, along with credibility (assessed via comparing semi-structured interview information with official court records and collateral reports). The scorer evaluates how well each of the 20 assessed items describes the interviewee using a 3-point ordinal scale (0: item does not apply to youth; 1: item applies to a certain extent; 2: item applies to youth) with higher scores indicative of more psychopathic traits. The measure

assesses both a total score by summing item scores (alpha = .87), and two factors underlying

psychopathy: Interpersonal/Affective (alpha = .76) and Socially Deviant Lifestyle (i.e.,

behavioral; alpha = .78; Cooke & Michie, 2001), with higher scores indicating greater extent of

psychopathic traits. Intraclass correlation coefficients (ICCs) were computed to assess interrater

reliability after extensive training, and analyses revealed excellent rates of agreement for total

scores (ICC = .92). For analyses utilizing a psychopathy classification, the diagnostic cutoff

score used for the PCL-YV as a predictor was 30 (5.6% of the sample at baseline), as this cutoff

score is widely used both in the literature and in practice. The PCL-YV was collected at baseline

only.

Offending Behavior. *Self-Reported Offending (SRO).* This 22-item binary self-report

measure assessed youths' engagement in both violent (e.g., physical assault) and non-violent

offending (e.g., burglary; Huizinga et al., 1991). A variety score was used to measure the

different types of offending behavior, such that a total count was yielded based on how many

types of offenses youth had engaged in during the recall period with higher scores indicative of

more offending behavior. *Official Arrests.* Official court records were acquired via court record

reviews at each study site in conjunction with Federal Bureau of Investigation files. This study

utilizes these official arrests on a binary basis (i.e., whether they were arrested in the study recall

period or not).

Covariates. *Age, race, and socioeconomic status.* These demographic variables were

collected at baseline and used as covariates in all study analyses. Participants were aged 14-17 at

baseline and ranged from 21-24 at the final timepoint. Socioeconomic status was measured

through Index of Social Position, which is approximated using both parents' level of education

and occupation type. Most of the sample (X%) reported coming from low socioeconomic

households. Race classifications were reported as follows: 42.1% Black, 34.0% Hispanic, 19.2%

White, and 4.6% identifying as multiracial or their ethnicity was unaccounted for using the

census options. *Self-reported offending (SRO)*. Lifetime self-reported offending behavior

collected at baseline was used as a covariate in all analyses which used the above mentioned

SRO at each follow up study time point as the outcome of interest, as well as all analyses which

used PCL-YV as a predictor (to avoid tautological concerns). *Arrest History.* Lifetime official

arrest counts were also collected at baseline as a covariate in all analyses which yielded official

arrests as the outcome variable. *Time spent outside of carceral settings*. The amount of time

participants spent outside of incarceration was collected during each study follow up point, and

this information was used as a covariate in analyses predicting offending behavior and official

arrests at each respective study time point.

Analytic Plan

Analyses for the present study are designed to ascertain the predictive utility of

psychopathy measured in adolescence (i.e., "juvenile psychopathy") to adult psychopathy and

offending behaviors. A series of regression analyses were performed between YPI scores at the

first follow up and each subsequent study time point to differentiate predictive capabilities across

time of the three dimensions of psychopathy in addition to the composite score, on subsequent

psychopathy, offending behavior, and official arrest records. The first time point the psychopathy

measures were collected at (i.e., PCL-YV at baseline; YPI at six-month follow up) were

compared against each follow up thereafter for the three outcome variables (through regression

analyses) in order to ascertain for how long, if at all, youth psychopathic traits measures hold

predictive power.

Analyses concerning RQ1: Do psychopathic traits in adolescence predict psychopathic traits in the short- and long-term?

Analyses assessing YPI scores (both total scores, and scores of each of the three dimensions) as the predictor on subsequent YPI scores across the next ten study timepoints utilize linear regressions using the *lm* function in the R package *lme4*. These analyses controlled for age, race, and socioeconomic status. Similarly, linear regressions were also used to assess PCL-YV's ability at baseline to predict YPI scores across all study time points. Analyses using PCL-YV as the predictor also included self-reported offending as a covariate to avoid tautological concerns, as the PCL-YV includes a dimension measuring antisocial behavior (and the YPI does not).

The predictive utility of youth psychopathy classifications (dichotomous groups derived from clinical cut-off scores) at the first timepoint collected (i.e., PCL-YV at baseline; YPI at six-month follow up) on future psychopathy were assessed using logistic regression analyses (i.e., *glm* function in R with the "binomial" family specifier). These analyses controlled for the aforementioned demographic variables.

Analyses concerning RQ2a: Do psychopathic traits in adolescence predict offending behavior in the short- and long-term?

Negative binomial regressions were used to assess YPI's and PCL-YV's predictive utility on subsequent offending behavior, because offending is positively skewed and zero-inflated; thus this type of regression is able to address these characteristics of the data best (Gardner et al., 1995). These analyses controlled for above mentioned demographic variables, as well as prior offending (measured at baseline) and time spent outside of carceral settings (measured at each concurrent study recall period).

The predictive utility of youth psychopathy classifications (dichotomous groups derived from clinical cut-off scores) at the first timepoint collected (i.e., PCL-YV at baseline; YPI at six-month follow up) on future offending behavior were assessed using negative binomial regression analyses as well. These analyses controlled for the aforementioned demographic variables, as well as prior lifetime history of arrest and time spent outside of carceral settings.

Analyses concerning RQ2b: Do psychopathic traits in adolescence predict official arrests in the short- and long-term?

The predictive utility of youth psychopathic traits at study baseline on future official arrests were analyzed using logistic regression analyses (i.e., *glm* function in R with the "binomial" family specifier). These analyses controlled for above mentioned demographic variables, as well as official arrest history (measured at baseline) and time spent outside of carceral settings (measured concurrently).

Similarly, a set of logistic regressions, controlling for the same variables were used to assess the predictive capabilities of psychopathic classifications derived from both the PCL-YV and the YPI on future official arrests at each study timepoint.

A prospective longitudinal approach will allow for both the examination of the predictive qualities of two measures (both a self-report and a diagnostic semi-structured interview) of youth psychopathic traits for assessing both the stability of psychopathy across adolescence to young adulthood and the prediction of future offending.

<div align="center">

Results

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Psychopathic Traits Predicting Future Psychopathic Traits.

First, a set of regression analyses found that YPI total scores at the 6-month study follow up (i.e., the first timepoint the YPI was collected at) predicted YPI total scores at every following

study time point, up to 6.5 years later (Betas ranged from .374-.546, $p < .001$; see Table 1). The next set of regression analyses found that PCL-YV total scores at study baseline predicted YPI total scores at every following study time point, up to 7 years later (Betas ranged from .311-.680, p-values ranged from $<.01$ to $< .001$).

Analyses revealing the predictive utility of each of the dimensions of the YPI, using the three-factor model of psychopathy, also yielded the same pattern of results. The Grandiose Manipulative (i.e., interpersonal) dimension predicted its respective dimension score at every subsequent study time point, up to 6.5 years (Betas ranged from .338-.561, $p < .001$), as well as the Callous Unemotional (i.e., affective) dimension (Betas ranged from .348-.450, $p < .001$), and the Impulsive Irresponsible (i.e., behavioral) dimension (Betas ranged from .379-.506, $p < .001$).

Psychopathy Classifications Predicting Future Psychopathy Classifications.

First, youth identified as psychopathic by the YPI significantly predicted being subsequently classified as psychopathic by the YPI at all subsequent time points (ORs ranged from 4.64-8.10, $p < .001$). Youth identified as psychopathic by the PCL-YV significantly predicted being subsequently classified as psychopathic by using the YPI cutoff at all time points (ORs ranged from 2.73-5.27, p ranged from .006 to $< .001$).

Psychopathic Traits Predicting Offending Behavior.

Negative binomial regression analyses found that YPI total scores at the 6-month study follow up predicted subsequent self-reported offending consistently up until 2.5 years later, and then intermittently predicted offending at some timepoints thereafter (see Table 1). Similar patterns were shown for the respective three dimensions of the YPI. The PCL-YV total scores at baseline also predicted subsequent offending consistently up until 2.5 years after, but not beyond that point (see Table 1). Of note, when the two dimensions of the PCL-YV were assessed

independently as predictors, factor 2 (which captures Socially Deviant Lifestyle; i.e., behavioral),

this best predicted offending behavior in subsequent time points.

Table 1. Negative Binomial Regression Models: Psychopathic Traits Scores as Predictors of Offending Behavior

	Self-Reported Offending									
	6-mo	*12-mo*	*18-mo*	*24-mo*	*30-mo*	*36-mo*	*48-mo*	*60-mo*	*72-mo*	*84-mo*
Betas										
Predictors										
Youth Psychopathic Traits (YPI)		.011 ***	.007 **	.012 ***	.012 ***	.009 **	.005	.005	.005		.008 **
YPI - Grandiose Manipulative		.011	.007	.015 **	.020 ***	.006	.005	.008	.008	.010
YPI - Callous Unemotional		.046 ***	.029 ***	.037 ***	.031 **	.044 ***	.015	.016	.015	.037 ***
YPI - Impulsive Irresponsible		.026 ***	.018	.030 ***	.024 **	.023 **	.014	.012	.012	.015
Psychopathy Checklist - Youth Version (PCL-YV)	.024 ***	.025 ***	.021 **	.022 **	.031 ***	.015	.015	.009	.021	.022
PCL-YV Factor 1	.038 **	.037 **	.024	.018	.048 **	.004	.015	.015	.024	.043
PCL-YV Factor 2	.046 ***	.044 **	.047 **	.060 ***	.054 **	.040	.042	.018	.050 **	.046

*Note. YPI scores were collected at the first 6-month study followup, and at each time thereafter; PCL-YV scores were measured at baseline. All models controlled for age, ethnicity, socioeconomic status, time spent in custody, and prior offending behavior. Each measure (and respective dimension scores) were analyzed in separate models. *** denotes p < .001 significance level; ** denotes p < .01 level. Unstandardized betas are reported.

Alternatively, using psychopathy classifications as predictors instead of continuous

scores yielded different predictive capabilities in assessing future offending behavior.

Psychopathy classifications derived from the YPI only predicted future offending behavior 24

months later, but not significantly at any other timepoint (see Table 2), while psychopathy

classifications derived from the PCL-YV did not predict subsequent offending behavior at any

timepoint.

Table 2. Negative Binomial Regression Models: Psychopathy Classifications as Predictors of Offending Behavior

	Self-Reported Offending									
	6-mo	*12-mo*	*18-mo*	*24-mo*	*30-mo*	*36-mo*	*48-mo*	*60-mo*	*72-mo*	*84-mo*
Betas										
Predictors										
YPI classification		.321	.183	**.425 ****	.370	.209	-.007	.203	.111	.356
PCL-YV classification	.174	.153	.059	.044	.401	.318	.480	.240	.177	.095

*Note. YPI scores were collected at the first 6-month study followup; PCL-YV scores were measured at baseline. Clinical cutoff-based dichotomous classifications (i.e., psychopathy vs. no psychopathy) were used as predictors in these regression analyses. All models controlled for age, ethnicity, socioeconomic status, time spent in custody, and prior self-reported offending. Each measure (and respective cut off distinctions) were analyzed in separate models. *** denotes p < .001 significance level. Unstandardized betas are reported.

Psychopathic Traits Predicting Official Arrests.

A set of logistic regression analyses found that YPI total scores and dimension scores at

the 6-month study follow up failed to predict official arrests at any subsequent timepoints (see

Table 3). The PCL-YV at baseline predicted subsequent arrests only at 12 months and 18 months

and not again thereafter, with similar patterns exhibited when using its two underlying factors as

predictors as well (see Table 3). Another set of logistic regressions revealed that neither

psychopathic classifications derived from YPI and PCL-YV cut scores predicted official arrests

at any subsequent timepoint over the seven-year study timeframe.

Table 3. Binomial Logistic Regression Models: Psychopathic Traits Scores as Predictors of Official Arrest

	Official Arrest									
	6-mo	12-mo	18-mo	24-mo	30-mo	36-mo	48-mo	60-mo	72-mo	84-mo
Betas										
Predictors										
Youth Psychopathic Traits (YPI)		.003	.003	.002	.005	.001	.002	.006	.006	.009
YPI - Grandiose Manipulative		-.003	.004	-.005	.003	-.005	.005	.010	.010	.010
YPI - Callous Unemotional		.022	.015	.019	.032	.020	.007	.014	.011	.032
YPI - Impulsive Irresponsible		.017	.009	.013	.016	.005	.005	.015	.021	.025
Psychopathy Checklist (PCL-YV)	.029	**.053** ***	**.030** **	.015	.026	.010	.016	.022	.012	.015
PCL-YV Factor 1	.025	**.082** ***	.042	.001	.033	.003	.020	.037	.000	.011
PCL-YV Factor 2	**.076** **	**.108** ***	**.069** **	.045	**.060** **	.026	.038	.048	**.040**	.045

*Note. YPI scores were collected at the first 6-month study followup; PCL-YV scores were measured at baseline. All models controlled for age, ethnicity, socioeconomic status, time spent in custody, and prior lifetime official arrests measured at baseline. *** denotes p < .001 significance level. Unstandardized betas are reported.

Discussion

The current study assessed the predictive utility of two juvenile psychopathic traits measures for predicting subsequent psychopathy, offending behavior, and official arrests over ten timepoints across seven years from adolescence to early adulthood. As the field stands, there is limited research assessing the long-term predictive validity of adolescent psychopathic traits into adulthood (Lynam et al., 2007; Hawes et al., 2018), and the studies that have been conducted have yielded mixed results and relied on official arrest data (Gretton et al., 2004; Lynam et al., 2009a; Edens & Cahill, 2007; Lussier et al., 2022). This study addressed these concerns evident in past literature, and findings offer insight into future research avenues, measurement considerations, and implications for policy and practice.

Psychopathic Traits Predict Future Psychopathic Traits but Diminish over Time.

While measures of psychopathic traits at study baseline and the 6-month followup did demonstrate predictive capabilities up to the last study timepoint 7 years later for subsequent psychopathic traits, it is important to note that overall, descriptively, YPI scores declined over time (M = 109.8 at 6 months; M = 100.2 at 7 years). Similarly, while "psychopathic" classifications also exhibited predictive utility in identifying youth with a subsequent "psychopathic" classification at all following study timepoints, those classified in such groups diminished over time as well (15.9% of the sample at 6 months; 5.7% at 7 years). Most classified as psychopathic in adolescence were no longer classified as so in early adulthood. Perhaps the statistically significant stability of psychopathy evidenced in this study is partly due to how the field currently fails to adequately identify those at-risk and intervene before adulthood (Lynam et al., 2007).

Although juvenile measures of psychopathy showed predictive capabilities for those at risk for subsequent adult psychopathy, the overall downward trend of scores point to some evidence of the construct's instability across the seven-year period assessed. Aside from changes in personality and behavior that occur across adolescence (Klimstra, 2013), perhaps some items assessed by psychopathy measures are inherent in typical adolescents (e.g., parasitic lifestyle, impulsivity, and sensation-seeking), and thus diminish with age and with advances in psychosocial maturity. As the differences and similarities between psychopathy measured in youthful populations and adult populations becomes further elucidated, perhaps measures should be further adapted in developmentally appropriate ways in order to better disentangle how risk of psychopathy may be measured in youth specifically.

Psychopathic Traits Predict Short-Term Offending Behavior Consistently but not Long-Term.

Both the YPI and the PCL-YV were able to reliably predict offending behavior up to 30 months after assessment, boasting short-term predictive utility. Yet, after 30 months, these measures of juvenile psychopathic traits do not maintain consistent predictive ability. These findings call into question whether a juvenile measure of psychopathy should be used to make predictions about adult behavior as these are distinct developmental periods. At the study timepoint the psychopathy measures no longer significantly predicted offending behavior, study participants were 17-20 years old, just becoming adults in the eyes of the law, and a time when trajectories of offending behavior may be changing (Sweeten et al., 2013). With so much developmental change and advances in psychosocial maturity, identity, and personality that occur through adolescence and emerging adulthood (Cauffman & Steinberg, 2000; Klimstra, 2013)—including heightened malleability of psychopathic traits pre-adulthood (Hawes et al.,

2018; da Silva et al., 2021)—any long-term predictions based on measures collected before adulthood is reached should be made with caution or not at all.

While psychopathy itself may be a risk factor for future offending, findings are not reliable in the long-term for juveniles. Furthermore, effect sizes although statistically significant are small, and likely other factors play a larger role in risk of recidivism. Dichotomous psychopathic classifications were also largely unable to predict offending behavior in both the short- and long-term, signifying that using "psychopathic" distinctions to make decisions about future risk of recidivism among adolescents is likely not reliable. These findings are especially pertinent as a "psychopath" label has been used in court cases to insinuate a heightened recidivism risk and lack of amenability to change (Viljoen et al., 2010), for which no meaningful predictive abilities were evidenced in this study for juveniles. Further, some studies using experimental manipulation to assess the effect of using "psychopath" labels versus referring to a continuous psychopathic tratis score, indicate that these labels have a greater influential aggravating effect on judges (Boccaccini et al., 2008; Jones & Cauffman, 2008). Despite a systematic law review which evidenced half of the assessed American and Canadian cases asserting the youth defendant had psychopathy (Viljoen et al., 2010), the current study found that these psychopathy classifications do not exhibit predictive validity for recidivism and imply that they should not be used to make legal decisions for juveniles.

Contrary to hypotheses, specific dimensions underlying psychopathy did not evidence meaningful differences in predictive utility. Descriptively, the callous-unemotional dimension (i.e., affective) of the YPI exhibited larger effect sizes than total score or other dimension scores, but the behavioral dimension of the PCL-YV had larger effect sizes than total score or other dimension scores. These mixed and non-statistically significant findings point to the notion that

perhaps a more comprehensive total score is optimal for research and clinical practice (instead of just using callous-unemotional traits, for example; da Silva et al., 2020).

Psychopathic Traits Largely Fail to Predict Official Arrests.

Both measures of juvenile psychopathy at both the continuous and categorical level largely failed to predict short- and long- term official arrests consistently, or at all. As these findings with official arrests as the outcome were less consistent than those with self-reported offending behavior, this highlights that psychopathy is not as reliable of predictor of official arrests as it is of the actual behavior that underlies these arrests. There is an increasing body of literature differentiating "successful" and "unsuccessful" psychopaths, with key differences in externalizing problems separating those high on psychopathy who offend and get caught (i.e., unsuccessful) and those who offend but go undetected (i.e., successful; Wallace et al., 2022). Future research may disentangle these differences to better understand differential predictive abilities of psychopathy measures to predict arrests versus offending behavior. Many seminal studies have used detection (i.e., arrest records) as the outcome, leaving the "dark figure" of crime still unclarified (Biderman & Reiss, 1967). Future studies further assessing the predictive nature of psychopathic traits measures should aim to use a more comprehensive of offending behavior rather than solely relying on arrest data.

Particularly in the analyses with official arrests as an outcome, although psychopathy was largely non-significant in the models, age remained a significant predictor for nearly all study timepoints. That is, younger age was more predictive of offending, consistent with the well-established age-crime curve finding, which holds that offending behavior peaks in adolescence and declines thereafter (Sweeten et al., 2013). So perhaps the pattern of results shown for youth deemed high on psychopathic traits in adolescence are really being influenced

by these age-related traits that may be unduly contributing to a total psychopathy score in juveniles.

Limitations.

Some limitations of the current study exist. First, this study was conducted in a sample of justice-involved youth adjudicated for serious, predominantly felony, offenses. Findings within this sample of youth could vary from youth who are not justice-involved, although variations in psychopathic traits scores may have less variability (e.g., lower base rates in the general population; Hare, 2003). Further, shared method variance between the YPI and offending behavior exists in this study, as both these measures are self-report. To guard against this, multiple methods of assessment, including the more comprehensive, interview-style PCL-YV was incorporated, which yielded very similar findings to the self-report YPI in both predicting future psychopathy and future offending. If this is the case then, although the PCL-YV is generally considered the gold standard of psychopathy assessment, perhaps the less costly and time consuming self-report YPI may be a more efficient way of screening for psychopathic traits.

Considerations for Assessment.

Despite these limitations, study findings clarify important considerations for both assessment and how these assessments may be used by policymakers and those making legal decisions. The construct of juvenile psychopathy, as discussed above, is questionable conceptually and therefore the validity of its measurement has also been in question. Some studies have found that, namely, for the PCL-YV in comparison to the adult version of it (i.e., the PCL-R), some items are being misinterpreted, reflect different dimensions for different samples, or they are not reliably being measured (Ellingwood et al., 2017). One incredibly important consideration of this line of work is the potential harm that can be caused by unduly identifying a

youth as "psychopathic" and subjecting them to severe stigmatization. For this reason, it is of the utmost importance that further work elucidate the developmental appropriateness of such measures of juvenile psychopathy in order to further the work of identifying psychopathic traits in minors, particularly for the purposes of screening and intervention. Second, by learning more about the developmental pathways to adult psychopathy and about potential treatment opportunities for at-risk youth, perhaps the stigma surrounding the condition can be dismantled. Elucidating key features of the condition and intervention strategies can influence not only public discourse, but public policy as well.

Implications for Sentencing and Treatment.

For youth facing criminal charges, the use of psychopathic classifications can make the difference between legal decision makers pursuing rehabilitative efforts versus long-term punishment. Moreover, Rodgers and colleagues (2024) found that contact with the justice system and incarceration actually exacerbate the affective dimension of psychopathy in adolescents over time. What these results show is that using these classifications, especially in practice, are unreliable predictors for long-term future risk of both official arrests and offending behavior.

Finally, while psychopathic traits did show some evidence for predictive utility for risk of offending behavior in the short term, perhaps instead of using the PCL-YV as a risk assessment measure for legal decision making, resources may be best spent by instead using it as a diagnostic tool for treatment opportunity rather than long-term offending risk in adolescents. While psychopathy is often regarded as one of the most recalcitrant treatment populations, there is evidence for effective interventions on distinct facets of the construct, such as with cognitive affective deficits in decision making (Baskin-Sommers, 2015), which can be applied to goal-directed offending behavior. As these promising interventions have largely been implemented in

adults, the possibility of implementing earlier on in youth identified of being at-risk may be even more promising, in order to mitigate the effects of psychopathy on future outcomes. Of consequence, psychopathy has been conceptualized as a condition that both worsens over time and becomes progressively more resistant to treatment (da Silva et al., 2021; Caldwell et al., 2012). Some researchers posit that for personality conditions like psychopathy, the best time to intervene is early in life (da Silva et al., 2012), and failing to acknowledge the existence of "juvenile psychopathy" because of its mis-application in the courtroom and in public discourse may lead to missed treatment opportunity. Because of this, future work should build on pursuing avenues of early assessment and screening which may importantly serve to intervene in the progression of psychopathy, instead of using its assessment merely as a predictive tool for long-term recidivism risk.

References

Andershed, H. A., Kerr, M., Stattin, H., & Levander, S. (2002). Psychopathic traits in non-

referred youths: A new assessment tool.

Baskin-Sommers, A. R., Curtin, J. J., & Newman, J. P. (2015). Altering the cognitive-affective

dysfunctions of psychopathic and externalizing offender subtypes with cognitive

remediation. Clinical Psychological Science, 3(1), 45-57. DOI:

10.1177/2167702614560744

Biderman, A. D., & Reiss Jr, A. J. (1967). On exploring the" dark figure" of crime. *The Annals*

of the American Academy of Political and Social Science, 374(1), 1-15.

https://doi.org/10.1177/000271626737400102

Boccaccini, M. T., Murrie, D. C., Clark, J. W., & Cornell, D. G. (2008). Describing, diagnosing,

and naming psychopathy: How do youth psychopathy labels influence jurors?.

Behavioral sciences & the law, 26(4), 487-510. https://doi.org/10.1002/bsl.821

Caldwell, M. F., McCormick, D., Wolfe, J., & Umstead, D. (2012). Treatment-related changes in

psychopathy features and behavior in adolescent offenders. *Criminal Justice and*

Behavior, 39, 144–155. https://doi.org/10.1177/0093854811429542

Cauffman, E., Kimonis, E. R., Dmitrieva, J., & Monahan, K. C. (2009). A multimethod

assessment of juvenile psychopathy: comparing the predictive utility of the PCL: YV,

YPI, and NEO PRI. *Psychological assessment*, 21(4), 528.

https://doi.org/10.1037/a0017367

Cauffman, E., Skeem, J., Dmitrieva, J., & Cavanagh, C. (2016). Comparing the stability of

psychopathy scores in adolescents versus adults: How often is "fledgling psychopathy"

misdiagnosed?. *Psychology, Public Policy, and Law*, 22(1), 77.

https://doi.org/10.1037/law0000078

Cauffman, E., & Steinberg, L. (2000). (Im) maturity of judgment in adolescence: Why

adolescents may be less culpable than adults. Behavioral sciences & the law, 18(6), 741-

760. https://doi.org/10.1002/bsl.416

Cleckley, H. (1976). The mask of sanity (5th ed.). St. Louis, MO: Mosby.

Colins, O. F., Andershed, H., Salekin, R. T., & Fanti, K. A. (2018). Comparing different

approaches for subtyping children with conduct problems: Callous-unemotional traits

only versus the multidimensional psychopathy construct. *Journal of Psychopathology

and Behavioral Assessment,* 40, 6–15. https://doi.org/10.1007/s10862-018-9653-y

Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a

hierarchical model. *Psychological Assessment, 13*(2), 171-188.

https://doi.org/10.1037/1040-3590.13.2.171

Corrado, R. R., McCuish, E. C., Hart, S. D., & DeLisi, M. (2015). The role of psychopathic traits

and developmental risk factors on offending trajectories from early adolescence to

adulthood: A prospective study of incarcerated youth. *Journal of Criminal Justice*, 43(4),

357-368. https://doi.org/10.1016/j.jcrimjus.2015.04.007

da Silva, D. R., Rijo, D., & Salekin, R. T. (2020). Psychopathic traits in children and youth: The

state-of-the-art after 30 years of research. *Aggression and violent behavior*, 55, 101454.

https://doi.org/10.1016/j.avb.2020.101454

De Brito, S. A., Forth, A. E., Baskin-Sommers, A. R., Brazil, I. A., Kimonis, E. R., Pardini, D.,

Frick, P. J., Blair, R. J. R., & Viding, E. (2021). Psychopathy. *Nature Reviews Disease

Primers*, 7(1), 49.

Docherty, M., Beardslee, J., Byrd, A. L., Yang, V. J. H., & Pardini, D. (2019). Developmental

    trajectories of interpersonal callousness from childhood to adolescence as predictors of

    antisocial behavior and psychopathic features in young adulthood. *Journal of Abnormal*

    Psychology, 128(7), 700–709. https://doi.org/10.1037/abn0000449

Dolan, M. C., & Rennie, C. E. (2007). Is juvenile psychopathy associated with low anxiety and

    fear in conduct-disordered male offenders?. *Journal of anxiety disorders*, *21*(8), 1028-

    1038. https://doi.org/10.1016/j.janxdis.2006.11.008

Edens, J. F., Skeem, J. L., Cruise, K. R., & Cauffman, E. (2001). Assessment of "juvenile

    psychopathy" and its association with violence: A critical review. *Behavioral Sciences &*

    the Law, *19*(1), 53-80. https://doi.org/10.1002/bsl.425

Ellingwood, H., Emeno, K., Bennell, C., Forth, A., Kosson, D., & Hare, R. D. (2017).

    Multidimensional scaling analysis of psychopathy in male juveniles using the PCL: YV.

    Journal of criminal psychology, 7(4), 262-279. DOI: 10.1108/JCP-03-2017-0019

Farrington, D. P. (2005). The importance of child and adolescent psychopathy. *Journal of*

    abnormal child psychology, *33*(4), 489-497. https://doi.org/10.1007/s10802-005-5729-8

Forth, A. E., & Kosson, D. S. (2003). *Hare psychopathy checklist: Youth version* (pp. 1-52).

    Toronto: Multi-Health Systems.

Frick, P. J., & White, S. F. (2008). Research review: The importance of callous-unemotional

    traits for developmental models of aggressive and antisocial behavior. *Journal of child*

    psychology and psychiatry, 49(4), 359-375. https://doi.org/10.1111/j.1469-

    7610.2007.01862.x`

Gardner, W., Mulvey, E. P., & Shaw, E. C. (1995). Regression analyses of counts and rates: Poisson, overdispersed Poisson, and negative binomial models. *Psychological bulletin*, 118(3), 392. https://doi.org/10.1037/0033-2909.118.3.392

Glover, A. J., Nicholson, D. E., Hemmati, T., Bernfeld, G. A., & Quinsey, V. L. (2002). A comparison of predictors of general and violent recidivism among high-risk federal offenders. *Criminal justice and behavior*, *29*(3), 235-249. https://doi.org/10.1177/0093854802029003

Gretton, H. M., Hare, R. D., & Catchpole, R. E. H. (2004). Psychopathy and Offending From Adolescence to Adulthood: A 10-Year Follow-Up. *Journal of Consulting and Clinical Psychology*, 72(4), 636–645. https://doi.org/10.1037/0022-006X.72.4.636

Hare, R. D. Hare Psychopathy Checklist-Revised (PCL-R) 2nd edn (Multi-Health Systems, 2003).

Hare, R. D., & Neumann, C. S. (2010). The role of antisociality in the psychopathy construct: Comment on Skeem and Cooke (2010). Psychological Assessment, 22(2), 446–454. https://doi.org/10.1037/a0013635

Hawes, S. W., Byrd, A. L., Waller, R., Lynam, D. R., & Pardini, D. A. (2017). Late childhood interpersonal callousness and conduct problem trajectories interact to predict adult psychopathy. *Journal of Child Psychology and Psychiatry*, 58(1), 55-63. https://doi.org/10.1111/jcpp.12598

Huizinga, D., Esbensen, F., & Weihar, A. (1991). Are there multiple paths to delinquency? *Journal of Criminal Law and Criminology*, 82, 83-118.

Jones, S., & Cauffman, Ph. D, E. (2008). Juvenile psychopathy and judicial decision making: An

    empirical analysis of an ethical dilemma. *Behavioral sciences & the law*, 26(2), 151-165.

    https://doi.org/10.1002/bsl.792

Kendler, K. S., Gardner, C. O., & Lichtenstein, P. (2009). A developmental twin study of

    symptoms of anxiety and depression: Evidence for genetic innovation and attenuation.

    Psychological Medicine, 38, 1567-1575. doi:10.1017/S003329170800384X

Klimstra, T. (2013). Adolescent personality development and identity formation. *Child

    Development Perspectives*, 7, 80 – 84. http://dx.doi.org/ 10.1111/cdep.12017

Lee, Y., & Kim, J. (2021). Psychopathic traits among serious juvenile offenders: Developmental

    pathways, multidimensionality, and stability. *Crime & Delinquency*, *67*(1), 82-110.

    https://doi.org/10.1177/0011128720926120

Lussier, P., McCuish, E., & Corrado, R. (2022). Psychopathy and the prospective prediction of

    adult offending through age 29: Revisiting unfulfilled promises of developmental

    criminology. *Journal of Criminal Justice*, 80, 101770.

    https://doi.org/10.1016/j.jcrimjus.2020.101770

Lynam, D. R., Caspi, A., Moffitt, T. E., Loeber, R., & Stouthamer-Loeber, M. (2007).

    Longitudinal evidence that psychopathy scores in early adolescence predict adult

    psychopathy. *Journal of abnormal psychology*, 116(1), 155.

    https://doi.org/10.1037/0021-843X.116.1.155

Lynam, D. R., Miller, D. J., Vachon, D., Loeber, R., & Stouthamer-Loeber, M. (2009a).

    Psychopathy in adolescence predicts official reports of offending in adulthood. *Youth

    Violence and Juvenile Justice*, 7(3), 189-207.

Lynam, D., Charnigo, R., Moffitt, T., Raine, A., Loeber, R., & Stouthamer-Loeber, M. (2009b). The stability of psychopathy across adolescence. *Development and Psychopathology*, 21(4), 1133-1153. doi:10.1017/S0954579409990083

McMahon, R. J., Witkiewitz, K., Kotler, J. S., & The Conduct Problems Prevention Research Group. (2010). Predictive validity of callous–unemotional traits measured in early adolescence with respect to multiple antisocial outcomes. *Journal of Abnormal Psychology*, 119(4), 752–763. https://doi.org/10.1037/a0020796

McCuish, E. C., Mathesius, J. R., Lussier, P., & Corrado, R. R. (2018). The cross-cultural generalizability of the Psychopathy Checklist: Youth Version for adjudicated indigenous youth. *Psychological Assessment*, 30(2), 192. https://doi.org/10.1037/pas0000468

Mulvey, E. P. (2004). Introduction: Pathways to Desistance Study. *Youth Violence and Juvenile Justice*. https://doi.org/10.1177/1541204004266287

Neumann, C., Wampler, M., Taylor, J., Blonigen, D. M., & Iacono, W. G. (2011). Stability and invariance of psychopathic traits from late adolescence to young adulthood. *Journal of Research in Personality*, 45(2), 145-152. https://doi.org/10.1016/j.jrp.2010.12.003

Neumann, C. S., & Pardini, D. (2014). Factor structure and construct validity of the Self-Report Psychopathy (SRP) Scale and the Youth Psychopathic Traits Inventory (YPI) in young men. *Journal of personality disorders,* 28(3), 419-433.

Piquero, A. R., Schubert, C. A., & Brame, R. (2014). Comparing Official and Self-report Records of Offending across Gender and Race/Ethnicity in a Longitudinal Study of Serious Youthful Offenders. *Journal of Research in Crime and Delinquency*, 51(4), 526-556. https://doi.org/10.1177/0022427813520445

Petrila, J., & Skeem, J. L. (2003). An introduction to the special issues on juvenile psychopathy and some reflections on the current debate. *Behavioral Sciences & the Law*, 21(6). DOI: 10.1002/bsl.569

Piquero, A. R., Farrington, D. P., & Blumstein, A. (2003). The criminal career paradigm. *Crime and Justice*, *30*, 359–506. https://doi.org/10.1086/652234

Rodgers, E.L., Cauffman, E. (In Press). Re-arrest is associated with heightened callous-unemotional traits: No moderating effect of maternal relationship quality. *Law and Human Behavior.*

Salihovic, S., Özdemir, M., & Kerr, M. (2014). Trajectories of adolescent psychopathic traits. *Journal of Psychopathology and Behavioral Assessment*, *36*(1), 47-59. https://doi.org/10.1007/s10862-013-9375-0

Sandvik, A. M., Hansen, A. L., Kristensen, M. V., Johnsen, B. H., Logan, C., & Thornton, D. (2012). Assessment of psychopathy: Inter-correlations between psychopathy checklist revised, comprehensive assessment of psychopathic personality–institutional rating scale, and self-report of psychopathy scale–III. *International Journal of Forensic Mental Health*, 11(4), 280-288. https://doi.org/10.1080/14999013.2012.746756

Scurich, N. (2020). Introduction to this special issue: Underreporting of sexual abuse. *Behavioral Sciences & the Law*, 38(6), 537-656. DOI: 10.1002/bsl.2491

Seagrave, D., & Grisso, T. (2002). Adolescent development and the measurement of juvenile psychopathy. *Law and human behavior*, 26(2), 219-239.

Serin, R. C., Mailloux, D. L., & Malcolm, P. B. (2001). Psychopathy, deviant sexual arousal, and recidivism among sexual offenders. *Journal of Interpersonal Violence*, *16*(3), 234-246. https://doi.org/10.1177/088626001016003004

Shepherd, S. M., & Strand, S. (2016). The utility of the Psychopathy Checklist: Youth Version

(PCL: YV) and the Youth Psychopathic Trait Inventory (YPI)—Is it meaningful to

measure psychopathy in young offenders? *Psychological Assessment*, 28(4), 405–415.

https://doi.org/10.1037/pas0000182

Skeem, J. L., & Cauffman, E. (2003). Views of the downward extension: Comparing the youth

version of the Psychopathy Checklist with the Youth Psychopathic Traits Inventory.

Behavioral Sciences & the Law, *21*(6), 737-770. https://doi.org/10.1002/bsl.563

Skeem, J. L., & Cooke, D. J. (2010). Is criminal behavior a central component of psychopathy?

Conceptual directions for resolving the debate. *Psychological Assessment*, 22, 433–445.

https://doi.org/10.1037/a0008512

Sweeten, G., Piquero, A.R. & Steinberg, L. Age and the Explanation of Crime, Revisited. *J

Youth Adolescence,* 42, 921–938 (2013). https://doi.org/10.1007/s10964-013-9926-4

Thornberry, T.P., Lizotte, A.J., Krohn, M.D., Farnworth, M. & Jang, S.J. (1994). Delinquent

peers, beliefs, and delinquent behavior: A longitudinal test of interactional theory.

Criminology, 32: 47-83.

Viding, E., & McCrory, E. J. (2018). Understanding the development of psychopathy: Progress

and challenges. *Psychological Medicine,* 48, 566–577. doi:10.1017/S0033291717002847

Viljoen, J. L., MacDougall, E. A., Gagnon, N. C., & Douglas, K. S. (2010). Psychopathy

evidence in legal proceedings involving adolescent offenders. *Psychology, Public Policy,

and Law,* 16(3), 254. https://doi.org/10.1037/a0019649

de Vogel, V., & Lancel, M. (2016). Gender differences in the assessment and manifestation of

psychopathy: Results from a multicenter study in forensic psychiatric patients.

International Journal of Forensic Mental Health, *15*(1), 97-110.

https://doi.org/10.1080/14999013.2016.1138173

Wallace, L., Fido, D., Sumich, A. L., & Heym, N. (2022). A systematic review on the current

conceptualisations of successful psychopathy. *Forensic Science International: Mind and*

Law, 3, 100076. https://doi.org/10.1016/j.fsiml.2022.100076