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Authors

Cauffman, E
Skeem, J
Dmitrieva, J
[et al.](#)

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Comparing the Stability of Psychopathy Scores in Adolescents Versus Adults: How Often Is “Fledgling Psychopathy” Misdiagnosed?

Elizabeth Cauffman
University of California, Irvine

Jennifer Skeem
University of California, Berkeley

Julia Dmitrieva
University of Denver

Caitlin Cavanagh
University of California, Irvine

Can psychopathy be identified as accurately during adolescence as adulthood? To address this developmental question, this study compared the stability of scores on the leading measure of psychopathy, the Psychopathy Checklist (PCL), among 202 adolescent ($M = 15.8$ years, $SD = 0.89$) and 134 adult ($M = 27.5$, $SD = 1.08$) offenders. Over a 2-year period, adolescents' total scores on the PCL ($r = .33$) were less stable than those of adults ($r = .71$). Adolescents' baseline PCL scores also weakly predicted psychopathy classifications 2 years later ($AUC = .62$), particularly compared with those of adults ($AUC = .85$). Finally, increases in psychosocial maturity over time predicted decreases in PCL scores for adolescents, but not adults. These results raise questions about reliance upon psychopathy measures to inform decisions about youthful offenders that will have long-term consequences.

Keywords: adolescent development, juvenile justice, personality, psychopathy

Psychopathy is a constellation of personality traits that includes superficial charm, lack of remorse, unreliability, poor judgment, and inadequately motivated antisocial behavior (Cleckley, 1941). Presumably, psychopathy is a personality disorder that represents a chronic pattern of behavior that is resistant to change over time (Lynam & Gudonis, 2005). There is considerable debate about whether psychopathy can be identified during adolescence (see Skeem, Polaschek, Patrick, & Lilienfeld, 2011)—a developmental period that includes profound changes in personality and identity formation (Klimstra, 2013). To address this concern, the goal of the present study was to compare adolescents and adults in (a) the stability of scores on a leading measure of psychopathy over a two year period, and (b) the utility of baseline assessments of psychopathy in predicting psychopathy classifications two years later. In addition, we explored psychosocial development as a mechanism for understanding how psychopathy scores change over time.

Application of Psychopathy Measures to Youth

Although research has yet to establish the appropriateness of this trend, the term “psychopathy” has been extended downward from adults to adolescents and children in legal contexts—along with assumptions and misconceptions about what psychopathy means (Edens & Vincent, 2008). Measures of juvenile psychopathy are being used to inform consequential decisions about youth in court cases (Viljoen, MacDougall, Gagnon, Douglas, & Crosby, 2009; Viljoen, MacDougall, Gagnon, & Douglas, 2010). Such decisions include whether to try a youth in juvenile or adult court and whether to focus sentencing on risk reduction or punishment (Penney & Moretti, 2005; Petrila & Skeem, 2003; Seagrave & Grisso, 2002; Viljoen et al., 2010). High psychopathy scores have been used to argue that defendants are dangerous and cannot be effectively treated (Viljoen et al., 2010). Similarly, studies of mock jurors (Blais & Forth, 2014a; Edens, Guy, & Fernandez, 2003), judges (Chauhan, Reppucci, & Burnette, 2007; Jones, & Cauffman, 2008), and juvenile probation officers (Murrie, Boccaccini, McCoy, & Cornell, 2007) indicate that labeling a youth as a psychopath conveys that the youth is more likely to reoffend, more likely to commit acts of violence, more dangerous to society, less credible, and less amenable to treatment.

The courts and clinical evaluators who inform have little empirical guidance for evaluating the appropriateness of this downward extension and for interpreting assessments of “juvenile psychopathy” (Blais & Forth, 2014b; Edens & Vincent, 2008; Hicks, Rogers, & Cashel, 2000). In the present study, we evaluated an implicit assumption that underpins legal applications of the downward extension, that is, the assumption that psychopathy measures capture a personality disorder that is as stable during adolescence as it is during adulthood. Although this assumption is at odds with

Elizabeth Cauffman, Department of Psychology and Social Behavior, University of California, Irvine; Jennifer Skeem, School of Social Welfare, University of California, Berkeley; Julia Dmitrieva, Department of Psychology, University of Denver; Caitlin Cavanagh, Department of Psychology and Social Behavior, University of California, Irvine.

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Correspondence concerning this article should be addressed to Elizabeth Cauffman, University of California, Irvine, 4308 Social and Behavioral Sciences, Irvine, CA 92697-7050. E-mail: cauffman@uci.edu

a wealth of literature in developmental psychology (Klimstra, 2013; Seagrave & Grisso, 2002), it arguably drives practical application of “juvenile psychopathy.”

Alternative Views of This “Downward Extension”

An Argument for the Downward Extension

Two schools of thought on the assessment of juvenile psychopathy have emerged. According to the dominant school, adult measures can be extended directly downward to capture what Lynam (1998) called “the fledgling psychopath.” The appeal of this approach lies in the value associated with early detection of psychopathy in adolescence: if psychopathy can be identified in youth, there may be an opportunity to preempt career criminality through early intervention (DeLisi & Piquero, 2011). In keeping with this perspective, most tools designed to assess juvenile psychopathy are derived from the leading assessment of *adult* psychopathy, the Psychopathy Checklist Revised (PCL-R, Hare, 2003). The assumption behind this derivation is that youth who manifest features like those of adults with psychopathy “will continue with antisocial behavior and go on to be adult psychopaths” (Harris, Skilling, & Rice, 2001, p. 205). This assumption is bolstered by common misconceptions that “psychopathic individuals are born, not made” and that “psychopathy is inalterable” (see Skeem et al., 2011).

Although there is little direct support for the assumption that psychopathic adolescents become psychopathic adults, there is evidence that measures of psychopathy have similar correlates, across adults and adolescents. These correlates include neuroanatomical variables (May & Beaver, 2014), personality features (e.g., high antagonism and low constraint; Lynam & Gudonis, 2005; cf. Salekin et al., 2005 on neuroticism), emotional processing (e.g., less responsiveness to negative emotional stimuli on laboratory tasks; Kimonis, Frick, Fazekas, & Loney, 2006, 2008; de Wied, van Boxtel, Matthys, & Meeus, 2012), and criminal behavior (Asscher et al., 2011; Edens & Campbell, 2007; Edens, Campbell, & Weir, 2007; Flexon & Meldrum, 2013; Leistico, Salekin, DeCoster, & Rogers, 2008). With respect to the last point, measures of psychopathy are often as predictive of reoffending as purpose-built risk assessment tools (DeMatteo, Edens, & Hart, 2010; Edens, Campbell, & Weir, 2007; Olver, Stockdale, & Wormith, 2009)—and most of their predictive utility is based on their assessment of antisocial behavior rather than interpersonal and affective features of psychopathy per se (Edens, Campbell, & Weir, 2007; Leistico et al., 2008; Olver, Stockdale, & Wormith, 2009; Stockdale, Olver, & Wong, 2010; Vincent, Terry, & Maney, 2009).

Taken as a whole, similarities in the structure and correlates of measures of psychopathy among youth and adults have led some scholars to view the downward extension of psychopathy as a success (e.g., Salekin & Lynam, 2010; Salekin, Rosenbaum, & Lee, 2008). Others acknowledge these similarities but are less sanguine about the downward extension, given (a) critical unanswered developmental questions about the approach (see Edens & Vincent, 2008; Hart, Watt, & Vincent, 2002; Skeem & Cauffman, 2003), and (b) weaknesses in state-of-the-art assessments of youth psychopathy (e.g., inconsistent factorial structure and predictive

validity, differential results by gender; Kotler & McMahon, 2010; Ribeiro da Silva, Rijo, & Salekin, 2013).

Developmental Concerns

According to a second school of thought, there are conceptual problems with extending the adult construct of psychopathy directly downward to youth. Because several features of adult psychopathy (e.g., sensation seeking, irresponsibility) are also relatively normative and ephemeral characteristics of adolescence (Edens, Skeem, Cruise, & Cauffman, 2001; Seagrave & Grisso, 2002), adult-derived measures of psychopathy may overpathologize adolescents. Specifically, during the transition from adolescence to adulthood, individuals develop greater capacity for (a) *responsibility*, which encompasses characteristics like self-reliance, clarity of identity, and independence; (b) *perspective*, which refers to one’s likelihood of considering situations from different viewpoints and placing them in broader social and temporal contexts; and (c) *temperance*, which refers to tendencies to limit impulsivity and to evaluate situations before acting (Cauffman & Steinberg, 2000; Steinberg & Cauffman, 1996). Because each of these domains of psychosocial maturity relates to some component of the adult conceptualization of psychopathy, adolescents’ scores on psychopathy assessments may change as they mature psychosocially.

Some components or “factors” of psychopathy delineated by the PCL family of measures theoretically are more related to psychosocial maturity than other factors. The “Interpersonal” scale (Factor 1) describes deficits in one’s ability to interact sincerely and appropriately with others, including such traits as lying, manipulativeness, and superficial charm (Skeem et al., 2011)—and bears little conceptual relation to psychosocial maturity (see Lievens & Sackett, 2012; Thomaes, Brummelman, Reijntjes, & Bushman, 2013; Vater et al., 2014). In contrast, the “Affective” scale (Factor 2) includes a lack of remorse and failure to accept responsibility for one’s actions (Skeem et al., 2011), and theoretically is unstable during the transition to adulthood because responsibility helps define psychosocial maturity (Cauffman & Steinberg, 2000). The “Lifestyle/Impulsive” scale (Factor 3) describes one’s engagement in impulsive behavior and need for stimulation (Skeem et al., 2011), and theoretically is unstable during the transition to adulthood because heightened sensation seeking is normative among individuals ages 12 to 15, and gains in impulse control occur throughout adolescence and well into young adulthood (Steinberg et al., 2008). Finally, the “Antisocial” scale (Factor 4) describes one’s history of criminal and antisocial behavior, including early behavior problems (Skeem et al., 2011). Given that adolescence is a period when delinquent behavior temporarily increases (Moffitt, 2007) and that antisocial behavior is related to concurrent psychosocial maturity (Monahan, Steinberg, Cauffman, & Mulvey, 2013), Factor 4 may be an age inappropriate marker of psychopathy.

As yet, there is no direct support for these developmental hypotheses. There is, however, evidence that (a) adolescents’ scores on the PCL:YV are inversely associated with psychosocial maturity (Skeem & Cauffman, 2003), (b) adolescents obtain their highest average scores on PCL items of *need for stimulation*, *impulsivity*, *poor behavioral controls*, and *early behavioral problems* in nonoffender, community-based samples (Forth & Burke, 1998), and (c) estimates of “impulsive antisociality” features of

psychopathy decline from late adolescence to early adulthood (Blonigen et al., 2006). As shown below, there is also preliminary evidence that the stability of psychopathy scores during the transition from adolescence to adulthood is low to moderate. Taken as a whole, some scholars believe that this evidence is sufficient to raise serious concerns that scores on PCL family of measures of psychopathy—particularly certain factors—may be inflated by temporary characteristics of adolescence.

Stability of Psychopathy Scores Over Time

Generally, research suggests that personality is “set in clay, not plaster” (Clark, 2007; Roberts & Mroczek, 2008). Even in adulthood, traits exhibit some degree of change. But longitudinal studies indicate that traits are less stable during adolescence than adulthood—rank-order stability of personality increases in a linear fashion with age (Caspi, Roberts, & Shiner, 2005). Moreover, traits like agreeableness, emotional stability, and conscientiousness increase with maturity (Caspi, Roberts, & Shiner, 2005). For these reasons, clinicians are explicitly instructed to diagnose personality disorders among youth only “in those relatively unusual instances in which the individual’s particular maladaptive personality traits appear to be pervasive, persistent, and unlikely to be limited to a particular developmental stage” (American Psychiatric Association, 2013, p. 647).

Several studies have directly explored the stability of scores on measures of psychopathy, yielding results that vary—perhaps as a function of participants’ developmental stages and how what components of psychopathy are examined. First, a handful of studies suggest that total psychopathy scores are quite stable during childhood and adolescence. Among a sample of children followed from 3rd to 7th grade (ages 7 to 11, roughly), Frick, Kimonis, Dandreaux, and Farell (2003) observed excellent agreement across time within parents’ total ratings of psychopathy ($ICC = .80$). Lynam and colleagues (2009) followed a community sample of high risk males from age 7 to age 17 and found moderate to high stability on a measure of psychopathy (average ICC over the 5-year period was $.56$). Based on a sample of 875 schoolchildren ages 13–15, who were followed annually for four years, Salihovic, Kerr, Özdemir, and Pakalniskiene (2012) found strong correlations of YPI scores between time points ($r_s = .52-.76$). Finally, a study of twins assessed at 16 and 19 years reported moderate to good stability of total self-reported psychopathy scores for both males ($r_s = .43-.61$) and females ($r_s = .51-.58$; see Forsman, Lichtenstein, Andershed, & Larsson, 2008).

Second, some studies indicate that mean levels of psychopathic traits generally decrease from late adolescence into early adulthood (Hawes, Mulvey, Schubert, & Pardini, 2014; Salihovic, Özdemir, & Kerr, 2014). This decrease in scores could relate inversely to individuals’ age at the time of the baseline assessment (Frick, Ray, Thornton, & Kahn, 2014). For example, Lee and colleagues (2009) found that adolescent offenders’ total PCL:YV scores were quite stable over a 6-month period (G coefficient = $.75$)—but this was more true of older adolescents (17–20 years old) than their younger counterparts (14–16 years old).

Third, some studies suggest that core interpersonal and affective traits of psychopathy (e.g., PCL Factors 1 & 2) are more stable than impulsive and antisocial behavior (e.g., PCL Factors 3 & 4). Specifically, based on a sample of twins who completed a self

report measure of psychopathic features at age 17 and again at age 24, Blonigen and colleagues (2006) found good stability for core interpersonal and affective features ($r = .60$), but only fair stability for features of impulsive antisociality ($r = .47$). Similarly, cross-sectional studies of 13- to 19-year-old offenders (Brandt, Kennedy, Patrick, & Curtin, 1997) and of 16- to 69-year-old individuals (Harpur & Hare, 1994) suggest that scores on the PCL’s impulsive and antisocial scales (but not the interpersonal and affective scales) decrease significantly with age.

To date, only three studies have prospectively examined the stability of psychopathy scores across the transition from adolescence to adulthood. Two of these studies measured total psychopathy scores, and both revealed low to moderate stability for total psychopathy scores ($r = .31$, Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007; $r = .39$, Hawes et al., 2014), as well as subscales assessing antisocial behavior ($r_s = .28-.33$, Lynam et al., 2007, $r = .34$, Hawes et al., 2014). Both Hawes and colleagues (2014) and Salihovic and colleagues (2014) found only moderate stability for the interpersonal ($r = .39$, Hawes et al., 2014; $r = .57$, Salihovic et al., 2014) and affective ($r = .35$, Hawes et al., 2014; $r = .36$, Salihovic et al., 2014) subscales of the YPI. In contrast with most past research, Lynam and colleagues (2007) observed particularly low stability ($r_s = .15-.19$) for the interpersonal and affective subscales, using the CPS at age 13 and the PCL-SV at age 24.

Because both of these studies used different measures of psychopathy at the assessment time points, it is difficult to determine the extent to which these results reflect instability of psychopathy estimates from adolescence to adulthood—or measurement error. Even when administered at a single time point, alternative measures of psychopathy manifest low rates of agreement in classifying youth as psychopathic (Cauffman, Kimonis, Dmitrieva, & Monahan, 2009).

In the present study, the same measures are used to examine the stability of psychopathy scores over time. Moreover, we followed both an adolescent and a young adult sample to answer the question, “Stable, compared with what?” As noted earlier, assumptions that underpin legal applications of these measures assume that psychopathy is similarly stable in adolescence and adulthood. These assumptions run counter to longitudinal evidence that the rank-order stability of personality increases with age (Caspi, Roberts, & Shiner, 2005).

Focus of the Present Study

This study was responsive to calls to address the stability of psychopathy measures from adolescence to adulthood among high risk populations in which important legal decisions are made (Lee et al., 2009; Lynam et al., 2009; Salekin, Rosenbaum, & Lee, 2008). It was the first study to compare the stability of adolescents’ PCL:YV scores to adults’ PCL:R scores, and to do so in light of normative developmental changes.

Our first aim was to compare adolescents and adults in (a) the stability of their PCL scores over a two year period, and (b) the utility of baseline PCL scores in predicting psychopathy classifications two years later. We hypothesized that adolescents’ PCL scores would change significantly more than adults’ PCL scores, a finding that would call into question the assumption that the PCL family of measures identifies youth and adults with similarly stable

traits of psychopathy. Our second aim was to explore psychosocial maturity as a mechanism for instability in psychopathy scores. Specifically, we tested our hypothesis that increases in developmental maturity predict decreases in PCL scores. As suggested by the “maturity principle” of personality development (Caspi, Roberts, & Shiner, 2005), traits of agreeableness, conscientiousness, and emotional stability increase as adolescents become more psychosocially mature. Given that such traits relate inversely to indices of psychopathy, we expected increases in maturity (i.e., responsibility, perspective, temperance) to predict decreases in PCL scores.

If transient features of adolescence influence PCL score, then the utility of the PCL:YV in identifying “fledgling” psychopathy is limited. On the other hand, if PCL scores are similarly stable over time among adolescents and adults, it may be appropriate to extend these measures downward and use them to inform legal decisions about youth that have long-term consequences.

Method

Participants

Data were collected from 202 male juvenile offenders and 134 male adult offenders incarcerated in secure juvenile and adult (respectively) correctional facilities. The juveniles were between 14 and 17 years of age ($M = 15.8$, $SD = 0.89$ at baseline) and the adults were between 26 and 29 years of age ($M = 27.5$, $SD = 1.08$ at baseline). These ages reflect policy trends (adolescents may be prosecuted as adults beginning at age 14 in many jurisdictions; adults may be held in the juvenile justice system up to age 25 in some jurisdictions). The sample was ethnically diverse: African American (47%), Hispanic (13%), White (32%), and other (8%). According to institutional records, participants had an average of 6 ($SD = 13.9$) prior offenses.

Procedure

Recruitment focused on yielding roughly equal numbers of participants scoring in the “psychopathic” (total ≥ 25) and “non-psychopathic” (total < 25) range on the PCL:YV and PCL:R (Forth et al., 2003) to ensure adequate representation of participants with high scores. Baseline data were used to monitor the number of “psychopathic” and “non-psychopathic” participants during the recruitment process. Once the desired number of “non-psychopathic” participants was reached ($N = 144$ for adolescents and $N = 82$ for adults), a screening interview was implemented to subsequently select only participants in the “psychopathic” range ($N = 56$ for adolescents and $N = 52$ for adults) for inclusion in the remainder of the study.

Interviewers approached eligible inmates to describe the study and obtain informed consent for those 18 years and older and assent, as well as parent/guardian consent, from minors. Of the participants approached, 11% of youths refused, 4% of parents refused, and 13% of adults refused. After the baseline interview, participants completed follow-up interviews one month, one year, and two years after the baseline. Interviewers read the items of the self-report measures aloud to avoid potential problems with reading comprehension. Participants were paid for their participation (either directly or into their commissary when allowed by the

facility). The payment schedule was as follows: Screening interview: \$5; Baseline interview: \$10; 1-month interview: \$25; 12-month interview: \$50. The gradual increase in participant compensation was used as a means to minimize attrition. Participants also provided contact information for themselves and three friends or family members who were likely to know how to reach him at the time of the follow-up interviews to aid with participant location at subsequent interviews.

Retention rates were 93%, 83%, and 73% at the one-month and one- and two-year follow-up interviews, respectively. There were no differences in initial PCL:YV or psychosocial maturity scores between adolescents who were assessed at the two-year follow-up and those who were not. Retained adults displayed no differences in maturity scores, but exhibited marginally lower initial PCL-R scores (retained $M = 23.6$, $SD = 6.4$; not retained $M = 25.5$, $SD = 4.8$) than those who were not retained at the two-year follow-up, $t(132) = 1.95$, $p = .053$.

Measures

Psychopathy. The Psychopathy Checklist: Youth Version (PCL:YV; Forth et al., 2003) was used for participants under 18 years and the Psychopathy Checklist—Revised (PCL:R; Hare, 2003) was employed with adult participants. Following an interview with the participant as well as a review of institutional records, the interviewer used a three-point ordinal scale to indicate how well each of the 20 items on either the PCL:YV or PCL-R apply. At the follow-up interviews, interviews and record reviews emphasized the period that had passed since the last interview. As research has shown that personality traits change over time (Clark, 2007; Roberts et al., 2006), these procedures were used to provide PCL scores with the maximum opportunity for change. The average time between participants’ baseline and 1-year follow-up interview was 373 days ($SD = 38.9$). The average time between the one- and two-year follow-ups was 427 days ($SD = 88.6$).

Before completing any PCL ratings, research personnel ($n = 17$) completed 8 hours of training. This included reviewing and scoring 5 practice cases as well as observing and discussing two live interviews. To protect against rater drift, research personnel attended monthly meetings to discuss scoring issues, and rated 3 review cases during data collection. Interrater reliability was indexed by the intraclass correlation (ICC). An ICC of 0.75 or greater is considered “excellent,” .60–.74 “good,” 0.40–0.59 “fair,” and less than .40 “poor” (Cicchetti, 1994). For total scores, excellent levels of reliability were observed for the PCL-R ($ICC = .91$) and PCL:YV ($ICC = .81$). At the scale level, ICCs for the Interpersonal, Affective, Lifestyle, and Antisocial factors were .78, .84, .69, and .83 for the PCL-R, and for the .71, .47, .73, and .75 PCL:YV, respectively. These estimates fall in the good to excellent range, with the exception of the only “fair” estimate for the PCL:YV Affective factor.

Higher scores on the PCL family of measures indicate more characteristics of psychopathy; those who score above a cut-off of 30, by tradition (Hare, 2003), are deemed in the psychopathic range. As suggested earlier, the PCL is designed to have four scales: Interpersonal, Affective, Impulsive, and Antisocial (Hare, 2003). Because practitioners are likely to rely on the PCL as a whole, our analyses include all four scales.

Psychosocial maturity. Maturity was assessed based on self-report measures of responsibility (Greenberger, Josselson, Knerr, & Knerr, 1975), social perspective (Weinberger & Schwartz, 1990), future perspective (Cauffman & Woolard, 1999), and temperance (Weinberger & Schwartz, 1990). Previous cross-sectional and longitudinal research suggests that these measures are reliable indices of the development of mature judgment (Cauffman & Steinberg, 2000; Modecki, 2008), even within samples of juvenile offenders (Monahan, Steinberg, Cauffman, & Mulvey, 2009). The construct validity of each measure is outlined below.

Responsibility. Responsibility was assessed using the personal responsibility scale of the Psychosocial Maturity Inventory ($\alpha = .84$) (PSMI Form D; Greenberger & Bond, 1976; Greenberger & Sørensen, 1974). Items on the personal responsibility scale tap self-reliance, identity, and work orientation. Self-reliance measures feelings of internal control and the ability to make decisions without extreme reliance on others (e.g., “Luck decides most things that happen to me” [reverse]). Identity measures self-esteem, clarity of the self, and consideration of life goals (e.g., “I change the way I feel and act so often that I sometimes wonder who the ‘real’ me is” [reverse]). Work orientation measures the adolescent’s pride in the successful completion of tasks (e.g., “I hate to admit it, but I give up on my work when things go wrong” [reverse]). These scales each contain 10 items to which subjects respond on a 4-point Likert scale ranging from *strongly agree* to *strongly disagree*, with higher scores indicating more responsible behavior. As a scale, the PSMI conforms to its hypothesized factor structure (Greenberger & Sørensen, 1974) and has demonstrated convergent and discriminant validity (Greenberger & Sørensen, 1974; Josselson, Greenberger, & McConochie, 1975). The total score was used as an indicator of responsibility in the current study.

Social perspective. The ability to take other people’s perspectives into account was measured using a subscale from the Weinberger Adjustment Inventory (WAI; Weinberger & Schwartz, 1990). The WAI asks participants to describe themselves on a 5-point Likert scale (1 = *almost never* to 5 = *almost always*) regarding what they have usually been like or felt like over the past year or more. The 5-item “consideration of others” scale ($\alpha = .78$) consists of items such as, “before I do something, I think about how it will affect the people around me.” Studies of the reliability, convergent and divergent validity, and factor structure of the WAI are encouraging (for a review, see Farrell & Sullivan, 2000; see also Farrell & Danish, 1993; Miller & Byrnes, 2001; Weinberger, 1996).

Temperance. The Weinberger Adjustment Inventory (WAI; Weinberger & Schwartz, 1990) was also used to assess impulse control (e.g., “I do things without giving them enough thought” [reverse coded]; $\alpha = .73$) and suppression of aggression (e.g., “I lose my temper and ‘let people have it’ when I’m angry” [reverse coded]; $\alpha = .79$). The psychometric properties of the WAI are discussed above.

Future perspective. The ability to foresee short- and long-term consequences was assessed with the 8-item Future Outlook Inventory (FOI; Cauffman & Woolard, 1999). Although the validity of this instrument is still being assessed, our data suggest that it has good internal consistency ($\alpha = .73$). The FOI asks participants to rate from 1 (*never true*) to 4 (*always true*) the degree to which each statement applies to them (e.g., “I will keep working at

difficult, boring tasks if I know they will help me get ahead later”), with higher scores indicating a greater degree of future consideration and planning.

Maturity. A composite of psychosocial maturity was created by standardizing the various measures of maturity (across all time points and the two age groups, to preserve age-related differences in psychosocial maturity) and creating an average maturity score. The factor structure of the psychosocial maturity was assessed using confirmatory factor analysis. The models with the three first-order factors (i.e., responsibility, perspective, and temperance) and the second-order psychosocial maturity factor had a good fit: $\chi^2(6) = 12.17, p = .058$; CFI = .97; RMSEA = .07 for adolescents and $\chi^2(6) = 9.30, p = .16$; CFI = .98; RMSEA = .06 for adults. Consistent with previous research, juveniles scored significantly lower on all aspects of psychosocial maturity ($M = -.33$ total psychosocial maturity for adolescents and $M = .26$ for adults, $t(332) = 8.37, p < .001$) than adults.

Plan of Analysis

Five analytic strategies were employed to compare the stability of PCLYV and PCL:R scores for adolescents and adults, respectively. First, zero-order correlations between baseline and the one- and two-year follow-up PCL scores were computed to assess the general association across these assessment intervals. Importantly, these correlations were adjusted for attenuation due to test–retest reliability (which was estimated with baseline and 1-month follow-up data and correlations; Skeem & Cauffman, 2003). Second, baseline to year-one and year-two follow-up PCL scores were compared using intraclass correlation coefficients (ICCs)—a measure of stability in participants’ scores and rank order. Third, we compared the stability of categorical classifications on the PCL measures across the one- and two-year intervals. Fourth, we applied latent growth curve modeling to estimate changes in PCL and maturity scores as a function of age (age 14 to 19 for adolescents and 26 to 31 for adults), using multiple group analysis to test for differences between adolescents and adults in those changes. Finally, a cross-lagged autoregressive model was used to estimate the extent to which increases in psychosocial maturity predicted decreases in psychopathy and vice versa (this method was chosen over dual-process latent growth modeling because we wished to explore the directionality of the association between the measures of psychopathy and psychosocial maturity). The latent growth curve and the cross-lagged autoregressive models were estimated with Mplus 4.2 (Muthén & Muthén, 2004).

Results

Stability of Psychopathy Scores Over Two Years

Based on Cohen’s (1988) guidelines (weak = .1 to .3; moderate = .3–.5; strong = >.5), zero-order correlations between baseline assessments and one- and two-year follow-ups indicated weak-to-moderate stability in PCL:YV scores for adolescents and moderate-to-strong stability in PCL:R scores for adults (see Table 1). Although all correlations between the baseline and follow-ups were significant for the adult sample, the correlations for the adolescent sample on the Affective and Lifestyle Factors were not significant. Tested with r-to-z transformations, stability was sig-

Table 1

Zero-Order Correlations and Intraclass Correlation Coefficients of Psychopathy Checklist Scores at Baseline Versus at Subsequent Follow-Ups

Baseline measures	Psychopathy Checklist (PCL)							
	Youth Version (PCL:YV)				Adult Version (PCL:R)			
	One year	Two years	One year adjusted ^a	Two years adjusted ^a	One year	Two years	One year adjusted ^a	Two years adjusted ^a
Zero-order correlations								
Total PCL	.41*	.33*	.52	.42	.56*	.71*	.65	.83
Interpersonal (Factor 1)	.39*	.37*	.59	.56	.32**	.47*	.42	.61
Affective (Factor 2)	.07	.07	.09	.09	.36*	.44*	.81	.66
Lifestyle (Factor 3)	.20**	.11	.39	.22	.40*	.44*	.72	.79
Antisocial (Factor 4)	.51***	.46***	.63	.57	.43***	.51***	.54	.64
Intraclass correlation coefficients								
Total PCL	.37*	.32*			.55*	.70*		
Interpersonal (Factor 1)	.39*	.36*			.32*	.47*		
Affective (Factor 2)	.07	.06			.36*	.42*		
Lifestyle (Factor 3)	.20**	.11			.38*	.43*		
Antisocial (Factor 4)	.47***	.46***			.42***	.52***		

^a Correlations were adjusted for the test-retest attenuation, calculated with the 1-month test-retest reliability estimates.

* $p < .05$. ** $p < .01$. *** $p < .001$.

nificantly higher for adults than adolescents for the Affective Factor at both year one ($z = 2.73, p < .01$) and year two ($z = 3.57, p < .001$), and for the Lifestyle Factor ($z = 3.22, p < .001$), and Total scores ($z = 4.84, p < .001$) at year two. These differences remained significant after adjusting for attenuation due to test-retest unreliability. There were no significant differences between adults and adolescents, however, for the stability of Interpersonal and Antisocial factors.

Although zero-order correlations describe the relative ordering of participants from occasion to occasion, they do not capture changes in group means. Intraclass correlation coefficients (ICCs) assess stability in relative ordering and absolute level of scores and, thus, provide a more stringent test of stability. ICCs were computed using a two-way mixed effects analysis of variance model, with administration time as a fixed factor and agreement defined as absolute (McGraw & Wong, 1996). Using Fleiss's (1981) classifications, results indicated "poor" to "fair" agreement across time for adolescents (ICC's = .07 to .39) and "fair" to "excellent" agreement for adults (ICC's = .32 to .70; see Table 1).

To rule out the possibility that the observed attenuation in PCL scores was a result of sample attrition, we imputed missing data and reran the correlation and ICC analyses. Specifically, we used Norm 2.03 (Schafer, 1997) software and multiple imputation. An EM algorithm was applied to incomplete data to obtain maximum-likelihood estimates of parameters. Based on these parameters, we created 20 datasets with imputed missing values. Zero-order correlations and ICCs were computed within each dataset and an average estimate (one for each of 10 correlations and 10 ICCs) was computed using SAS PROC MIANALYZE. As can be seen in Table 2, although the direction for the zero-order correlations and ICCs was consistent with those obtained from incomplete data, the magnitude of the associations declined for both the adolescent and the adult sample.

Next, scores were analyzed categorically to determine the stability of PCL psychopathy classifications over time, using the traditional diagnostic cut score of 30 (Forth et al., 2003). Specif-

ically, total PCL:YV and PCL:R scores at baseline were used to predict whether or not an individual was in the psychopathic range two years later using receiver operating characteristic (ROC) analyses. The measure of the area under the ROC curve (AUC) is an indication of how accurately a given scale classifies participants with and without a given diagnosis. If the scale operates at a chance level, then one month the AUC will be .50. The greater the AUC, the better the scale operates (greater sensitivity and specificity). As shown by Rice and Harris' analyses (1995), minimum AUCs of .56, .64, and .71 correspond to "small," "medium," and "large" effect sizes, respectively. Using this rubric, the AUC for

Table 2

Zero-Order Correlations and Intraclass Correlation Coefficients of Psychopathy Checklist Scores at Baseline Versus at Subsequent Follow-Ups: Analyses Using A Multiple Imputation Procedure

Baseline measures	Psychopathy Checklist (PCL)			
	Youth Version (PCL:YV)		Adult Version (PCL:R)	
	One year	Two years	One year	Two years
Zero-order correlations				
Total PCL	.28**	.27***	.39***	.43***
Interpersonal (Factor 1)	.30***	.30***	.24*	.28**
Affective (Factor 2)	.04	.06	.25*	.26*
Lifestyle (Factor 3)	.15	.10	.29**	.26**
Antisocial (Factor 4)	.37***	.38***	.34***	.29**
Intraclass correlation coefficients				
Total PCL	.27**	.26***	.39***	.43***
Interpersonal (Factor 1)	.29***	.30***	.24*	.28**
Affective (Factor 2)	.04	.06	.25*	.26*
Lifestyle (Factor 3)	.15	.10	.28**	.25**
Antisocial (Factor 4)	.36***	.37***	.34***	.29**

* $p < .05$. ** $p < .01$. *** $p < .001$.

adolescents was “small” ($AUC = .62$), whereas the AUC for adults was “large” ($AUC = .85$). Concretely, the AUC indicated, for example, that there is a 62% chance that an adolescent randomly selected from those classified psychopathic at year two had a higher score on the PCL:YV at baseline than an adolescent randomly selected from those not classified as psychopathic at year two.

To complement our ROC analyses, we computed traditional decision statistics for PCL classifications at baseline and year 2 (see Table 3). Sensitivity (likelihood of “psychopathic” diagnosis at baseline, given a “psychopathic” diagnosis at year 2) and negative predictive power (likelihood of not being considered “psychopathic” at year 2, given no “psychopathic” diagnosis at baseline) were moderate-to-high for both youths and adults. On the other hand, specificity (likelihood of not being considered “psychopathic” at baseline, given no “psychopathic” diagnosis at year 2) and positive predictive power (likelihood of “psychopathic” diagnosis at year 2, given a “psychopathic” diagnosis at baseline), were somewhat higher for adults than adolescents. For example, 53% of adults classified as “psychopathic” at baseline were also classified as “psychopathic” at year 2, compared with only 37% of adolescents.

We also examined changes in PCL scores by age using latent growth curve modeling (Bollen & Curran, 2006). We modeled developmental changes between the ages of 14 and 19 for adolescents and the ages of 26 and 31 for adults. The model estimated change for both youths and adults together, using a multigroup framework. Observations for the two groups were stacked, such that the intercept represented age-14 observations for adolescents and age-26 observations for adults; slope coefficient represented linear change for each year.

The multigroup model had a good fit (see Table 4). On average, adolescents had a PCL:YV score of 27.76 at the age of 14 and evinced a statistically significant decline of 0.66 points per year ($p < .001$). Adults, on average, had a PCL:R score of 24.61 at the age of 26 and exhibited a nonstatistically significant decline of 0.13 points per year ($p = .50$). There was a significant difference between adults’ and adolescents’ intercepts, that is, starting points, $\Delta\chi^2(1) = 12.15$, $p < .001$, but not between their slopes, that is, subsequent change in scores, $\Delta\chi^2(1) = 3.66$, $p = .06$. At the scale level, there were group differences in the trajectories of the Af-

fective and Antisocial Factor scores, but not the Interpersonal and Lifestyle Factors (see Table 4). Specifically, adolescents had higher Antisocial Factor intercepts than adults, $\Delta\chi^2(1) = 38.89$, $p < .001$, but did not differ from adults in their slopes. Adolescents and adults had similar Affective Factor intercepts, but adolescents evinced a significantly greater decline than adults, $\Delta\chi^2(1) = 6.61$, $p < .001$.

Stability of Psychosocial Maturity Scores Over Two Years

To determine whether and how changes in psychosocial maturity related to changes in PCL scores, we first evaluated the stability of the psychosocial maturity scores over time. Zero-order correlations indicated moderate-to-strong stability in psychosocial maturity scores for both adolescents and adults: $r = .70$, $p < .001$ for 1-year stability and $r = .56$, $p < .001$ for 2-year stability for adolescents and $r = .80$, $p < .001$ for 1-year stability and $r = .64$, $p < .001$ for 2-year stability for adults. Tested with r -to- z transformations, the correlation coefficients for adolescents and adults were not significantly different. Intraclass correlation coefficients yielded similar results: $.66$, $p < .001$ for 1-year stability and $.52$, $p < .001$ for 2-year stability for adolescents and $.76$, $p < .001$ for 1-year stability and $.63$, $p < .001$ for 2-year stability for adults.

To formally compare changes in maturity across the adolescent and adult samples, we conducted multigroup latent growth curve analysis. The model had a good fit: $\chi^2(14) = 21.86$, $p = .08$. As expected, adolescents had a significantly lower maturity intercept than adults. Maturity is a composite measure that ranges from -1.87 to 1.79 . The intercept was -0.53 for adolescents and 0.24 for adults, $\Delta\chi^2(1) = 54.66$, $p < .001$. Also as expected, adolescents evinced a significant 0.12 point per year increase in maturity scores ($SE = .02$, $p < .001$). Surprisingly, however, adults also experienced a significant 0.05 point per year increase in maturity scores ($SE = .02$, $p < .05$). Still, adolescents’ scores decreased significantly more than those of adults, $\Delta\chi^2(1) = 5.67$, $p < .05$. Thus, adolescents were less psychosocially mature at baseline than adults. Although adults’ maturity increased each year (reflecting some development), adolescents’ maturity increased significantly more during the same period.

The Relation Between Psychosocial Maturity and Psychopathy Scores

We used a set of cross-lagged autoregressive models (Curran & Bollen, 2001) to estimate how changes in maturity related to changes in psychopathy, separately for adolescents and adults. Two autoregressive chains—one for each variable (e.g., one for PCL total and one for psychosocial maturity)—were modeled over time,¹ and the two variables were linked through concurrent correlations and prospective cross-lagged coefficients (see Figure 1). The autoregressive and cross-lagged coefficients that modeled the same association across adjacent occasions were constrained to be

¹ Given our sample size, we did not perform this analysis over age. Analyzing a cross-lagged model over age would have resulted in a model with 32 parameters for each group—too many for our sample sizes of 202 adolescents and 134 adults. Therefore, age was used as a covariate for these models.

Table 3
Predicting Year 2 Psychopath Checklist Scores From
Baseline Scores

Measure	Youths	Adults
Sensitivity	.56	.63
Positive predictive power	.37	.53
Specificity	.69	.85
Negative predictive power	.83	.89

Note. Sensitivity = probability of being diagnosed with PCL psychopathy at baseline, given a psychopathy diagnosis at year 2. Positive predictive power = probability of being diagnosed with PCL psychopathy at year 2, given a psychopathy diagnosis at baseline. Specificity = probability of not being diagnosed with PCL psychopathy at baseline, given no psychopathy diagnosis at year 2. Negative predictive power = probability of not being diagnosed with PCL psychopathy at year 2, given no psychopathy diagnosis at baseline.

Table 4
Group Intercepts and Slopes (Standard Errors) for the Latent Growth Models of Change in Psychopathy Checklist Scores

Variable	Adolescent sample Mean (SE)	Adult sample Mean (SE)	$\Delta\chi^2(1)^a$
Total psychopathy scores			
Intercept	27.76 (.60)	24.61 (.63)	12.15***
Slope	-.66*** (.19)	-.13 (.20)	3.66†
Model fit ^b	$\chi^2(24) = 17.90, p = .81; CFI = 1.00, RMSEA = .000$		
Factor 1 – Interpersonal			
Intercept	4.54 (.22)	4.88 (.27)	.95
Slope	-.14* (.07)	-.12 (.09)	.02
Model fit ^b	$\chi^2(24) = 23.12, p = .51; CFI = 1.00, RMSEA = .000$		
Factor 2 – Affective			
Intercept	4.93 (.23)	4.82 (.22)	.11
Slope	-.25*** (.08)	.04 (.09)	6.61***
Model fit ^b	$\chi^2(24) = 20.66, p = .66; CFI = 1.00, RMSEA = .000$		
Factor 3 – Lifestyle			
Intercept	7.00 (.18)	6.76 (.21)	.71
Slope	-.03 (.07)	-.15* (.08)	1.44
Model fit ^b	$\chi^2(24) = 26.47, p = .23; CFI = .94, RMSEA = .035$		
Factor 4 – Antisocial			
Intercept	8.48 (.19)	6.45 (.26)	38.89***
Slope	-1.14 (.62)	-.81 (.91)	.09
Model fit ^b	$\chi^2(24) = 28.85, p = .23; CFI = .96, RMSEA = .035$		

^a Delta chi-square for testing the differences among the adolescent and adult estimates of the growth curve intercept and slope (i.e., chi-square change attributable to equality constraints imposed across the adolescent and adult groups). ^b Model fit statistics for the overall model testing adolescent and adult trajectories (intercept and slope are allowed to vary across the adolescent and adult groups).

† $p = .056$. * $p < .05$. ** $p < .01$. *** $p < .001$.

equal over time (e.g., the effect of Maturity₁ on PCL₂ equals the effect of Maturity₂ on PCL₃). This is a commonly used set of model specifications that aids model-identification (Bollen & Curran, 2004). Because psychosocial maturity and psychopathy develop over age, these models controlled for participants' age.² All models had a good fit (Hu & Bentler, 1999), with CFI ranging from .95 to .96 and RMSEA ranging from .05 to .07.

As shown in Figures 1, 2, and 3, for adolescents, greater maturity scores at Time X were associated with lower total PCL, Lifestyle Factor, and Antisocial Factor scores at Time X + 1 year. However, the reverse was not true: lower PCL scores were not associated with higher or lower maturity scores a year later. There were no significant effects for adolescents' Interpersonal and Affective scores (see Table 5). For adults, changes in maturity were not associated with subsequent changes in total PCL:R scores or the four PCL:R factor scores (see Table 5). Furthermore, changes in the total and the factor PCL:R scores did not predict changes in maturity.

Alternate Treatment of Missing Data

Notably, the latent growth curve and cross-lagged analyses described above utilized full information maximum likelihood (FIML) estimator to handle missing data, which uses all available data points to construct the best possible solution. An alternative for treating missing data is with multiple imputation (Schafer, 1997). FIML and multiple imputation outperform other approaches for handling missing data in Monte Carlo simulation studies (Enders & Bandalos, 2001). We tested the robustness of our FIML results by generating 20 missing-imputed datasets (using Norm

2.03; (Schafer, 1997), running the latent growth curve and cross-lagged models on each of those datasets, and then integrating each set of resulting estimates into a single estimate (using the Mplus type = imputation command, Muthén & Muthén, 2004). This alternate treatment of missing data yielded estimates that were similar in their direction and magnitude (details available from the first author).

Discussion

Our results may be distilled into three points. First, at an absolute level, adolescents' scores were moderately stable over a 2-year period: Total scores (which range from 0–40) decreased by an estimated 0.66 points per year, translating to an average drop of 2 points between the ages of 14 and 17. Second, relative to adult offenders, adolescents' scores were *less* stable over time: Reliability-adjusted estimates indicate that PCL:YV total scores were moderately stable for adolescents (.42), but strongly stable for adults (.83). That said, in keeping with the larger personality development literature (Caspi, Roberts, & Shiner, 2005), even young adults' scores changed somewhat over time. Third, increases in adolescents' psychosocial maturity were related to decreases in their PCL:YV scores.

Together, our findings suggest that—despite moderate score stability—there is greater risk of exaggerating psychopathic traits among juveniles than adults. Indeed, of adolescents who surpass

² Tests of the cross-lagged autoregressive models without age produced equivalent results.

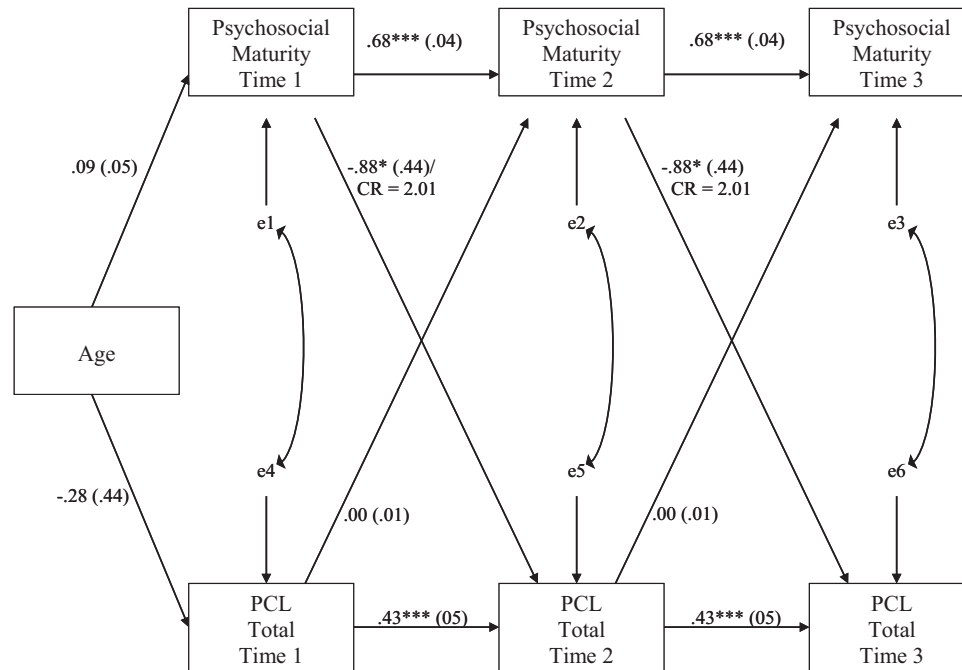


Figure 1. Unstandardized coefficients (SE) for the cross-lagged autoregressive model of Psychopathy Checklist Total scores and Psychosocial Maturity scores, adolescent sample. Critical ratios (CR) are reported for significant cross-lagged effects. * $p < .05$. *** $p < .001$.

PCL:YV cut scores for psychopathy today, only 37% will continue to meet this criteria two years from now (compared to 53% of adults, whose scores change—but less than adolescents). False positive errors will be most common for the youngest and least mature juveniles. Basing legal decisions about these juveniles on a single psychopathy assessment is risky, especially when professionals rely upon “cut scores” for diagnosing psychopathy. Next, we unpack each of the study’s three findings before summarizing study limitations and implications.

Absolute Stability of Adolescents’ PCL Scores

Although adolescents’ total PCL:YV scores were moderately stable over two years, closer examination revealed variation in stability across subscales: The Interpersonal and Antisocial scales (Factors 1 and 4; moderate stability) were more stable over time than the Affective and Lifestyle scales (Factors 2 and 3; weak stability). Although we hypothesized that the Interpersonal scale would be relatively stable over time, given the features that constitute this factor (e.g., narcissism; see Muñoz Centifanti, Kimonis, Frick, & Aucoin, 2013; Thomaes et al., 2013; Vater et al., 2014), the stability observed in the Antisocial scale conflicted with our hypothesis that the features that comprise this factor are an age-inappropriate marker of psychopathy. It is possible that this stability reflected (a) the short follow-up period in our study (as decreases in antisocial trajectories typically evolve over years; see Piquero, 2008), and (b) the structure of the Antisocial scale, which heavily weighs lifetime offending such that scores can only increase (or fail to increase) over time.

The weak stability in adolescents’ scores on the Affective and Lifestyle scales was consistent with our hypotheses and runs

counter to the downward extension argument. Others have argued that the Affective scale should be the most stable of the four factors (Blonigen et al., 2006; Edens et al., 2001). However, our results were consistent with Lynam and colleagues’ (2007) observation of low stability for the Affective subscale. Moreover, this factor subsumes the failure to accept responsibility for one’s actions, a characteristic that is likely to change with development. Likewise, that the Lifestyle Factor showed no significant correlation between time points is less surprising when one considers that this factor includes many components that may be conflated with characteristics subject to significant changes during adolescence (e.g., sensation seeking, impulsivity).

Stability of Adolescents’ PCL Scores, Relative to Adults

Although our results provided partial support for both sides in the debate about the stability of psychopathy scores from adolescence to adulthood, the results also highlighted the fact that misclassification errors are more likely in psychopathy assessments for adjudicated youth than adults. Adolescents’ PCL scores decreased modestly but significantly over time (an estimated 0.66 points per year), whereas adults’ scores demonstrated greater stability from year to year (an estimated decrease of 0.10 points per year). Because these estimates were based on a short follow-up period (2-years), they may underestimate the difference in stability of PCL scores between adolescents and adults. Indeed, at the end of the observation period, youths’ were, on average, only 18 years of age—and psychosocial maturity continues to develop into early adulthood (Coffman & Steinberg, 2000). Taken together, these points underscore that it is risky to use assessments with a limited shelf life to

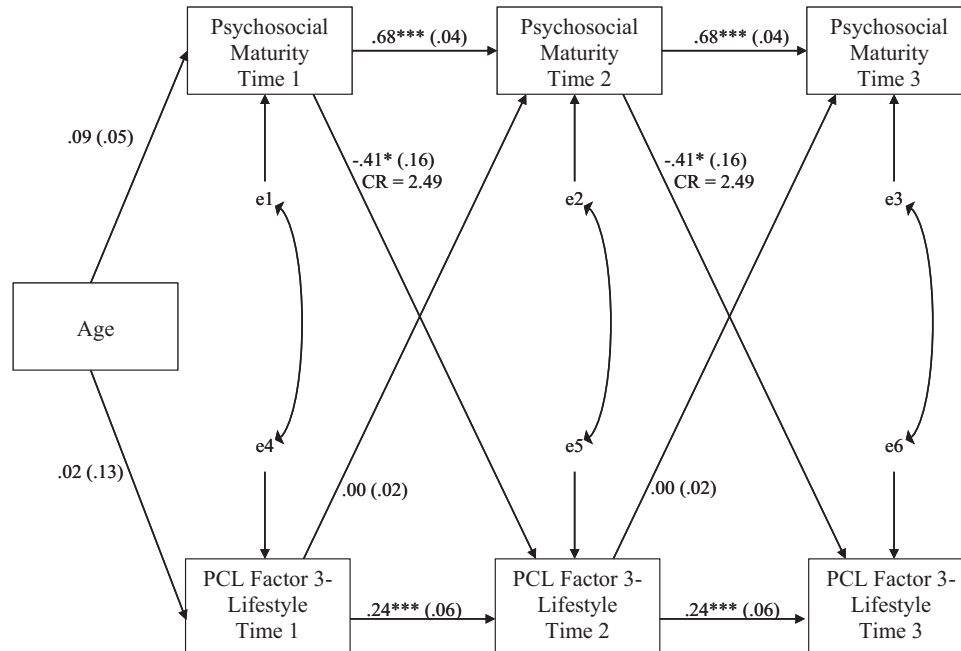


Figure 2. Unstandardized coefficients (SE) for the cross-lagged autoregressive model of Psychopathy Checklist Lifestyle Factor (Factor 3) and Psychosocial Maturity scores, adolescent sample. Critical ratios (CR) are reported for significant cross-lagged effects. * $p < .05$. *** $p < .001$.

inform legal decisions that have long-term consequences for adjudicated youth.

Importantly, the present study accounted for measurement error while comparing the stability of adolescents' and adults' psychopathy scores. The high correspondence of psychopathy scores between test at baseline and retest after one month confirmed that PCL measurement is reliable (Skeem & Cauffman, 2003), lending greater confidence that the greater change seen in youth than adult psychopathy scores was a function of true instability. Overall, the results of the present study suggested that the criteria on which the identification of "fledgling" psychopaths are based should be tailored to the appropriate developmental period during which they are applied, rather than relying on a single set of criteria across adolescence and into adulthood.

Relation of Changes in Maturity to Changes in PCL Scores

In keeping with our hypothesis, we found that increases in adolescents' psychosocial maturity predicted decreases in their PCL:YV scores. Specifically, as youths' responsibility, temperance, and perspective taking matured, their scores on psychopathy scales that tapped impulsive, irresponsible, and antisocial behavior decreased (i.e., Lifestyle & Antisocial scores). Maturity had no directional influence on Interpersonal and Affective scores, which leaves unexplained the poor stability exhibited by the Affective Factor.

These findings are consistent with the notion that maturational processes of adolescence influence some features that are commonly viewed as indicators of psychopathy. Although psychopathy per se is not part of the current diagnostic nomenclature, the

new *DSM-5* has added a specifier to the criteria for childhood conduct disorder for individuals who display "callous-unemotional" (CU) traits (i.e., "limited prosocial emotions"; American Psychiatric Association, 2013). Given that CU traits have long been featured in various conceptualizations of psychopathy (see Skeem et al., 2011), this CU specifier underscores developmental questions about the extent to which "juvenile psychopathy" is a valid construct.

Limitations

First, as is the case with any longitudinal study of high-risk samples, we were unable to retain all participants over time. To reduce the likelihood that our findings reflected differential attrition, we included analyses (e.g., growth curve analysis; cross-lagged SEM) that use state-of-the-art techniques to handle missing data (e.g., FIML). Moreover, for several analyses (e.g., bivariate correlations; ICCs), we applied multiple imputation as an alternate strategy for handling missing data. The pattern of findings was consistent across strategies, which lends confidence to our main conclusions.

Second, relative to our adolescent sample ($n = 202$), the adult sample ($n = 134$) was small. The adult sample provided adequate power to examine stability in PCL:R scores over time, but not to detect significant relationships in the cross-lagged model of maturity and PCL:R scores. Finally, adolescents' baseline PCL:YV scores were higher on average (estimated intercept = 28) than those of adults (estimated intercept = 25). Although the difference is modest (3 points on a 40-point scale), it raises the possibility that regression to the mean may explain some of the greater decrease in adolescents' than adults' scores. Finally, the Affective factor dis-

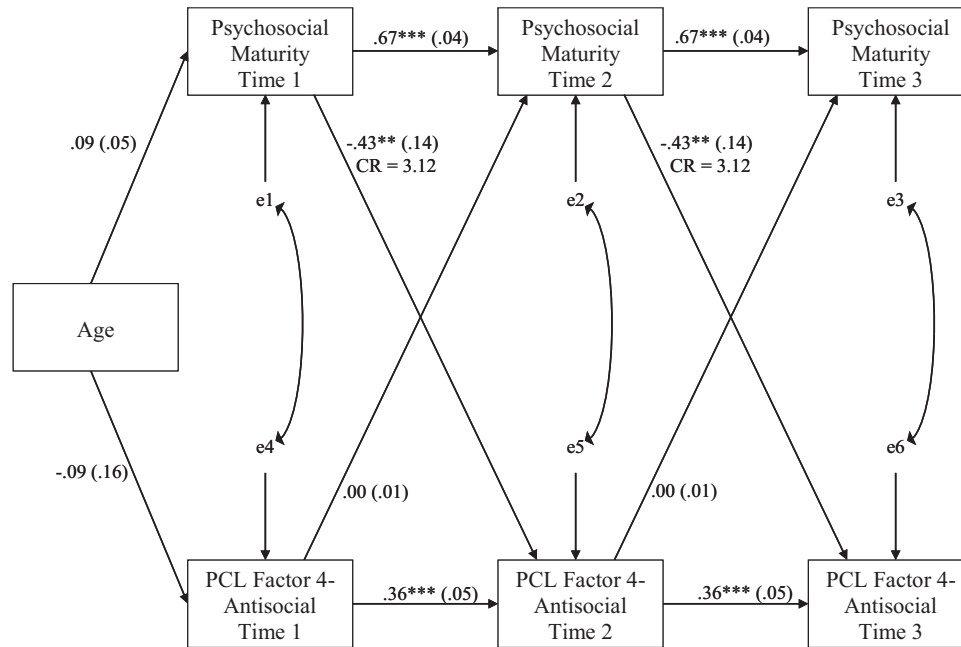


Figure 3. Unstandardized coefficients (SE) for the cross-lagged autoregressive model of Psychopathy Checklist Antisocial Factor (Factor 4) and Psychosocial Maturity scores, adolescent sample. Critical ratios (CR) are reported for significant cross-lagged effects. ** $p < .01$. *** $p < .001$.

played low reliability ($ICC = .47$), which may have contributed to the weak stability displayed by this factor.

Confidence in our results may also be provided through comparison with past longitudinal studies with different designs. Broadly, compared with estimates produced for adults in past research ($ICCs = .40-.60$, Blonigen et al., 2006; Loney et al., 2007; Rutherford et al., 1999) our stability estimates for adults ($ICC = .70$) and adolescents ($ICC = .32$) lie at the upper and lower ends of the distribution, respectively. Our results for adolescents ($r = .33$) were comparable with those of a study that

assessed youth for psychopathy at age 13 and age 24 ($r = .31$; Lynam et al., 2007).

Implications

Our main findings were that adolescents' PCL:YV scores were moderately stable over two years; decreased over time significantly more than those of adults; and decreased partially as a function of increases in psychosocial maturity. Beneath these main findings were different patterns of change for adolescents across the four PCL:YV scales. The Interpersonal and Affective scales (Factors 1 & 2) were moderately and weakly stable, respectively—and neither scale was significantly influenced by changes in psychosocial maturity. The Lifestyle and Antisocial scales (Factors 3 & 4) were weakly and moderately stable, respectively—and increases in psychosocial maturity predicted decreases in both scales.

These nuanced findings may lead one to describe “psychopathy” differently than the manner in which it is usually described. Rather than an aggregate trait that is resistant to change, psychopathy may instead be a combination of more and less stable behavioral tendencies that evolve with time as maturity increases over the course of adolescence. Alternatively, one could argue that the construct of psychopathy is stable, but the downward extension of the PCL measures into adolescence leads certain factors to overestimate that construct. Both perspectives are consistent with basic developmental principles that psychopathic traits can be expressed differently across developmental stages (Frick, 2002).

In the juvenile justice field, prescription differs from practice with respect to psychopathy. Experts maintain that the term psychopathy “should not be used in a damaging way, but rather . . . in

Table 5

Unstandardized Regression Coefficients for Autoregressive Models With No Significant Lagged Effects

Subject	b	SE
Adolescents		
Maturity → Interpersonal factor	-.17	.17
Maturity → Affective factor	.06	.19
Interpersonal factor → Maturity	-.02	.01
Affective factor → Maturity	.02	.01
Adults		
Maturity → Total PCL	-.55	.47
Maturity → Interpersonal factor	.01	.23
Maturity → Affective factor	-.25	.19
Maturity → Lifestyle factor	-.30	.19
Maturity → Antisocial factor	-.18	.22
Total PCL → Maturity	.00	.01
Interpersonal factor → Maturity	-.01	.01
Affective factor → Maturity	-.01	.02
Lifestyle factor → Maturity	-.06	.02
Antisocial factor → Maturity	.01	.01

a constructive manner to understand better the various types of youth as well as to chart ways to help youth lead more prosocial, productive, and meaningful lives” (Salekin & Lynam, 2010, p. 8). As explained earlier, however, the manner in which psychopathy measures are being implemented with adolescent offenders differs from this ideal.

How, then, should we advise a judge who is deciding the fate of a juvenile offender? Can the PCL family of measures inform decisions that turn upon whether a juvenile offender is characterologically dangerous? There are few data to back the common assumption that PCL scores are uniquely situated to detect a distinct class of immutably dangerous people, whether they are adults or adolescents (see Skeem et al., 2011). More to the point, our results indicated that PCL:YV scores will exaggerate psychopathic traits for juveniles, compared to adults—particularly for juveniles at the youngest and least mature end of the pool.

If the goal is to forecast psychopathy classifications even two years into the future, the majority of juveniles caught today in the PCL net are not “true” fledgling psychopaths. Psychopathy measures may provide some information relevant to legal decisions, but are far from failsafe for decisions with long-term consequences.

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