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Generalizing the Nomological Network of Psychopathy across Populations Differing on Race and Conviction Status

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Abstract

Psychopathy has shown good construct validity in samples of Caucasian inmates. However, little is known about how well the nomological network surrounding psychopathy generalizes to non-Caucasian and non-incarcerated populations. Using longitudinal and concurrent data from the middle sample of the Pittsburgh Youth Study, this study demonstrates that the validity of total- and facet-level psychopathy is preserved in African American and non-incarcerated samples. Specifically, similar patterns of association were obtained for child variables (child psychopathy, SES, risk status, parenting, delinquency, peer delinquency, and impulsivity) and adult variables (children, education, incarceration, unemployment, personality, substance use, and APD) across ethnicity and arrest status.

Across accounts (Cleckley, 1941/1982; Karpman, 1948; McCord & McCord, 1964), psychopathy is described as a personality disorder with deviant behavioral, affective, and interpersonal components. Much research has been aimed at understanding the causes, correlates, and consequences of the psychopathy construct; as a result, a rich nomological network surrounds psychopathy. Although previous research suggests that psychopathy has high construct validity, this research often relies on samples of prisoners, most of whom are Caucasian (Cooke, Kosson, & Michie, 2001). Less is known about whether this nomological net generalizes to other populations. The current investigation adds to a growing literature examining the nomological validity of psychopathy in African American and non-incarcerated populations.

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Extending the Nomological Net

Non-Caucasian Samples

Several studies have examined the generalizability of psychopathy across ethnic groups, though many of these studies focus on prevalence rate differences, the generalizability of internal factor structure, or item response characteristics. For example, meta-analytic work suggests that African Americans and Caucasians have equivalent levels of psychopathic traits (Skeem, Edens, Sanford, & Coldwell, 2003), and preliminary work suggests that the Psychopathy Checklist (PCL-R; Hare, 2003) scores work similarly across ethnicities, with equal discriminating power but small differences in threshold for some behavioral items (Cooke et al., 2001). Evidence regarding the stability of the factor structure across ethnicities is more mixed (Sullivan & Kosson, 2006). The issue of generalizing across populations, however, focuses on the relations psychopathy bears to external correlates rather than mean level differences across groups, item response characteristics, or internal factor structure.

In studies that have examined ethnicity as a potential moderating variable, evidence generally suggests that psychopathy displays relations in African American and Hispanic inmates similar to those observed in Caucasian inmates. For example, significant relations to psychopathy in these populations include crime, violent behavior, age, socioeconomic status, socialization, personality, intelligence, substance use, and co-occurring psychopathology (Neumann & Hare, 2008; Thornquist & Zuckerman, 1995). One potential exception to the generalizability of relations across ethnicities is impulsiveness, a trait more positively related to psychopathy in Caucasian inmates than in African American (Kosson, Smith, & Newman, 1990) or Hispanic inmates (Thornquist & Zuckerman, 1995). Experimental research, which typically uses an extreme-groups design that compares Caucasian and African American psychopaths, has yielded mixed evidence of differences in information processing abilities. Different patterns of results have emerged between Caucasian and African American psychopaths in studies of passive avoidance learning, response modulation, and affective decision making (Hiatt & Newman, 2006). Such extreme group designs are problematic, however, because race and antisocial behavior are somewhat confounded in that rates of arrest and conviction are higher among African Americans (Pettit & Western, 2004) and serve as part of the psychopathy criteria.

Non-Incarcerated Samples

Previously the psychopathy literature was built primarily on samples of incarcerated offenders, but recent advances in self-report measurement have led to an expansion of research in non-incarcerated samples. Accordingly, an important issue is whether relations observed in incarcerated samples are preserved in non-incarcerated samples where base rates of psychopathy are presumably lower. Research using college and community samples indicates that self-reported psychopathy is related to antisocial behavior, impulsivity, laboratory aggression, attenuated startle, and deficits in response modulation (Benning, Patrick, & Iacono, 2005; Miller and Lynam, 2003), all of which replicate findings in forensic samples. Although encouraging, these results are limited in several ways. First, no study has directly tested conviction status as a moderator of the relations between psychopathy and its external correlates. Second, these studies employ self-report measures only modestly related to clinical rating scales (Hare & Neumann, 2008); that is, studies differ not only in population but also assessment instrument. The use of standardized clinical assessment tools in non-incarcerated samples, on the other hand, allows for more direct comparisons with research conducted in incarcerated samples. Several large community studies have employed the screening version of the PCL (PCL:SV; Hart, Cox, & Hare, 1995) to investigate the construct validity of psychopathy. The results of these studies are

generally consistent with findings in incarcerated samples (Coid, Yang, Ullrich, Roberts, & Hare, 2009; Farrington, 2006; Neumann & Hare, 2008); however, such comparisons to published studies are problematic as incarcerated and non-incarcerated samples will differ in many ways, primarily age.

The Present Study

The present research seeks to determine whether the nomological network of psychopathy generalizes to populations other than Caucasian inmates. Several studies have addressed this issue, though most investigate a relatively small portion of the nomological net or fail to directly test ethnicity or criminal status as a moderating variable. Some also evaluate the generalizability of external correlates using significance levels rather than effect sizes, or compare findings across samples with substantial method differences. The present study uses prospective and concurrent data from the middle sample of the Pittsburgh Youth Study (PYS) to directly test whether child and adult correlates of total- and facet-level psychopathy vary significantly in samples of African American and non-convicted participants. Participants were recruited prospectively and prior to first conviction, administered equivalent measures and procedures, and examined using a broader range of external correlates than included in other studies.

Method

Participants

Participants are members of the middle sample of the PYS. Full details of background characteristics and initial recruitment in 1987–1988 when children (all male) were aged 10 are given elsewhere (Loeber et al., 2001). Briefly, boys attending the fourth grade in the public school system in inner-city Pittsburgh (about 1,000 in each grade) were randomly selected from schools across the city. Of families contacted, 85% of the boys and their parents agreed to participate. An initial screening assessment identified high-risk participants; specifically, about 250 boys (30% of each sample) with the most severe disruptive behavior problems based on caretaker, teacher, and self-report were identified in each sample. In addition, an equivalent sized random subset of the remaining 70% of boys was drawn to complete each sample. This selection process resulted in 508 boys for the middle sample, half high risk with approximately equal representations of Caucasian and African American boys. The sample was followed from ages 10 to 13, and again in young adulthood between ages 22 and 26, 9 to 13 years after the last adolescent assessment (mean = 11.0 years, $SD = .63$). There were 317 men assessed during the young adult follow-up (51% Caucasian). Most were interviewed in their homes, but 4% were interviewed in prisons. Of these 316 participants, 271 had childhood psychopathy data available and were eligible for inclusion in the analyses. Importantly, compared to those who participated in this follow-up assessment, those who did not were not significantly different on initial risk status at intake ($\chi^2 [1] < 1$, ns , $r = -.01$), family SES at age 13 ($t [500] < 1$, ns , $d = .05$), or psychopathy at age 13 ($t [401] < 1$, ns ; $d = .08$), as measured using the Childhood Psychopathy Scale (Lynam, 1997). Those present in the analyses were somewhat more likely to be Caucasian ($\chi^2 [1, n = 508] = 19.69$, $p < .01$, $r = -.20$) and less likely to have been arrested ($\chi^2 [1, n = 508] = 4.25$, $p < .05$, $r = -.09$).

Measures

Psychopathy—Psychopathy in adulthood was assessed with the PCL:SV (Hart et al., 1995), which consists of 12 items derived from the 20-item PCL–R; all items were rated by trained interviewers following a semi-structured interview. The present study used the four-facet structure suggested by Hare (2003). The 12 items together provide an overall index of

psychopathy, while 3-item subsets assess arrogant, deceitful interpersonal style (Facet 1: Interpersonal); deficient affective experience (Facet 2: Affective); impulsive and irresponsible behavioral style (Facet 3: Impulsive Lifestyle); and antisocial behavior (Facet 4: Antisocial Behavior). The inter-rater reliabilities calculated as intraclass correlations based on a single rater and absolute agreement were .86, .59, .71, .84, and .65 for the total scale and Interpersonal, Affective, Lifestyle, and Antisocial Behavior Facet scales, respectively. Coefficient alphas for the scores on these scales were .89, .72, .83, .91, and .77, respectively. Administration and scoring details for the PCL:SV are described elsewhere (e.g., Lynam, Loeber, & Stouthamer-Loeber, 2008).

Child Correlates

Juvenile Psychopathy: Juvenile psychopathy was assessed using parent ratings from the Childhood Psychopathy Scale (CPS; Lynam, 1997) when boys were 13 years old. The CPS was developed to operationalize, in childhood and adolescence, the personality traits found in the PCL-R (Hare, 2003). These traits consisted of 2- to 4-item scales; of the final 12 scales, 8 had alphas greater than .60, and 10 greater than .50. The reliability of the total scale was .91. Scores on the CPS predict serious delinquency above and beyond other known predictors (SES, IQ, previous delinquency, and impulsivity) and are related to serious and stable offending, impulsivity, and externalizing psychopathology (Lynam, 1997), recidivism and poor treatment outcomes in adolescence (Falkenbach, Poythress, & Heide, 2003), and the Five-Factor Model of personality (Lynam et al., 2005).

Socioeconomic Status: The SES of the boys' caretakers was assessed using Hollingshead's two-factor index. When boys had two caretakers, caretaker scores were averaged; when boys had only one caretaker, that score was used.

Risk Status: An initial screening assessment identified high-risk participants (30% of the sample) with the most severe disruptive behavior problems based on caretaker, teacher, and self-reports. In addition, an equivalent sized random subset of the remaining 70% of boys was drawn. This selection process resulted in 508 boys, half-high risk and half non high risk.

Parenting: Three parenting variables based on both caretaker and child reports were included: use of physical punishment and lax supervision were each assessed with 4 caretaker-and 4 child-reported items (reliabilites = 0.62 and 0.72), whereas inconsistent discipline was assessed with single items from each reporter (Loeber et al., 2001).

Delinquency: Boys completed the Self-Report Delinquency Instrument used in the National Youth Survey (Elliott, Huizinga, & Ageton, 1985), which inquires about a broad range of delinquency during the previous 6 months. Self-report delinquency data were supplemented with teacher and caretaker reports of delinquent behavior.

Peer Delinquency: Peer delinquency was measured as the proportion of friends reported by each participant who engaged in each of 11 different forms of delinquency.

Impulsivity: Behavioral and cognitive impulsivity were each taken from a multimethod, multisource battery (see White et al., 1994). Behavioral impulsivity variables include parent-reported undercontrol, observer-reported motor restlessness, teacher-reported impulsivity, self-reported impulsivity, and observer-rated impatience-impersistence. Cognitive impulsivity variables include Trial Making Test time, Stroop errors, time perception, circle tracing, and delay of gratification.

Adult Correlates

Demographics: Five demographic variables were included in the analyses: number of children sired, number of years education, and proportion of time since 18 years of age spent unemployed, incarcerated, and in school.

Personality traits: Basic personality in adulthood was assessed using an abbreviated version of the 240-item NEO PI-R (Costa & McCrae, 1992), which measures 5 major personality domains and 30 specific facets. This version is composed of 120 self-report items. Research using item response theory (IRT) suggests that the full NEO PI-R can be reduced in half with little loss in precision (Reise & Henson, 2000). In the current sample, reliabilities for the five domains ranged from .74 for Openness to .87 for Conscientiousness.

Substance use: Substance use was assessed by self-report using the Substance Use Questionnaire (Loeber et al., 2001). This instrument asks about participants' use of cigarettes, alcohol, marijuana, and other hard drugs without a prescription (e.g., heroin, cocaine, tranquilizers, pain killers, methamphetamine, etc.), as well as problems associated with the use of alcohol, marijuana, and other drugs. For the present analyses, we examined the number of packs of cigarettes smoked per day and whether participants experienced at least one of ten problems related to their use of alcohol or other drugs (i.e., trouble with friends, family, the police, or other people in the community; gotten into accidents or fights; had problems at school or work; had physical or mental problems).

Antisocial personality disorder (APD): Symptoms of APD were assessed using questions from the Personality Disorder Interview-IV (Widiger, Mangine, Corbitt, Ellis, & Thomas, 1995) a semi-structured interview for the personality disorders. Each of the 7 adult APD criteria was assessed with 4 to 8 yes/no questions; symptoms of conduct disorder before the age of 15 were assessed using 15 items. Interviewers received training from the second author in a manner similar to the training provided for the PCL-SV. For each APD symptom, responses to relevant yes/no questions were summed to form a scale; coefficient alphas ranged between .84 for the 4-item remorse scale to .97 for failure to conform to social norms. Individuals who scored in the top 20% of a symptom scale were considered positive for that symptom. The seven adult symptoms were summed, resulting in a mean of 1.41 (SD = 1.63). Requiring the presence of three or more adult symptoms and previous conduct disorder resulted in 14% of the sample receiving diagnoses of APD.

Moderators: Moderators included race (0 = *Caucasian* versus 1 = *African American*) and criminal status (0 = *never convicted* versus 1 = *convicted*). Criminal status was based on official reports of conviction (i.e., local, state, and federal criminal history record information). Criminal status was used as a proxy for incarceration status, since this latter variable was only collected from a subsample of participants interviewed in their early 20s. In the full sample, criminal status and incarceration status were strongly correlated ($r = .52$). Data are currently available for offenses committed by the sample members from age 18 to 26. Thirty-two percent of the sample received at least one conviction during this span; of these, the mean number of convictions was 1.28 (SD = 3.00).

Results

Descriptive Relations

At the zero-order level, PCL:SV total scores were significantly related to every child predictor and adult correlate ($|r|$ s ranging from .11 to .64, mean $|r| = .30$), with the exception of the Lax Supervision ($r = .10$) and Drug Problems ($r = .09$) variables. This pattern of

significant relations was also found at the facet-score level, with correlations strongest for the Antisocial Behavior facet. Table 1 provides a summary of these relations.

Moderator Analyses

To investigate the generalizability of the nomological net surrounding psychopathy, 245 separate hierarchical regression analyses were conducted for the 5 psychopathy scores, 2 moderators, and 25 external correlates. For each analysis, psychopathy was regressed onto a single external correlate and moderator at Step 1, and a product term carrying the interaction between these two variables was entered at Step 2. Given low power for detecting interactions in field studies, coefficients for individual product terms were determined to be significant (F -change at Step 2) using an uncorrected alpha level (i.e., $p < .05$). For significant interactions, simple slope analyses were conducted to examine the relation between personality and psychopathy at various levels of the moderator.

Across the 245 analyses, the addition of the interaction term in Step 2 resulted in 14 significant increments in prediction (3 for race, 11 for criminal status), only 1.75 more than the 12.25 expected on the basis of the Type I error rate ($245 \times .05$). For 9 of the 14 interactions the predictor was significant and in the same direction for both levels of the moderator. In the remaining 5 interactions, the relation between psychopathy and the predictor was statistically significant at only level of the moderator. Specifically, drug problems were significantly positively related to total, facet 1, and facet 4 psychopathy scores only for Caucasians; time spent in school was significantly negatively related to facet 2 psychopathy scores only among those convicted; and FFM Extraversion was significantly negatively related to facet 1 scores only among those convicted. The average increments in variance accounted for across all interactions were only 0.3% and 0.4% for each set of race and criminal status interactions, respectively. The average increment in variance accounted for significant interactions was only 1.9%. Table 2 provides a summary of the ΔR^2 values as well as the nature of the significant interactions.

Discussion

The current study examined the generalizability of the nomological network for psychopathy as a function of race and conviction status. Moderation effects for race and criminal status were rare, occurring at a rate (5.7%) approximating chance (5%); when significant, the effects were trivial in magnitude. Thus, psychopathy behaves similarly across ethnic groups and conviction status. The implications of these findings are straightforward—research conducted on Caucasian, African American, convicted, and non-convicted samples is relevant for a general understanding of psychopathy. There are also several clinical and forensic implications of these findings; for example, taking into account race or setting should have little impact when measuring psychopathy or using it to assess risk. Furthermore, treatment considerations related to psychopathy will not vary according to the patient's race or criminal history.

A major strength of this study is that it included a broad range of longitudinal and concurrent variables associated with psychopathy; the breadth of this nomological net strengthens our conclusions regarding generalizability. Future research should examine specific affective and information-processing deficits not measured in the current study. For example, evidence suggests that psychopaths suffer from various emotional anomalies, including irregular modulation of the blink-startle response during induced emotional states (e.g., Patrick, Bradley, & Lang, 1993), lower skin conductance responses to distressing images (e.g., Blair, Jones, Clark, & Smith, 1997), and impairments in processing fearful facial expressions (Blair et al., 2004).

Another considerable strength of the current study is relatively high statistical power. Because our conclusions regarding generalizability are based on a lack of interactions, power is particularly important. Interactions are difficult to detect due to the lower reliabilities of the product terms, when main effects are large, and when the preponderance of cases in the multivariate distributions are in the middle—as they are in most field studies (McClelland & Judd, 1993). In the current study, however, main effects were small to moderate rather than large, and the enrichment strategy of the PYS lessened some of the distributional concerns and increased power. Furthermore, power was preserved by leaving alpha uncorrected at the .05 value for each of 250 separate analyses. Although it is difficult to accurately estimate the power of our interaction analyses, in a classic power analysis with perfectly reliable variables and a sample size of 300 participants, 2 main effects accounting for 15% of the variance, and an alpha of .05, power was .50 to detect a 1% increment in the variance accounted for with the addition of the product term, .76 to detect a 2% increment, and .91 to detect a 3% increment.

Despite these strengths, there are limitations. Ironically, the first concerns generalizability. Women were excluded from the PYS and our conclusions are therefore limited to men. Additionally, boys in each PYS cohort were similarly aged which limits our conclusions to a specific age range. Finally, there was some systematic attrition, with boys who had been arrested somewhat less likely to be represented in the final sample. This attrition, however, was unlikely to have influenced present results as the relation was small and 32% of the remaining sample had been arrested.

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Table 1

Relations between PCL:SV total and scores and external correlates.

Dependent Variables	Total	Facet 1 Interpersonal	Facet 2 Affective	Facet 3 Lifestyle	Facet 4 Antisocial
PCL Total (Da)		.79**	.77**	.82**	.89**
Facet 1–Interpersonal			.66**	.51**	.52**
Facet 2–Affective				.56**	.51**
Facet 3–Lifestyle					.66**
Childhood Predictors (ages 10–13)					
Childhood Psychopathy Scale (P)	.31**	.19*	.15	.28**	.34**
Risk (0=low) (PTS)	.32**	.19**	.21**	.32**	.30**
Socioeconomic status (P)	-.15**	-.09	-.04	-.12*	-.18**
Parenting (PS)					
Physical punishment	.17**	.15**	.03	.15**	.17**
Lax supervision	.10	.13*	.04	.07	.09
Inconsistent discipline	.28**	.17**	.14*	.25**	.30**
Delinquency (S)					
Delinquency	.35**	.22**	.14*	.23**	.42**
Peer delinquency	.36**	.24**	.24**	.28**	.37**
Impulsivity (PTSO)					
Behavioral impulsivity	.33**	.18**	.17**	.29**	.37**
Cognitive impulsivity	.16*	.14*	.06	.16**	.13*
Adult Predictors (ages 22–26)					
Number of children (S)	.31**	.14*	.14*	.28**	.34**
Years of education (S)	-.45**	-.20**	-.25**	-.43**	-.47**
Time since age 18 unemployed (S)	.32**	.12*	.21**	.36**	.30**
Time since age 18 incarcerated (S)	.46**	.31**	.34**	.33**	.45**
Time since age 18 in school (S)	-.29**	-.11	-.16**	-.31**	-.31**

	Total	Facet 1 Interpersonal	Facet 2 Affective	Facet 3 Lifestyle	Facet 4 Antisocial
Personality– Five Factor Model (S)					
Neuroticism	.32**	.17**	.21**	.30**	.36**
Extraversion	-.33**	-.16**	-.30**	-.36**	-.28**
Openness	-.15**	-.08	-.16**	-.17**	-.11
Agreeableness	-.41**	-.31**	-.32**	-.30**	-.39**
Conscientiousness	-.24**	-.15**	-.14*	-.26**	-.22**
Substance use (S)					
Smoking	.29**	.18**	.14*	.22**	.32**
Any alcohol problems	.11*	.07	.00	.05	.17**
Any drug problems	.09	.04	.03	.11	.10
Antisocial Personality Disorder (I)					
APD diagnosis (0=No)	.52**	.34**	.32**	.35**	.58**
APD symptoms	.64**	.39**	.42**	.52**	.66**
Moderators					
Race (0=Caucasian) (S)	.23**	.18**	.15**	.20**	.22**
Criminal Status (0=never convicted) (R)	.51**	.31**	.32**	.45**	.52**

* $p < .05$.** $p < .01$.^aLetter in parentheses provides source of data: P = parent, T = teacher, S = self, I = interviewer, O = task data, and R = official record data.

Table 2

ΔR^2 values for Race and Criminal Status interaction terms at Step 2.

	Moderator	PCL Total	F1-int	PCL Facets			
				F2-aff	F3-imp	F4-asb	
Childhood Predictors							
Childhood Psychopathy Scale	Race	0.002	0.002	0.002	0.007	0.000	
	Criminal	0.000	0.001	0.000	0.000	0.000	
Risk status (0 = low)	Race	0.006	0.001	0.001	0.007	0.007	
	Criminal	0.000	0.000	0.005	0.001	0.002	
Socioeconomic status	Race	0.001	0.008	0.000	0.001	0.000	
	Criminal	0.001	0.000	0.000	0.000	0.002	
Parenting							
Physical punishment	Race	0.001	0.000	0.002	0.008	0.000	
	Criminal	0.003	0.004	0.002	0.004	0.001	
Lax supervision	Race	0.000	0.001	0.003	0.001	0.000	
	Criminal	0.000	0.001	0.000	0.000	0.000	
Inconsistent discipline	Race	0.000	0.000	0.005	0.001	0.000	
	Criminal	0.001	0.010	0.009	0.001	0.002	
Delinquency							
Delinquency	Race	0.003	0.000	0.003	0.003	0.003	
	Criminal	0.001	0.003	0.000	0.001	0.004	
Peer Delinquency	Race	0.000	0.001	0.001	0.001	0.001	
	Criminal	0.002	0.001	0.001	0.000	0.015	
						$r_0 = .36^*$	
						$r_1 = .20^*$	
Impulsivity							
Behavioral impulsivity	Race	0.006	0.003	0.001	0.004	0.008	
	Criminal	0.016	0.013	0.007	0.018	0.008	
		$r_0 = .21^*$				$r_1 = .15^*$	
		$r_1 = .38^*$				$r_1 = .35^*$	
Cognitive impulsivity	Race	0.001	0.000	0.007	0.004	0.000	

	Moderator	PCL Total	PCL Facets			
			F1-int	F2-aff	F3-imp	F4-asb
Adult Predictors						
	Criminal	0.002	0.001	0.000	0.005	0.001
Number of children	Race	0.001	0.005	0.002	0.001	0.005
	Criminal	0.008	0.012	0.005	0.000	0.005
Years of education	Race	0.001	0.003	0.000	0.001	0.003
	Criminal	0.005	0.005	0.003	0.002	0.004
Proportion of time since age 18						
Time spent unemployed	Race	0.003	0.005	0.003	0.004	0.000
	Criminal	0.002	0.001	0.003	0.013	0.000
					$r_0 = .15^*$	
					$r_1 = .39^*$	
Time spent incarcerated	Race	0.003	0.001	0.001	0.004	0.001
	Criminal	NA	NA	NA	NA	NA
Time spent in school	Race	0.002	0.000	0.002	0.003	0.001
	Criminal	0.008	0.003	0.013	0.019	0.001
				$r_0 = -.06$	$r_0 = -.24^*$	
				$r_1 = -.18^*$	$r_1 = -.31^*$	
Personality – Five-Factor Model						
Neuroticism	Race	0.000	0.008	0.004	0.000	0.002
	Criminal	0.001	0.006	0.003	0.001	0.000
Extraversion	Race	0.003	0.003	0.001	0.003	0.003
	Criminal	0.011	0.018	0.009	0.014	0.002
		$r_0 = -.21^*$	$r_0 = -.01$		$r_0 = -.27^*$	
		$r_1 = -.34^*$	$r_1 = -.22^*$		$r_1 = -.37^*$	
Openness	Race	0.001	0.002	0.000	0.003	0.003
	Criminal	0.001	0.003	0.006	0.001	0.000
Agreeableness	Race	0.001	0.006	0.004	0.000	0.000
	Criminal	0.009	0.012	0.025	0.005	0.001
		$r_0 = -.23^*$	$r_0 = -.23^*$			
		$r_1 = -.34^*$	$r_1 = -.39^*$			

	Moderator	PCL Facets				
		PCL Total	F1-int	F2-aff	F3-imp	F4-asb
Conscientiousness	Race	0.002	0.001	0.000	0.002	0.005
	Criminal	0.000	0.007	0.001	0.001	0.001
Substance Use						
Packs of cigarettes	Race	0.001	0.001	0.001	0.000	0.001
	Criminal	0.002	0.003	0.001	0.007	0.004
Any alcohol problems	Race	0.009	0.011	0.005	0.002	0.007
	Criminal	0.003	0.002	0.008	0.005	0.000
Any drug problems	Race	0.028	0.028	0.007	0.004	0.033
		$r_0 = .28^*$	$r_0 = .22^*$			$r_0 = .30^*$
		$r_1 = -.08$	$r_1 = -.13$			$r_1 = -.10$
Antisocial Personality Disorder	Criminal	0.000	0.002	0.003	0.001	0.000
APD Diagnosis	Race	0.002	0.000	0.000	0.003	0.003
	Criminal	0.003	0.000	0.000	0.004	0.007
APD Number of Symptoms	Race	0.000	0.001	0.007	0.000	0.001
	Criminal	0.000	0.000	0.001	0.000	0.002

Note: Numbers in each cell provide the increment in variance accounted for by the interaction. In the face of an interaction, the cell also provides the relation between the variable and psychopathy at low (0 = Caucasian/never convicted) followed by high (1 = African American/convicted) levels of the moderator.