

Are There Ethnic Differences in Levels of Psychopathy? A Meta-Analysis

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Although considerable research on psychopathy has been conducted over the past 30 years, relatively few studies have examined key issues related to potential ethnic differences in this constellation of socially maladaptive personality traits. Given recent sociopolitical and scientific developments, an issue of considerable debate is whether Black individuals possess “more” traits of psychopathy than do Whites. To address this issue, a meta-analysis of differences between these groups’ scores on the Psychopathy Checklist—Revised (PCL-R; Hare, 1991) was performed, using 21 studies (N = 8,890) of correctional, substance abuse, and psychiatric samples. Blacks exceeded Whites by an average of less than 1 point on the PCL-R total score. Effect sizes for core interpersonal and affective traits of psychopathy (Factor 1) were sufficiently homogeneous to clearly interpret, although other features manifested statistically significant heterogeneity. Our finding that Blacks and Whites do not meaningfully differ in their levels of core psychopathic traits is consistent with community-based findings for self-report measures of psychopathy and clinical diagnoses of antisocial personality disorder.

KEY WORDS: psychopathy; ethnicity; racial differences; antisocial behavior.

Psychopathy represents a constellation of affective, interpersonal, and behavioral features that has proven useful in both basic and applied research on psychopathology and antisocial behavior (Cleckley, 1976; Hare, 1991, 1996). Those high in psychopathic traits demonstrate poor passive avoidance learning, deficits in processing emotional language, and less differentiated affective responses to emotional stimuli (Day & Wong, 1996; Newman & Kosson, 1986; Patrick, 1994). They also appear to be at risk for community violence, general and violent criminal recidivism, institutional adjustment problems, and slow treatment response (Edens, Petrila, & Buffington-Vollum, 2001; Hart & Hare, 1997; Hemphill, Hare, & Wong, 1998; Skeem & Mulvey, 2001; Skeem, Monahan, & Mulvey, 2003).

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The rapidly growing empirical literature on the etiology, diagnosis, and behavioral correlates of psychopathy (e.g., Cooke & Michie, 2001; Skeem & Mulvey, 2001; Weiler & Widom, 1996) typically operationalizes psychopathy via the Revised Psychopathy Checklist (PCL-R; Hare, 1991). According to the measure's classic organization (Hare, 1991), psychopathy comprised two correlated factors: (Factor 1) the interpersonal and affective core of psychopathy, or the "selfish, callous, and remorseless use of others," and (Factor 2) a collection of socially deviant and antisocial behaviors, or a "chronically unstable and antisocial lifestyle" (Harpur, Hare, & Hakstian, 1989). However, Cooke and Michie (2001) proposed a three-factor model of psychopathy that split items traditionally associated with Factor 1 into affective ("affectively deficient") and interpersonal ("arrogant and deceitful") factors and eliminated several items historically associated with Factor 2, based on findings that they were poor indicators of psychopathy, to create a new behavioral factor ("impulsive and irresponsible lifestyle"). There is growing evidence that this three-factor model better fits data on correctional (Cooke & Michie, 2001) and psychiatric (Skeem, Mulvey, & Grisso, 2003) samples than does the two-factor model. Recently, Hare (2003) proposed a four-factor model of psychopathy that differs only in its readoption of items "orphaned" by Cooke and Michie's model in a fourth factor. Despite controversies over factor structure and the PCL-R's other limitations (Lilienfeld, 1994, 1998; Poythress, Edens, & Lilienfeld, 1998; Skeem & Mulvey, 2001), predominant use of this "gold standard" measure has facilitated the comparison of research results across studies.

Although the research based on psychopathy is burgeoning, the number of studies examining this construct in non-Whites and in women has been relatively limited until recently. Because psychopathy increasingly is being used to influence treatment, judicial, correctional, and public policy decisions in the United States and other countries (Cunningham & Reidy, 2002; Edens, 2001; Edens, Petrila, et al., 2001; Edens, Skeem, Cruise, & Cauffman, 2001; Hare, 2001a; Zinger & Forth, 1999), the extent to which the primarily White male research base on psychopathy generalizes to other populations is of considerable practical significance. To the degree that this construct and its measurement "work" differently in these populations, extreme caution is warranted when making generalizations from the existing data (Okazaki & Sue, 1995). This is particularly true of the African American or Black population, which is grossly overrepresented in the U.S. criminal justice system (Bureau of Justice Statistics, 2002; Harrison & Karberg, 2003) and at risk for poor outcomes in our mental health systems (Department of Health and Human Services, 1999).

Ethnicity and Psychopathy: Three Key Issues

The relation between ethnic status and psychopathy raises three crucial, interrelated issues, including the extent to which (a) the *construct* of psychopathy, including its underlying mechanisms, generalizes across ethnic groups; (b) *measures* of psychopathy generalize across ethnic groups; and (c) *levels* of psychopathy are equivalent across ethnic groups. The first two of these three issues have been explored systematically in recent research.

First, research on the issue of *construct* generalization suggests that the mechanisms that underlie psychopathy may differ for Black and White individuals. Specifically, a relatively large body of evidence suggests that the pattern of external correlates of PCL-R psychopathy differs by ethnicity (for a review, see Cooke, Kosson, & Michie, 2001). For example, on laboratory tasks, Blacks who are high in psychopathic traits do not manifest the same passive avoidance deficits (e.g., Kosson, Smith, & Newman, 1990; Newman & Schmitt, 1998) or affective and information processing deficits (e.g., Lorenz & Newman, 2002) as Whites. Cooke et al. (2001) observed that such findings suggest that psychopathy is either (a) more difficult to measure in Black than White samples, or (b) influenced by genetic and sociocultural factors that differ across ethnic groups. The results of subsequent research (Cooke et al., 2001) are consistent with the latter interpretation.

Second, Cooke et al. (2001) found that the leading *measure* of psychopathy, the PCL-R, generalizes across ethnic groups. These authors completed confirmatory factor analyses and item response theory analyses of the PCL-R, based on a sample of 732 U.S. jail and prison inmates. Regarding the factor structure of psychopathy, they reported that their three-factor model fit the data for both Black and White offenders. In terms of item analyses, although several PCL-R items were significantly more discriminating of the latent psychopathy construct in Black or in White groups, the authors concluded that these differences cancelled one another out such that total PCL-R scores were “similarly useful in diagnosing psychopaths in both ethnic groups” (p. 539).

In summary, extant research suggests that psychopathy may be characterized by different underlying causes or mechanisms in Black and White individuals, but the leading global measure of psychopathy may generalize across ethnic groups. To date, however, there have been no systematic investigations of the third crucial issue about psychopathy and ethnicity raised above, that is, whether ethnic groups differ in the extent to which they exhibit psychopathic traits. Although questions remain as to the generalizability of the construct of psychopathy across Blacks and Whites, the apparent generalizability of the *measurement* of PCL-R total scores across ethnic groups (Cooke et al., 2001) provides an opportunity to address the important issue of potential group mean differences in psychopathy *as assessed by the PCL-R*. This is the focus of the present study. Given the limitations of the PCL-R, we do not equate the measure with psychopathy per se. Instead, we investigate ethnic differences in PCL-R scores because the overall measure (a) appears to generalize across ethnic groups and (b) is the best validated measure of core interpersonal and affective traits of psychopathy (at least with male Whites) presently available.

Ethnicity and “Levels” of Psychopathy

Academic Arguments About Ethnicity

Whether Blacks as a group exhibit psychopathic traits to a greater extent than do Whites has been the focus of considerable debate recently. Scientific interest in this question is perhaps not surprising, given the empirically demonstrated association between psychopathy and crime and the clear overrepresentation of minorities

in the criminal justice system. In 2002, Lynn published a review of ethnicity and psychopathy that sought to address empirically whether significant differences existed. He concluded that, at the group level, individuals of African descent were more psychopathic than those of European descent, who in turn were more psychopathic than those of Asian ancestry. This conclusion was based primarily on data regarding group mean differences in MMPI/MMPI-2 “Psychopathic Deviate” scale scores and on a host of social deviance factors, ranging from criminal convictions to rates of teen pregnancy. Lynn argued that these differences reflected selection factors acting on the genetic makeup of these three “races” during the course of evolution. Notably, the theoretical underpinning of these claims parallels evolutionary theories that have been promulgated to explain ethnic differences on measures of intellectual functioning (Rushton, 1991, 2000).

Serious conceptual and factual errors have been identified in Lynn’s (2002) analysis of the relationship between psychopathy and ethnicity. For example, Lynn (a) equated psychopathy with various measures of antisocial conduct and social deviance, ignoring long-standing personality-based conceptions of this syndrome; (b) provided almost no data to support his claim that genetic factors explain ethnic differences in antisocial behavior and social deviance and ignored or misrepresented evidence consistent with alternative environmental explanations; and (c) presented an evolutionary explanation for putative ethnic group differences in psychopathy that is inconsistent with current methods and practices used in evolutionary biology and genetics (Skeem, Edens, Sanford, & Colwell, 2003, Zuckerman, 2003; cf. Lynn, 2003).

Spillover of Academic Arguments into Policy and Legal Decision-Making

Although such academic controversies are not new to the field, some issues—particularly those that involve historically disadvantaged groups—have implications that may reach far beyond ivory tower debates. One need not look far to find historical examples of scholarly debates about the existence or meaning of ethnic differences on psychological measures or constructs that have spilled over into legal decision-making at the individual level and/or public policy at the societal level. For example, the history of intelligence testing in the United States is replete with debates over the meaning of group differences in IQ scores. In the early twentieth century, the dominant view that many European immigrants were intellectually inferior—a perspective bolstered by psychological research on ethnic differences in intelligence—may have helped to usher in sweeping restrictions in U.S. immigration policy (Gould, 1981, 1996; for an alternative perspective, see Snyderman & Herrnstein, 1983). More recently, the practice of administering intellectual tests to Black children for the purpose of determining mental retardation and the need for special education was completely banned (*Larry P. v. Riles*, 1979), in part because of concerns about bias and stigmatization of historically disadvantaged groups. Similarly, successful litigation has been initiated against companies using measures of general cognitive abilities for job selection and other human resource purposes when minorities have been disproportionately impacted (e.g., *Griggs v. Duke Power Co.*, 1971).

Clearly, psychiatric diagnoses and psychological measures that demonstrate higher rates of impairment or dysfunction among minority groups—whether biased or not—can have important legal and policy implications, particularly when they tap constructs relevant to a particular legal question or issue. Although initially developed to assess a clinical construct, the PCL-R clearly has become a “forensically relevant instrument” (Otto & Heilbrun, 2002) because of its association with future violence and criminal recidivism. These outcomes have important criminal justice and clinical implications, and consequently are used to inform legal decision-making in various contexts (e.g., dangerous offender or sexual predator commitment proceedings, capital murder trials, civil commitment proceedings).

Given the widespread and apparently growing use of psychopathy generally and the PCL-R specifically to inform legal decisions (see Otto & Heilbrun, 2002), the existence of ethnic differences in psychopathy would raise several important public and criminal justice policy questions that in some ways might parallel those that have been and continue to be asked about the use of intelligence tests to make potentially life-altering decisions about members of minority groups. Perhaps even more so than debates over ethnicity and intelligence, academic controversies surrounding psychopathy may take root outside the ivory tower.

Resonance of Arguments with Public Views

Criminal justice and public policy are likely to be driven by public perception of “the crime problem” and its causes. As such, it does not bode well for minorities that the public already seems to be predisposed to viewing them as more psychopathic than the majority. Recent work on topics that range from the effect of media portrayals of crime on public opinion (Gilliam & Iyengar, 2000) to jury decision-making (e.g., Sommers & Ellsworth, 2000, 2001) suggest that Whites implicitly perceive Blacks as more violent, aggressive, and worthy of punishment than Whites. Evidence also suggests that recently popularized terms such as “superpredator” (e.g., Dilulio, 1995; Innes, 1997), which arguably functions as a lay term for psychopathy (i.e., remorseless, violent, impulsive, and predatory offenders), may be applied disproportionately to minorities. In a series of experiments, Gilliam and Iyengar (1998, 2000) showed community residents a brief videotaped newscast of an investigation of a local murder in which the ethnicity of the suspect was experimentally manipulated. Clips where the alleged perpetrator was Black resulted in significantly increased levels of fear among viewers, and, for White viewers, promoted racial stereotyping and increased support for “get tough on crime” policies.

Public conceptions of psychopathy matter not only because laypersons function as the trier of fact in jury trials, but also because public opinion affects law and policy. In part as a function of public fear of a perceived crime wave, the United States has developed increasingly punitive criminal justice policies over recent decades, and psychopathy has been used to give force to some of these tougher laws. To the extent that the public perceives psychopathy as more prevalent among Blacks, it could become a vehicle for exacerbating existing disparities in prosecution and sentencing. Recent reviews of the psychopathy literature have questioned whether this potentially stigmatizing diagnosis is likely to be used in a biased manner, particularly in

reference to minority groups (e.g., Edens, Petrila, et al., 2001; Skeem, Edens, et al., 2003; cf. Edens, Guy, & Fernandez, 2003).

As such, the purpose of this study is to inform the debate about this third controversy surrounding psychopathy and ethnicity, that is, the extent to which groups of Black and White adults possess different levels of psychopathic traits as assessed by the PCL-R. Notably, this study represents only one step in the growing literature on the relation between psychopathy and ethnicity (Cooke et al., 2001). If significant ethnic group differences in PCL-R psychopathy are detected, this raises several theoretically and pragmatically important questions about the causes and consequences of this discrepancy.

METHOD

To determine the extent to which Black and White groups of adults differed in their level of psychopathy as assessed by the PCL-R, we conducted meta-analyses of studies of these groups' scores on the PCL-R or its derivatives. To explore potential moderators of the relation between PCL-R psychopathy and ethnicity, we systematically coded each identified sample by population (correctional, substance abuse, psychiatric) and gender, and conducted study-specific analyses by age. In this section, we describe how these studies were compiled and outline the statistical method used to combine their results.

Compilation of Primary Studies

Operationally Defining Psychopathy

As suggested earlier, psychopathy was operationally defined using the Total and Factor scores of the PCL (Hare, 1980), PCL-R (Hare, 1991) or the "Screening Version" of the PCL (PCL:SV), derived for use with non-criminal populations (Hart, Cox, & Hare, 1995). The PCL-R and PCL:SV consist of 20 and 12 items, respectively, that raters complete based on information obtained from an interview and review of records. Notably, the PCL:SV is strongly associated with the PCL-R (weighted mean $r = .80$), and highly similar to the PCL-R in its structure and pattern of relationships to external variables (Hart et al., 1995).

Given competing models of PCL-R psychopathy, we report the results that reflect the original two-factor (Factor 1 and Factor 2), Cooke and Michie's three-factor (interpersonal, affective, and behavioral), and Hare's four-factor (Hare Factor 4) models. Given that the three- and four-factor models postdate most of the studies included in this meta-analysis, the most complete factor score data are for the original two-factor model.

We relied upon the PCL-R Total and Factor scores as indices of psychopathy for several reasons. Although several self-report measures of adult psychopathy are available (e.g., Blackburn, 1987, 1996; Levenson, Kiehl, & Fitzpatrick, 1995; Lilienfeld & Andrews, 1996), the PCL-R is the most widely validated measure of this construct (see, e.g., Hare, 2001b). We excluded studies that used other measures of

psychopathy from these analyses because such scales typically are only weakly-to-moderately associated the PCL-R and are more strongly and consistently associated with social deviance (i.e., original Factor 2) than with the core interpersonal and affective traits of original Factor 1 (see Blackburn, 1999; Edens, Hart, Johnson, Johnson, & Olver, 2000; Harpur et al., 1989). Our goal was to avoid combining “apples and oranges” in this meta-analysis (Rosenthal & DiMatteo, 2001). The PCL measures capture the interpersonal and affective traits of psychopathy better than extant self-report scales and DSM diagnoses and provide a common metric that simplifies the interpretation of results across studies.

Defining Eligible Populations

Only primary studies of adult, Black and White individuals, were included in these analyses. Although some evidence suggests that putatively psychopathic traits can be identified relatively early in life (e.g., Frick, 2002; Lynam, 1996, 2002), we excluded studies of adolescents and children (e.g., Brandt, Kennedy, Patrick, & Curtin, 1997) because longitudinal data that definitively address this question are lacking (see Edens, Skeem, et al., 2001; Seagrave & Grisso, 2002). We focus on Black and White populations based in part on practical constraints. Few data are available on ethnic groups other than Blacks, and on ethnic group subclassifications. Moreover, the controversy regarding ethnic differences in psychopathy seems most pronounced for Black versus White populations (see Lynn, 2002).

Identifying Eligible Primary Studies

After operationally defining psychopathy and the populations of interest, we searched for the primary studies to include in the meta-analysis. These studies were identified by (a) conducting thorough searches in PsychInfo (using combinations of the terms psychopathy, PCL, PCL-R, PCL:SV, race, ethnicity, minority, and labels for specific minority groups); (b) reviewing the reference sections of PCL measure manuals, studies, and review articles; and (c) contacting researchers who were known to possess large PCL databases to request relevant statistics and to seek references to other researchers with other large databases (for the single researcher who failed to respond, published statistics alone were used). Throughout this process, we gathered information necessary to ensure that we included only nonoverlapping samples (and effects that were independent of one another) in the meta-analyses. Notably, several large samples that were identified through the above processes (e.g., Darke, Kaye, Finlay-Jones, & Hall, 1998; Firestone et al., 1999) did not, according to the primary investigators, have sufficient minority representation to warrant inclusion. A list of the studies excluded from this meta-analysis is available from the authors.

Statistical Methods

The identified primary studies' results on ethnic group differences in Total and Factor scores on the PCL measures were meta-analyzed using user-written commands (i.e., *meta*, *metareg*) in STATA, Version 7, using Cohen's *d* as the measure of effect size. *Meta* computes a pooled effect size estimate and tests the difference of the true

pooled effect from zero. Although it does so using both fixed and random effects models, only the results of the random effects model were interpreted here. Unlike fixed effects, random effects models consider both between-study and within-study variability, and may be more appropriate for use where there is significant heterogeneity in effect sizes across studies (see Ebell, 1998), as is the case here (see below).

Because most of the samples included in this meta-analysis were correctional, the full range of PCL scores were highly likely to be represented (compare the standard deviations in Table 1 with those reported in Hare, 1991). To avoid artificially inflating effect size estimates, corrections for range departures were not applied. Range departure references relatively rare, serious deviation from population values based on “variation due to the restriction (when selecting a decreased range of scores) or inflation (when selecting extreme scores only) of the range of possible scores on any measure” (Lyons, 2002, p. 8).

The *Q* statistic, which is interpreted using the chi-square distribution, was used to test the homogeneity of effect sizes across studies and determine the appropriateness of pooling study results. Following the recommendations of Rosenthal and DiMatteo (2001), significant heterogeneity in effect sizes across studies was examined to identify potential moderator variables. We systematically investigated the potential moderating effect of age, gender, and population type on any ethnic group differences in psychopathy, given that psychopathic traits may (a) decrease over the course of the adult lifespan (particularly Factor 2 features; Harpur & Hare, 1994), (b) be less prevalent and have different external correlates among women than men (Salekin, Rogers, & Sewell, 1997; Vitale & Newman, 2001; Vitale, Smith, Brinkley, & Newman, 2002), and (c) be less prevalent in psychiatric than correctional populations (Hart et al., 1995). The user-written *Metareg* command was used to extend the random effects meta-analysis to estimate the extent to which gender and population might explain any heterogeneity in the relation between ethnicity and psychopathy. Because age (by gender and ethnicity) was not available for most studies, we addressed the potentially moderating effect of age based on original data from two large studies.

RESULTS

Description of Included Studies

Despite an ongoing surge of research on the PCL-R and its derivatives over the past two decades, there have been relatively few simple comparisons of ethnic group differences in Total and Factor scores. Although no normative data on the PCL-R or PCL:SV have been collected with representative community samples, we located 21 studies of independent correctional, substance abuse, and psychiatric samples and obtained (from publications or study authors) the statistics necessary to compute effect sizes for group differences. These studies are listed in Table 1, which presents each study's sample composition, the absolute difference between average PCL-R Total Scores for Black and White groups, the effect size (Cohen's *d*) for group differences on Total Scores, and the availability of two-, three-, and four-factor data.

Table 1. Primary Studies: Total Score Effect Sizes and Factor Data

Reference	Sample ^a	N	% White	% Male	Total score difference (Black-White) ^b	Total score, <i>d</i> (95% CI)	Available Factor Data			
							Orig. two factors	Cooke & Michie's three factors	Hare's fourth factor	Hare's fourth factor
1. Alterman et al. (2004), Study 1	SA	344	46	75	0.5	.07 (-.15 to .29)	+	+	+	+
Male		257	39	100	-0.0	.00				
Female		87	10	0	-1.5	-.21				
2. Alterman (2002), Study 2	SA	173	46	100	3.3	.43 (.12 to .74)	+	-	-	-
3. Alterman (2002), Study 3	SA	135	13	0	-3.2	-.55 (-1.0 to .04)	+	-	-	-
4. Cooke et al. (2001), prison	COR	201	44	100	-0.2	-.03 (-.30 to .27)	+	+	+	+
5. Cooke et al. (2001), jail	COR	530	48	100	1.7	.24 (.06 to .42)	+	+	+	+
6. Edens et al. (2002)	COR	86	65	100	2.0	.23 (-.21 to .67)	+	+	+	+
7. Heilbrun et al. (1998),	PSY	218	55	100	-0.5	-.11 (-.38 to .16)	+	+	+	+
8. Jackson, Rogers, Neumann and Lambert (2002)	COR	101	64	0	1.4	.21 (.01 to .41)	+	+	+	+
9. Kosson et al. (1990), Study 1	COR	356	65	100	2.3	.35 (.13 to .57)	-	-	-	-
10. Kosson et al. (1990), Study 3	COR	496	74	100	2.2	.28 (.08 to .48)	-	-	-	-
11. Newman (2004)	COR	2216	51	100	.09	.01 (-.03 to .05)	+	+	+	+
12. Peterson (1984)	COR	183	50	100	0.4	.07 (-.22 to .36)	+	-	-	-
13. Reardon, Lang, and Patrick (in press)	COR	281	53	100	-0.5	-.08 (-.32 to .16)	+	+	+	+
14. Richards, Lasey, and Tucente (2003)	COR	362	37	0	0.8	.12 (-.02 to .26)	+	+	+	+
15. Salekin et al. (1997)	COR	91	64	0	-4.7	-.56 (-.99 to .13)	+	+	+	+
16. Skeem and Mulvey (2001) ^a	PSY	851	71	42	—	.39 (.21 to .57)	+	+	+	+
Male		492	69	100		.40				
Female		359	73	0		.29				
17. Vess (in Hare, 2003)	PSY	781	61	100	1.8	.25 (.05 to .35)	+	+	+	+
18. Vitale et al. (2002)	COR	528	47	0	0.7	.09 (-.09 to .18)	+	+	+	+
19. Walters et al. (2003)	PSY	253	52	100	1.9	.20 (.06 to .34)	+	+	+	+
20. Warren et al. (2003)	COR	122	38	0	.39	.06 (-.13 to .25)	+	+	+	+
21. Windle and Dumenci (1999)	SA	582	30	54	1.0	.10 (-.08 to .28)	+	+	+	+
Male		315	40		1.2	.11				
Female		267	18		1.0	.010				
Average weighted by N					.07	.12				

^a COR: correctional; SA: substance abuse; PSY: psychiatric/forensic.

^bThe PCL-R is a 40-point scale.

We did not include analyses intended to address the “file drawer problem” because their underlying assumptions arguably are inapplicable to this study. The typical assumption is that availability bias produces artificially large meta-analytic effect size estimates because significant findings are more likely to be published than insignificant ones. This assumption seems inapplicable to the current study for three reasons. First, we identified and included large samples from both published and unpublished work. Second, unlike intervention research, it does not seem safe to assume that a significant finding for ethnic differences in psychopathy is more likely to be reported than a nonsignificant one. In fact, ethnic differences in levels of psychopathy have virtually never the focus of a publication, which renders it unlikely that a (non)significant finding would result in availability bias. Third, as shown later, we found no large significant meta-analytic effects that would warrant correction (e.g., Rosenthal’s, 1978, “Fail Safe N”).

Basic Meta-Analyses

The results of all 21 studies ($N = 8,890$) were meta-analyzed to determine whether there were ethnic group differences in Total Scores and factor scores on the PCL measures. To permit an estimate of the effect of gender as a potential moderator, the three studies with male and female samples were entered separately, for a total of 24 studies. The results of these basic analyses are presented in Table 2. As shown, the effects generally were very small (e.g., PCL Total $d = .11$). However, the effects were sometimes (about 1/3 of the time) marginally statistically significant ($p < .05$). Also shown in Table 2, tests of homogeneity indicated significant variability in effect sizes across studies, with the exception of PCL Factor 1 scores. As noted by Rosenthal and DiMatteo (2001), the significance of such tests may depend upon sample size and “can yield highly significant results even when there is little variation in effect sizes” (p. 74). Nevertheless, we adopted a conservative approach designed to determine whether more homogeneous effects could be identified. This approach involved both moderator and sensitivity analyses.

Moderator Analyses

First, we explored the effect of outliers. Excluding three outlying effects, however, did not substantially increase homogeneity. Second, we compared the homo-

Table 2. Meta-Analytic Results for Total Sample

PCL Score	d	$SD(d)$	Q (heterogeneity)
PCL Total	.11*	.23	61.5 ***
PCL Factor 1	.09	.24	65.88
PCL Factor 2	.06	.38	189.65***
Cooke-Michie 13-item Total	.10	.19	41.11***
Interpersonal	.11	.19	34.59**
Affective	.10*	.20	52.56***
Behavioral	.01	.23	68.04***
Hare’s Fourth Factor	.06	.19	35.44**

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

genicity of effects for each PCL factor (from the two-, three-, and four- factor models), as shown in Table 2. Isolating these symptom constellations did not appear to increase homogeneity, with the important exception of Factor 1. Third, we explored the potential moderator variables of age, gender, and population type. To determine whether age moderated the effect of ethnic differences in psychopathy, we conducted analyses with data from two relatively large primary studies (Table 1, Studies #13 and #16). The results of these analyses suggested that age was not a significant factor. For example, in Study #13, although Black inmates were significantly younger than White inmates, the two groups' average PCL-R total scores were not significantly different even after controlling for age in a stepwise logistic regression analysis (C. Patrick, personal communication, August 6, 2002). To determine whether gender and population type (correctional, substance abuse, and psychiatric) were moderator variables, we performed a meta-analysis regression (using *Metareg*). The introduction of these covariates did not significantly reduce the estimated between-study variance for *PCL Total* or *Factor 2* scores (chosen for their relatively complete data and potential heterogeneity). However, for *PCL Factor 2* scores, a trend suggested that population moderated the relation between PCL Factor 2 scores and ethnicity ($B = .10, p = .07$).

Sensitivity Analyses

Although moderator analyses did not reveal clear explanations for potential heterogeneity in effect sizes, there were suggestions that gender (based on outlying effect sizes) and population type (based on moderator analyses) might moderate the effect of ethnic differences in PCL psychopathy. Thus, our third step involved conducting sensitivity analyses to identify population subgroups that might have more homogeneous effect sizes. Specifically, meta-analyses of Total and factor scores on the PCL measures were conducted with *women* only, *men* only, and *male correctional inmates* only. (There were insufficient studies to analyze other gender-specific population subtypes, including female correctional inmates.) As shown in Table 3, the only homogeneous effects, according to statistical significance tests were for males (PCL Factor 2), females (Cooke–Michie Total and Interpersonal; Hare’s Fourth Factor), and male correctional inmates (Cooke–Michie Behavioral; Hare’s Fourth Factor). In keeping with the homogeneous effect size results reported for the entire sample on Factor 1, these homogeneous effect size results for various subsamples indicate

Table 3. Sensitivity Results: Homogeneous Effect Sizes for Subsamples

Subsample	Subsample	<i>d</i>	<i>SD (d)</i>
All males	PCL Factor 2	-.08	.12
All females	C-M Total	-.03	.06
	CM-Interpersonal	.15	.21
	Hare’s Fourth	.06	.20
Correctional males	C-M Behavioral	-.11	.20
	Hare’s Fourth	.04	.08

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

that there are no significant differences between Blacks and Whites on these traits of psychopathy and antisocial behavior.

DISCUSSION

The construct of psychopathy, as operationalized via the PCL-R, has proven useful across a number of clinical and legal decision-making arenas. Nevertheless, evidence that the correlates of psychopathy vary across ethnicity (e.g., Kosson et al., 1990; Lorenz & Newman, 2002; Newman & Schmitt, 1998) and gender (e.g., Cale & Lilienfeld, 2002) raises questions about the extent to which this construct, including its underlying mechanisms, generalizes across groups. This suggests a need for greater understanding of psychopathy within subpopulations and avoidance of its premature application to traditionally understudied or disadvantaged groups (see Edens, 2001; Edens, Petrila, et al., 2001; Hare, 1998; Zinger & Forth, 1999). Aside from this larger issue of construct validity, there is evidence that PCL *measures* of psychopathy are similarly useful in diagnosing psychopathy in Black and White male correctional inmates (Cooke et al., 2001). Given this finding, this study was designed to inform the debate about whether Black individuals possess “more” psychopathic traits, as assessed by the PCL measures, than White individuals (Lynn, 2002; Skeem, Edens, et al., 2003; Zuckerman, 2003). Given the stigmatizing nature of this label (Edens et al., 2003; Edens, Desforjes, Fernandez, & Palac, in 2004; Gilliam & Iyengar, 1998), this particular controversy has important practical as well as theoretical implications.

The results of this study shed light on the relation between ethnicity and psychopathy while raising important questions about its contours. Our chief finding is that there is little evidence that Blacks are more psychopathic than Whites in the aggregate. The strongest foundation for an argument that ethnic groups differ in psychopathy would be a finding of large and reliable group differences on the interpersonal and affective characteristics of Factor 1, given the relative nonspecificity of the behavioral features of Factor 2 (see Lilienfeld, 1994; Skeem & Mulvey, 2001). The results of this study directly counter this argument. On the basis of homogeneous effect sizes from studies of 8,890 individuals, we found that Blacks are no more “emotionally detached” (Patrick, Bradley, & Lang, 1993) than Whites. When considered in conjunction with the results of Cooke et al. (2001), who found minimal differences in PCL-R factor structure and in the meaning of Total scores between these ethnic groups, there seems little reason to believe that there are significant ethnic differences in “core psychopathy” in this population.

This may well be true of psychopathy, more broadly construed. Although statistically significant, the size of the effect for PCL-R Total scores ($d = .11$) is about “half as small as small” (Kenny, 1999, p. 6), according to Cohen’s (1988) interpretive guidelines. On the 40-point PCL-R, Blacks obtained scores that were a weighted average of 0.7 points higher than Whites. To place the absolute magnitude of this difference into a practical context (American Psychological Association, Board of Scientific Affairs, 1999), it is less than one-fourth the size of the standard error of measurement (*SEM*) for the PCL-R. The *SEM* for PCL-R total scores is 3.1 points, meaning that “if 100 trained raters assessed the same subject (sic) at the same time,

about 68% of the scores would fall within \pm [3.1 points] of the subject's (sic) obtained Total score . . ." (Hare, 1991, p. 36).

As noted earlier, this study raises some questions about the contours of the relation between ethnicity and psychopathy. We found statistically significant heterogeneity in effect sizes, including effect sizes for PCL-R Total scores. Although this may reflect the influence of large sample sizes, it may also indicate that the differences between Blacks and Whites in PCL-R scores are not highly stable across studies. To make use of this finding by explaining such variability, we examined potential moderator variables including age, gender, population type (correctional vs. psychiatric/substance abuse), and psychopathic features (Factor 1 vs. Factor 2). Although these efforts were successful in identifying homogeneous effect sizes for male correctional samples on some indices, there were no clear moderators. In this section, we discuss how future research may better address this issue. We then explain the consistency of our chief finding with the results of past research with large community samples, which indicate that there is little relation between ethnicity and antisocial personality disorder.

Implications for Future Research

Explaining Potential Heterogeneity in Effect Sizes

The chief limitation of the current study is that it included few studies of female and noncorrectional populations. Moreover, the few available studies that were relevant produced variable effect sizes. Clearly, more studies examining ethnic differences in psychopathy are needed, particularly with these understudied groups. Future research could investigate two potential explanations for the variability in effect sizes, including poor generalizability of the construct or measurement of psychopathy to these groups.

First, some of the phenotypic manifestations of psychopathy may differ across populations, such that most widely used measures of psychopathy for male correctional inmates do not fully capture psychopathy in substance abuse, psychiatric, or female populations. For example, many of the PCL-R items reflect impulsive, irresponsible, or criminal behavior that may be based on a host of factors other than psychopathic personality deviation, including substance abuse (see Gertsley, Alterman, McLellan, & Woody, 1990) and serious mental disorders (see Skeem & Mulvey, 2001). Similarly, some evidence suggests that biological sex and gender roles shape psychopathic personality disposition into different manifestations in women than in men, particularly with respect to antisocial behavior (for a review, see Cale & Lilienfeld, 2002). To increase understanding of how the manifestations and mechanisms of psychopathy may vary across such populations, future research must go "back to the basics." Rather than compare average levels of putative symptoms of psychopathy, this research should first validate the *construct* of psychopathy within groups (e.g., based on family studies, experimental research with relevant laboratory tasks, and studies of theoretical and outcome correlates; Cale & Lilienfeld, 2002). Such research would help clarify the extent to which extant measures of psychopathy capture construct irrelevant or error variance in noncorrectional and non-male

populations, which might help to explain unstable effect sizes for ethnic differences across studies.

Second, future research may investigate the extent to which any rater or laboratory biases explain some of this effect size instability. Some evidence suggests that clinicians overdiagnose antisocial and psychopathic traits in Blacks (Mack, 1999). The extent to which such biases are (or are not) expressed in PCL scores could vary across settings. First, although laboratories typically obtain relatively high rates of interrater reliability for Factor and Total scores (e.g., Hare, 1991; Hart et al., 1995), there is substantial room for judgment in rating several items on the PCL measures, particularly those that capture interpersonal and affective features (Factor 1). Raters and laboratories may adopt their own informal or formal rules for exercising such judgment. Second, in settings where the file data needed to complete the PCL measures are less extensive than those typically available in correctional settings, raters are forced to rely more upon interview data and judgment. In such settings, any rater or laboratory biases, including those relevant to ethnicity, may be more influential on ratings of psychopathic traits.

Better Operationalizing Psychopathy

Although the PCL measures are necessarily imperfect representations of the psychopathy construct, for the reasons explained earlier (Method section), these were the only measures of psychopathy used in this meta-analysis. For this reason, it is unclear whether this study indicates a lack of difference between Black and White male inmates in the PCL measures or in psychopathy per se. Future research could address this limitation in two ways. First, the items of the PCL measures could be refined and their factor structure clarified. Although we investigated three alternative models of PCL psychopathy in this study (two-, three-, and four-factor models), no models produced homogeneous effect sizes for ethnicity across factors. Second, a future meta-analysis of ethnic differences in psychopathy could include multiple measures of psychopathy that tap its core interpersonal and affective features. With the increasing development of such measures, this may well be possible in the future.

Better Operationalizing Ethnicity

In most research on psychopathy, ethnicity is assessed on the basis of a single-item, self-designated category (e.g., “Black,” “White,” “Hispanic”). Clearly, there is much room for improvement in operationalizing this construct. There is substantial variation within ethnic groups (Zuckerman, 1990) that must be captured in order to detect and interpret any between-group ethnic differences in psychopathy (see Hall, Nagayama, Bansal, & Lopez, 1999). Improved precision in defining ethnic groups would go far in improving our ability to interpret the results of research that focus on all three issues related to psychopathy raised above, that is, whether ethnic groups differ in their levels of psychopathy, whether measures of psychopathy generalize across ethnicities, and most importantly, whether different mechanisms underlie psychopathy in particular ethnic groups.

Studying the Community Population

In addition to explaining seemingly variable ethnic group differences in psychopathy in clinical populations, future research should focus on addressing more definitively the issue of population differences based on random samples of individuals drawn from the community. The chief limitation of this study is that most published research involves correctional and clinical samples, where strong selection biases may be at work. These data predominantly represent incarcerated criminal offenders, which could either enhance or mask ethnic differences in scores on the PCL measures. Specifically, given prosecutorial and sentencing biases that tolerate more deviance from Whites (e.g., Baldus & Woodworth, 1998), one might expect White inmates to obtain *higher* PCL-R scores than Black inmates, particularly on Factor 2, which is more closely aligned with criminality. Conversely, successful psychopaths who commit white collar or other crimes that go undetected or unprosecuted are not included in correctional samples (Hare, 1993). If White psychopaths are more likely to be *successful* at cheating as a life strategy (Mealey, 1995), perhaps because their family backgrounds provide the skills and connections necessary to do so, then one might expect White prison inmates to obtain *lower* PCL-R Factor 1 scores than Black inmates.

These potential selection biases demonstrate the need to examine the relation between ethnicity and psychopathy in noncorrectional, nonclinical samples. Ideally, one would obtain valid, reliable measures of psychopathy from a representative random sample of the general population, including both community residents and displaced residents (e.g., those removed from the community for incarceration or hospitalization).

Consistency of Chief Findings with Past Community-Based Research

Currently, the closest approximation to data of this sort is that provided by Morey (1991) for the Antisocial Features (ANT) scale of the Personality Assessment Inventory. Unlike many other self-report measures of psychopathy, the item content of ANT was developed specifically in reference to historical conceptions of this disorder (e.g., Cleckley, 1941) and the scale correlates moderately with the PCL-R ($r_s = .28-.54$; Edens et al., 2000; Edens, Buffington-Vollum, Colwell, Johnson, & Johnson, 2002; Walters, Duncan, & Geyer, 2003). Moreover, in the few studies directly comparing the predictive validity of ANT to the PCL-R, correlations with relevant criterion measures (e.g., institutional misconduct) have generally been comparable for the two measures (Buffington-Vollum, Edens, Johnson, & Johnson, 2002; Edens et al., 2002; Salekin et al., 1997; cf. Walters et al., 2003; for an overview, see Edens, Cruise, & Buffington-Vollum, 2001).

On the basis of a normative sample of 851 White and 117 Black community residents from 12 states, the absolute magnitude of ethnic group differences in ANT scores was 2.9 *t*-score points ($SEM = 3.3$), with an effect size of .29 (95% CI = .10-.39). This difference is higher than the PCL-R data presented above for male correctional samples ($d = .14$). Nevertheless, Black individuals tend to obtain slightly higher scores on ANT than White individuals, with the magnitude of these differences being smaller than the instrument's standard error of measurement.

Although APD and psychopathy clearly are not synonymous constructs, they overlap (Skilling, Harris, Rice, & Quinsey, 2002) enough to warrant noting that there are no clinically significant ethnic differences in the “socially deviant” aspects of psychopathy that are central to the APD diagnosis. In the ECA study, Robins, Tripp, and Przybeck (1991) found that the estimated lifetime prevalence rate of APD was 3.9% for Whites and 3.7% for Blacks. That these findings (self-report and APD diagnoses) are based on noncorrectional, community samples provides some support for the argument that the PCL-R male correctional findings in our study are not strongly impacted by selection bias.

Summary and Conclusion

In summary, the research to date indicates no reliable, meaningful differences between Blacks and Whites on the most widely accepted measure of psychopathy. Across 21 studies, Blacks exceeded Whites by an average of less than one point on the PCL-R. The size of these differences varied across populations for whom this measure was not explicitly designed (i.e., clinical and female samples), raising key questions about measurement error and potential rating biases that should be addressed in future research. Nevertheless, in relation to core interpersonal and affective traits of psychopathy, there is no evidence that Blacks are more psychopathic than Whites. Although this issue must be addressed with community samples before drawing definitive conclusions, the present findings are consistent with community-based findings that ethnicity bears little relation to self-report measures of psychopathy or diagnoses of APD. Together, these findings inform scholarly debate about ethnic differences in “levels” of psychopathy by suggesting that any meaningful difference among groups is quite unlikely.

These findings are also inconsistent with the notion that the PCL-R is necessarily “discriminatory” when used with male offenders, given that groups of Black and White offenders obtain similar overall scores on the measure. At present, there is little basis for concern that using PCL-R scores to inform decisions about men in criminal justice settings (e.g., parole hearings) will adversely impact minority groups. This stands in contrast to judicial bans on the use of cognitive ability tests to make decisions about educational placement and employment for minorities. Although the PCL-R measure could be scored in a biased manner in a particular case, trained raters in research settings generally produce PCL-R scores that are unrelated to ethnicity.

The fact that PCL-R scores are not necessarily discriminatory in correctional contexts does not mean that the PCL-R will be applied and interpreted in an unbiased manner (see Cooke et al., 2001). That is, a PCL-R score of 30 may reflect the “true” level of psychopathic traits for both a Black and a White offender. However, that score may be interpreted by the judge or jury such that it contributes to different sentences for each offender. If public conceptions of Black offenders as relatively predatory, dangerous, and (for White citizens) deserving of punishment (Gilliam & Iyengar, 1998; Sommers & Ellsworth, 2000, 2001) affect correctional decision-making (see Baldus & Woodworth, 1998), it is possible that use of the PCL-R could result in “adverse impact.” We are aware of no studies to date that have examined this issue

directly, although simulation studies manipulating the presence of psychopathic traits and ethnicity have demonstrated some evidence of bias against Black defendants in the criminal justice system (Edens et al., 2003). Further, more ecologically valid research would substantially improve our understanding of the criminal justice and public policy implications of the diagnosis of psychopathy for ethnic minorities.

APPENDIX: DESCRIPTION OF PRIMARY STUDIES FROM TABLE 1

Studies 1–3

Alterman (2002) provided data for the first three studies, described in articles including Alterman et al. (1998); Rutherford, Alterman, Cacciola, & McKay (1998); and Rutherford, Alterman, Cacciola, & McKay (1997). The participants in “Study 1” are chiefly patients treated at a methadone maintenance clinic. The participants in “Study 2” are chiefly male patients with alcohol abuse problems enrolled in a study of the predictive utility of various measures of antisociality. The participants in “Study 3” are chiefly female substance abusers (see Rutherford et al., 1998).

Studies 4 and 5

David Kosson provided data on the jail sample described in Cooke et al. (2001), including additional participants with prorated total scores. Christine Michie provided data on the federal correctional sample described in Cooke et al. (2001).

Study 6

John Edens provided these data, which are described in Edens et al. (2002).

Study 7

Stephen Hart (2002) provided these data, which are described in Heilbrun et al. (1998).

Study 8

Rebecca Jackson provided these data, which are described in Jackson et al. (2002).

Studies 9 and 10

Obtained from original source.

Study 11

Obtained from Joseph Newman, based on a series of studies collected over time.

Study 12

Obtained from Hare (1991).

Study 13

Christopher Patrick (2002) provided these data on male federal correctional inmates, which are described in Reardon et al. (in press).

Study 14

Henry Richards provided these data, which are described in Richards et al. (2003).

Study 15

Randall Salekin (2002) provided data on these inmates, which are described in Salekin et al. (1997).

Study 16

Jennifer Skeem provided these data, which are described in Skeem and Mulvey (2001).

Study 17

James Vess provided these data, which are described in Hare (2003).

Study 18

Jennifer Vitale provided these data, which are described in Vitale et al. (2002).

Study 19

Glenn Walters provided these data, which are described in Walters et al. (2003).

Study 20

Michael Windle (2002) provided data for a large sample included in Windle and Dumenci (1999). Hispanic participants were excluded from the present analysis. Interviewers' scores were used, given potential biases inherent in therapists rating their own patients.

Study 21

Janet Warren provided these data, which are described in Warren et al. (2003).

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REFERENCES

- Alterman, A., McDermott, P., Cacciola, J., Rutherford, M., Boardman, C., McKay, J., et al. (1998). A typology of antisociality in methadone patients. *Journal of Abnormal Psychology, 107*, 412–422.
- American Psychological Association, Board of Scientific Affairs. (1999). Statistical methods in psychology journals: Guidelines and explanations. *American Psychologist, 54*, 594–604.
- Baldus, D., & Woodworth, G. (1998). Race discrimination and the death penalty: An empirical and legal overview. In J. Acker, R. Bohm, & C. Lanier (Eds.), *America's experiment with capital punishment: Reflections on the past, present, and future of the ultimate penal sanction* (pp. 385–416). Durham, NC: Carolina Academic Press.
- Blackburn, R. (1987). Two scales for the assessment of personality disorder in antisocial populations. *Personality and Individual Differences, 8*, 81–93.
- Blackburn, R. (1996). Psychopathy and personality disorder: Implications of interpersonal theory. *Issues in Criminological and Legal Psychology, 24*, 18–23.
- Blackburn, R. (1999). Personality assessment in violent offenders: The development of the antisocial personality questionnaire. *Psychologica Belgica, 39*, 87–111.
- Brandt, J. R., Kennedy, W. A., Patrick, C. J., & Curtin, J. J. (1997). Assessment of psychopathy in a population of incarcerated adolescent offenders. *Psychological Assessment, 9*, 429–435.
- Buffington-Vollum, J. K., Edens, J. F., Johnson, D. W., & Johnson, J. (2002). Psychopathy as a predictor of institutional misbehavior among sex offenders: A prospective replication. *Criminal Justice and Behavior, 29*, 497–511.
- Bureau of Justice Statistics. (2002). *Sourcebook of Criminal Justice Statistics 2001*. Retrieved April 18, 2003, from <http://www.albany.edu/sourcebook/>
- Cale, E., & Lilienfeld, S. (2002). Sex differences in psychopathy and antisocial personality disorder: A review and integration. *Clinical Psychology Review, 22*, 1179–1207.
- Cleckley, H. (1941). *The mask of sanity*. St. Louis, MO: Mosby.
- Cleckley, H. (1976). *The mask of sanity* (5th ed.). St. Louis, MO: Mosby.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Cooke, D. J., Kosson, D. S., & Michie, C. (2001). Psychopathy and ethnicity: Structural, item, and test generalizability of the Psychopathy Checklist—Revised (PCL-R) in Caucasian and African American participants. *Psychological Assessment, 13*, 531–542.
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment, 13*, 171–188.
- Cunningham, M. D., & Reidy, T. J. (2002). Violence risk assessment at federal capital sentencing: Individualization, generalization, relevance, and scientific standards. *Criminal Justice and Behavior, 29*, 512–537.
- Darke, S., Kaye, S., Finlay-Jones, R., & Hall, W. (1998). Factor structure of psychopathy among methadone maintenance patients. *Journal of Personality Disorders, 12*, 162–171.
- Day, R., & Wong, S. (1996). Anomalous perceptual asymmetries for negative emotional stimuli in the psychopath. *Journal of Abnormal Psychology, 105*, 648–652.
- Department of Health and Human Services. (1999). *Mental health: Culture, race and ethnicity*. Supplement to Mental health: A report of the Surgeon General 1999. Retrieved April 18, 2003, from <http://www.mentalhealth.org/cre/default.asp>
- Dilulio, J. J. (1995). The coming of the super-predators. *Weekly Standard, 1*(11), 23.
- Ebell, M. (1998). *Reading an overview or meta-analysis*. Retrieved April 18, 2003, from <http://www.poems.msu.edu/InfoMastery/Overviews/steps.in.a.metaanalysis.htm>
- Edens, J. F. (2001). Misuses of the Hare Psychopathy Checklist—Revised in court: Two case examples. *Journal of Interpersonal Violence, 16*, 1082–1093.

- Edens, J. F., Buffington-Vollum, J. K., Colwell, K. W., Johnson, D. W., & Johnson, J. (2002). Psychopathy and institutional misbehavior among incarcerated sex offenders: A comparison of the Psychopathy Checklist—Revised and the Personality Assessment Inventory. *International Journal of Forensic Mental Health, 1*, 49–58.
- Edens, J. F., Cruise, K. R., & Buffington-Vollum, J. K. (2001). Forensic and correctional applications of the Personality Assessment Inventory. *Behavioral Sciences and the Law, 19*, 519–543.
- Edens, J. F., Desforges, D. M., Fernandez, K., & Palac, C. A. (2004). Effects of psychopathy and violence risk testimony on mock juror perceptions of dangerousness in a capital murder trial. *Psychology, Crime, and Law, 10*, 393–412.
- Edens, J. F., Guy, L. S., & Fernandez, K. (2003). Psychopathic traits predict attitudes toward a juvenile capital murderer. *Behavioral Sciences and the Law, 21*, 807–828.
- Edens, J. F., Hart, S. D., Johnson, D. W., Johnson, J., & Olver, M. E. (2000). Use of the Personality Assessment Inventory to assess psychopathy in offender populations. *Psychological Assessment, 12*, 132–139.
- Edens, J. F., Petrila, J., & Buffington-Vollum, J. K. (2001). Psychopathy and the death penalty: Can the Psychopathy Checklist—Revised identify offenders who represent “a continuing threat to society?” *Journal of Psychiatry and Law, 29*, 433–481.
- 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 and the Law, 19*, 53–80.
- Firestone, P., Bradford, J., McCoy, M., Greenberg, D., Larose, M., & Curry, S. (1999). Prediction of recidivism in incest offenders. *Journal of Interpersonal Violence, 14*, 511–531.
- Frick, P. J. (2002). Juvenile psychopathy from a developmental perspective: Implications for construct development and use in forensic assessments. *Law and Human Behavior, 26*, 247–253.
- Gertsley, L. J., Alterman, A. I., McLellan, A. T., & Woody, G. E. (1990). Antisocial personality disorder in patients with substance abuse disorders: A problematic diagnosis? *American Journal of Psychiatry, 147*, 173–178.
- Gilliam, F. D., & Iyengar, S. (1998). The superpredator script. *Nieman Reports, 52*, 1–6. Retrieved October 23, 2002, from <http://www.nieman.harvard.edu/reports/98-4NRwint98/Gilliam.html>. [See also http://www.peacebeyondviolence.org/res_mono_gil_youth.html].
- Gilliam, F. D., & Iyengar, S. (2000). Prime suspects: The influence of local television news on the viewing public. *American Journal of Political Science, 44*, 560–573.
- Gould, S. J. (1981/1996). *The mismeasure of man*. New York: W.W. Norton & Co.
- Griggs v. Duke Power Co., 401 U.S. 424 (1971).
- Hall, G.C., Nagayama, C., Bansal, A., & Lopez, I. (1999). Ethnicity and psychopathology: A meta-analytic review of 31 years of comparative MMPI/MMPI-2 research. *Psychological Assessment, 11*, 186–197.
- Hare, R. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York: Pocket Books.
- Hare, R. (1998). The Hare PCL-R: Some issues concerning its use and misuse. *Legal and Criminological Psychology, 3*, 99–119.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist—Revised manual*. Toronto: Multi-Health Systems.
- Hare, R. D. (1996). Psychopathy: A clinical construct whose time has come. *Criminal Justice and Behavior, 23*, 25–54.
- Hare, R. D. (2001a). *Psychopathy and its implications: From ivory tower to real world*. Invited address presented at the 109th annual conference of the American Psychological Association, San Francisco, CA.
- Hare, R. D. (2001b). *REDO*.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist—Revised (PCL-R) manual (2nd ed.)*. Toronto: Multi-Health Systems.
- Harpur, T. J., & Hare, R. D. (1994). Assessment of psychopathy as a function of age. *Journal of Abnormal Psychology, 103*, 604–609.
- Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). A two-factor conceptualization of psychopathy: Construct validity and implications for assessment. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 103*, 741–747.
- Harrison, P., & Karberg, J. (2003). *Bureau of justice statistics bulletin: Prison and jail inmates at midyear 2002*. Retrieved April 18, 2003, from <http://www.ojp.usdoj.gov/bjs/pub/pdf/pjim02.pdf>
- Hart, S., Cox, D., & Hare, R. (1995). *Manual for the Psychopathy Checklist: Screening Version (PCL:SV)*. Toronto: Multi-Health Systems.
- Hart, S. D., & Hare, R. D. (1997). Psychopathy: Assessment and association with criminal conduct. In D. M. Stoff, J. Breiling, & J. D. Maser (Eds.), *Handbook of antisocial behavior* (pp. 22–35). New York: Wiley.

- Hedges, L., & Olkin, I. (1985). *Statistical methods for meta-analysis*. New York: Academic Press.
- Heilbrun, K., Hart, S. D., Hare, R. D., Gustafson, D., Nunez, C., & White, A. J. (1998). Inpatient and postdischarge aggression in mentally disordered offenders: The role of psychopathy. *Journal of Interpersonal Violence, 13*, 514–527.
- Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology, 3*, 139–170.
- Innes, C. (1997). Patterns of misconduct in the federal prison system. *Criminal Justice Review, 22*, 157–174.
- Jackson, R. L., Rogers, R., Neumann, C. S., & Lambert, P. L. (2002). Psychopathy in female offenders: An investigation of its underlying dimensions. *Criminal Justice and Behavior, 29*, 692–704.
- Kenny, D. (1999). Meta-analysis, Easy to Answer (META) [Computer software]. Retrieved April 16, 2002, from <http://w3.nai.net/~dakenny/meta.htm>
- Kosson, D. S., Smith, S. S., & Newman, J. P. (1990). Evaluating the construct validity of psychopathy in Black and White male inmates: Three preliminary studies. *Journal of Abnormal Psychology, 99*, 250–259.
- Larry P. et al. v. Riles et al., 343 F. Supp. 306, 1972; 495 F. Supp. 929 (1979).
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology, 68*, 151–158.
- Lilienfeld, S. (1994). Conceptual problems in the assessment of psychopathy. *Clinical Psychology Review, 14*, 17–38.
- Lilienfeld, S. (1998). Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy, 36*, 99–125.
- Lilienfeld, S., & Andrews, B. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment, 66*, 488–524.
- Lorenz, A., & Newman, J. (2002). Do emotional and information processing deficiencies found in Caucasian psychopaths generalize to African-American psychopaths? *Personality and Individual Differences, 32*, 1077–1086.
- Lynam, D. R. (1996). Early identification of chronic offenders: Who is the fledgling psychopath? *Psychological Bulletin, 120*, 209–234.
- Lynam, D. R. (1997). Pursuing the psychopath: Capturing the fledgling psychopath in a nomological net. *Journal of Abnormal Psychology, 106*, 425–438.
- Lynam, D. R. (2002). Fledgling psychopathy: A view from personality theory. *Law and Human Behavior, 26*, 255–259.
- Lynn, R. (2002). Racial and ethnic differences in psychopathic personality. *Personality and Individual Differences, 32*, 273–316.
- Lynn, R. (2003). Race differences in psychopathic personality: Reply to Skeem and Zuckerman. *Personality and Individuals Differences*.
- Lyons, L. C. (2002). *Meta-analysis: Methods of accumulating results across research domains*. Unpublished paper. Retrieved August 11, 2002, from <http://www.lyonsmorris.com/MetaAnalysis.htm>
- Mack, G. M. (1999). *Effects of race on the clinical assessment of antisocial personality disorder and psychopathy*. Unpublished doctoral dissertation, St. Johns University, New York.
- Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences, 19*, 523–540.
- Morey, L. C. (1991). *Personality Assessment Inventory manual*. Odessa, FL: PAR, Inc.
- Newman, J. P., & Kosson, D. S. (1986). Passive avoidance learning in psychopathic and nonpsychopathic offenders. *Journal of Abnormal Psychology, 95*, 252–256.
- Newman, J. P., & Schmitt, W. A. (1998). Passive avoidance in psychopathic offenders: A replication and extension. *Journal of Abnormal Psychology, 107*, 527–532.
- Okazaki, S., & Sue, S. (1995). Methodological issues in assessment research with ethnic minorities. *Psychological Assessment, 7*, 367–375.
- Otto, R. K., & Heilbrun, K. (2002). The practice of forensic psychology: A look toward the future in light of the past. *American Psychologist, 57*, 5–18.
- Patrick, C. J. (1994). Emotion and psychopathy: Startling new insights. *Psychophysiology, 31*, 319–330.
- Patrick, C. J., Bradley, M. M., & Lang, P. J. (1993). Emotion in the criminal psychopath: Startle reflex modulation. *Journal of Abnormal Psychology, 102*, 82–92.
- Peterson, B. (1984). *Cross-validation of the checklist for the assessment of psychopathy in a prison sample*. Unpublished doctoral dissertation, University of Missouri, Saint Louis [Data are available in Hare, 1991].
- Poythress, N. G., Edens, J. F., & Lilienfeld, S. O. (1998). Criterion-related validity of the Psychopathic Personality Inventory in a prison sample. *Psychological Assessment, 10*, 426–430.

- Reardon, M., Lang, A., & Patrick, C. (in press). An evaluation of relations among antisocial behavior, psychopathic traits, and alcohol problems in incarcerated men. *Alcoholism: Clinical and Experimental Research*.
- Richards, H. J., Casey, J. O., & Lucente, S. W. (2003). Psychopathy and treatment response in incarcerated female substance abusers. *Criminal Justice and Behavior*, *30*, 251–276.
- Robins, L., Tripp, J., & Przybeck, T. (1991). Antisocial personality. In L. Robins & D. Regier (Eds.), *Psychiatric disorders in America* (pp. 258–290). New York: Free Press.
- Rosenthal, R. (1978). Combining results of independent studies. *Psychological Bulletin*, *92*, 500–504.
- Rosenthal, R., & DiMatteo, M. R. (2001). Meta-analysis: Recent developments in quantitative methods for literature reviews. *Annual Review of Psychology*, *52*, 59–82.
- Rushton, J. P. (1991). Do r-K strategies underlie human race differences? A reply to Weizmann et al. *Canadian Psychology*, *32*, 29–42.
- Rushton, J. P. (2000). *Race, evolution and behavior*. New Brunswick, NJ: Transaction.
- Rutherford, M., Alterman, A., Cacciola, J., & McKay, J. (1997). Validity of the Psychopathy Checklist—Revised in male methadone patients. *Drug and Alcohol Dependence*, *44*, 143–149.
- Rutherford, M., Alterman, A., Cacciola, J., & McKay, J. (1998). Gender differences in the relationship of antisocial personality disorder criteria to Psychopathy Checklist—Revised scores. *Journal of Personality Disorders*, *12*, 69–76.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1997). Construct validity of psychopathy in a female offender sample: A multitrait—multimethod evaluation. *Journal of Abnormal Psychology*, *106*, 576–585.
- Schmitt, W. A., & Newman, J. P. (1999). Are all psychopathic individuals low-anxious? *Journal of Abnormal Psychology*, *108*, 353–358.
- Seagrave, D., & Grisso, T. (2002). Adolescent development and the measurement of juvenile psychopathy. *Law and Human Behavior*, *26*, 219–239.
- Skeem, J., Monahan, J., & Mulvey, E. (2003). Psychopathy, treatment involvement, and subsequent violence among civil psychiatric patients. *Law and Human Behavior*, *26*, 577–603.
- Skeem, J. L., Edens, J. F., Sanford, G. M., & Colwell, L. H. (2003). Psychopathic personality and racial/ethnic differences reconsidered: A reply to Lynn (2002). *Personality and Individual Differences*, *35*, 1439–1462.
- Skeem, J. L., & Mulvey, E. P. (2001). Psychopathy and community violence among civil psychiatric patients: Results from the MacArthur Violence Risk Assessment Study. *Journal of Consulting and Clinical Psychology*, *69*, 358–374.
- Skeem, J. L., Mulvey, E., & Grisso, T. (2003). Applicability of traditional and revised models of psychopathy to the Psychopathy Checklist: Screening Version. *Psychological Assessment*, *15*, 41–55.
- Skilling, T., Harris, G., Rice, M., & Quinsey, V. (2002). Identifying persistently antisocial offenders using the Hare Psychopathy Checklist and DSM antisocial personality disorder criteria. *Psychological Assessment*, *14*, 27–38.
- Snyderman, M., & Herrnstein, R. (1983). Intelligence tests and the Immigration Act of 1924. *American Psychologist*, *38*, 986–995.
- Sommers, S. R., & Ellsworth, P. C. (2000). Race in the courtroom: Perceptions of guilt and dispositional attributions. *Personality and Social Psychology Bulletin*, *26*, 1367–1379.
- Sommers, S. R., & Ellsworth, P. C. (2001). White juror bias: An investigation of prejudice against Black defendants in the American courtroom. *Psychology, Public Policy, and Law*, *7*, 201–229.
- Vitale, J., & Newman, J. (2001). Response perseveration in psychopathic women. *Journal of Abnormal Psychology*, *110*, 644–647.
- Vitale, J., Smith, S., Brinkley, C., & Newman, J. (2002). The reliability and validity of the Psychopathy Checklist—Revised in a sample of female offenders. *Criminal Justice and Behavior*, *29*, 202–231.
- Walters, G. D., Duncan, S. A., & Geyer, M. D. (2003). Predicting disciplinary adjustment in inmates undergoing forensic evaluation: A direct comparison of the PCL-R and PAI. *Journal of Forensic Psychiatry and Psychology*, *14*, 382–393.
- Warren, J. I., Burnette, M. L., South, S. C., Chauhan, P., Bale, R., Friend, R., et al. (2003). Psychopathy in women: Structural modeling and comorbidity. *International Journal of Law and Psychiatry*, *26*, 223–242.
- Weiler, B. L., & Widom, C. S. (1996). Psychopathy and violent behaviour in abused and neglected young adults. *Criminal Behaviour and Mental Health*, *6*, 253–271.
- Windle, M., & Dumenci, L. (1999). The factorial structure and construct validity of the Psychopathy Checklist—Revised (PCL-R) among alcoholic inpatients. *Structural Equation Modeling*, *6*, 372–393.
- Zinger, I., & Forth, A. E. (1999). Psychopathy and Canadian criminal proceedings: The potential for human rights abuses. *Canadian Journal of Criminology*, *40*, 237–276.

- Zuckerman, M. (1990). Some dubious premises in research and theory on racial differences: Scientific, social, and ethical issues. *American Psychologist*, *45*, 1297–1303.
- Zuckerman, M. (2003). Are there racial and ethnic differences in psychopathic *personality*? A critique of Lynn's racial and ethnic differences in psychopathic personality. *Personality and Individual Differences*.