What Are the Core Features of Psychopathy? A Prototypicality Analysis Using the Psychopathy Checklist-Revised (PCL-R)

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BRIEF REPORT

WHAT ARE THE CORE FEATURES OF PSYCHOPATHY? A PROTOTYPICALITY ANALYSIS USING THE PSYCHOPATHY CHECKLIST-REVISED (PCL-R)

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What are the core features of psychopathy? Previous prototypicality analyses showed that many features were considered as highly prototypical. The authors extend this work by using forced ranking to grasp which features are most important. Forensic mental health professionals ranked the 20 Psychopathy Checklist-Revised (PCL-R) items on their importance to psychopathy. Affective-interpersonal features were judged to be of greater importance than behavioral–lifestyle features. The most important items were *callous/lack of empathy*, *conning/manipulative*, and *lack of remorse or guilt,* which were deemed more important than nearly all other PCL-R features. The prototypicality ranking of the 20 PCL-R items by the forensic mental health professionals showed strong overlap (r = .64 to .86) with psychometric indices of item importance (network centrality, item-total correlation, and item response theory discrimination parameter). Taken together, these findings clarify the relative importance of PCL-R features to psychopathy.

Keywords: psychopathy, Psychopathy Checklist, prototypicality analysis, empathy, callous-unemotional

Despite a rapidly extending research base on psychopathy, there is no consensus on the conceptualization of psychopathy. Indeed, "the 'real' core of psychopathy has yet to be uncovered" (Hare & Neumann, 2005, p. 63). The search for core features is far from trivial. In forensic settings, the assessment of psychopathy most commonly occurs with the Psychopathy Checklist-Revised (PCL-R; Hare, 2003). The PCL-R consists of a checklist of 20 items (e.g., *Lack of remorse or guilt*) that are deemed prototypical of psychopathy. The resulting assessment of psychopathy is a sum score of the PCL-R items, implying that all items are equally diagnostic. This implies that an emotionally

troubled individual who persistently engages in antisocial behavior can have the same psychopathy score as a cold, callous individual who rarely engages in antisocial behavior. The identification of the core features of psychopathy could result in a revised scoring system, for instance in determining necessary conditions (e.g., that core features need to be present when assigning a high psychopathy score), assigning differential weights to items (e.g., assigning greater weight to core features as compared to surface features), or the exclusion of items (e.g., excluding features that would be mere consequences of the psychopathic personality).

One way to try to determine the core features of psychopathy is through prototypicality ratings. Several studies have used prototypical analysis in the study of antisocial personality disorder (APD). Rogers, Duncan, Lynett, and Sewell (1994), for instance, asked 331 forensic psychiatrists to judge APD and psychopathy symptoms on their importance to APD. As many as 43 criteria were rated as having moderate to high importance. Few studies have used prototypical analyses for psychopathy. Miller, Lynam, Widiger, and Leukefeld (2001) had 15 psychopathy experts rate the prototypical individual with psychopathy on 30 Big-Five personality facets. Their average judgment served to create the "prototypic psychopathy profile," with the facets low Modesty, low Self-Consciousness, low Straightforwardness, low Dutifulness, and high Excitement Seeking receiving the highest prototypicality ratings (for a comprehensive review of the Big-Five research perspective on psychopathy, see Lynam & Miller, 2015). Most recent studies used the Comprehensive Assessment of Psychopathic Personality (CAPP) to assess features for their prototypicality to psychopathy (Flórez et al., 2015; Kreis, Cooke, Michie, Hoff, & Logan, 2012; Sörman et al., 2014). Kreis et al. (2012) provided 132 international mental health professionals with 33 CAPP features of psychopathy (e.g., *Lacks anxiety*), along with nine foil items (e.g., *Shy*), and asked how prototypical they found those items to psychopathy (1 = *low prototypicality*, 7 = *high prototypicality*). The foil items obtained the lowest prototypicality, validating the methodology. As many as 25 out of the 33 CAPP symptoms were rated as highly prototypical (5 or higher on the prototypicality scale; range 5.00–6.56).

The current study aims to extend recent prototypicality studies on psychopathy in several ways. First, while very promising, the CAPP is an instrument under construction and precludes items assessing explicit antisocial behavior. We therefore chose to use items from a well-validated psychopathy instrument, the PCL-R (see also Cruise, Colwell, Lyons, & Baker, 2003), which also allows the assessment of the prototypicality of antisocial behavior for psychopathy, a hotly debated issue (see, e.g., Hare & Neumann, 2010). Second, previous studies did not require participants to indicate which items were most important, with participants pointing to a great number of features considered to be of relevance to psychopathy. We forced participants to rank the items on their importance, hoping it would help to reveal what may be the most important psychopathy features. Third, we assessed the correspondence of clinician-rated prototypicality with psychometric indices of item importance.

METHOD

The study was approved by the ethical committee of the Psychology Depart-
ment of the University of Amsterdam (classified under number 2016-CP-7162).
The task and the data are publicly available at https://osf.io/gvwk2/.

PARTICIPANTS

Eighty-nine forensic mental health professionals initiated the study. We
excluded data from 27 participants with incomplete data (74% of whom
provided only informed consent, but did not complete the ranking), and from
one participant who spent less than 4 min on the prototypicality ratings.
Finally, we set a minimum of 1 year of experience in forensic mental health as
necessary to qualify as a forensic mental health professional, and as a result,
we excluded the data of four more participants. The final sample consisted of
57 forensic mental health professionals (79% female; *M* age = 35.86 years,
SD = 10.66) with an average 9.77 years of experience in forensic mental
health (*SD* = 8.93). About half of the sample (56%) were psychologists, with
the remainder of the sample practicing a range of other professions (e.g.,
psychiatry, sociotherapy, psychotherapy). Roughly half of the sample (56%)
participated in a 3-day PCL-R training experience. In addition, the average
estimated number of papers the participants read on psychopathy was 20.79
(*SD* = 28.48), the average estimated number of PCL-Rs assessed was 13.88
(*SD* = 31.32), and the estimated average number of psychopathic patients the
participants had worked with was 24.75 (*SD* = 30.70).

PROCEDURE

The study was conducted through an online survey, in Dutch, built in Qual-
trics. The survey was distributed (a) by direct mail to Dutch forensic mental
health professionals, (b) through social media (LinkedIn, Twitter), (c) at three
national forensic conferences, and (d) by site visits to two forensic institutions.
    After providing informed consent, participants were provided with the fol-
lowing instructions: "This study aims to provide insight in the most important
features of psychopathy in criminals. Rank the following features according to
the extent that they are relevant for 'a psychopath.' Rank those most important
on top and those least important on the bottom" (the original Dutch instructions
can be found at https://osf.io/gvwk2/). Although psychopathy is a dimensional
construct (Edens, Marcus, Lilienfeld, & Poythress, 2006), we chose the terminol-
ogy *a psychopath* to avoid any possible confusion with *psychopathology*. Along
with the instructions were the 20 items of the PCL-R, presented one below the
other, in a random order. Participants could click and drag items to change their
order. Continuation to the next page was possible only after a participant had
changed the order of at least one item, and participants who spent less than
4 minutes on this page were excluded (see Participants section).
    After completing a four-item multiple-choice test on psychopathy (which
we did not take into further account), participants were asked to provide

**TABLE 1. Importance of PCL-R Items for Psychopathy as
Judged by Forensic Mental Health Professionals**

Item label	PCL-R facet (Hare, 2003)	Ranked importance
		M (SD)
callous/lack of empathy	Affect	3.19 (2.55)
cunning/manipulative	Interpersonal	3.98 (2.66)
lack of remorse or guilt	Affect	4.40 (3.78)
glibness/superficial charm	Interpersonal	6.25 (4.50)
shallow affect	Affect	7.89 (4.43)
pathological lying	Interpersonal	8.28 (4.88)
grandiose sense of self-worth	Interpersonal	8.40 (4.25)
failure to accept responsibility	Affect	9.05 (4.86)
parasitic lifestyle	Lifestyle	9.44 (4.25)
need for stimulation	Lifestyle	11.16 (4.66)
irresponsibility	Lifestyle	11.19 (4.25)
early behavioral problems	Antisocial	11.54 (5.12)
impulsivity	Lifestyle	12.28 (4.87)
poor behavioral controls	Antisocial	12.28 (4.85)
criminal versatility	Antisocial	13.58 (4.28)
juvenile delinquency	Antisocial	13.95 (4.33)
lack of realistic, long-term goals	Lifestyle	14.21 (4.51)
revocation of conditional release	Antisocial	16.07 (3.69)
promiscuous sexual behavior	—	16.40 (3.12)
many short-term marital relations	—	16.44 (3.31)

Note. Ranking can vary from 1 (most important) to 20 (least important).

demographic and background information (age, gender, education, profession, clinical and forensic work experience) and were surveyed on their experience and knowledge of psychopathy (PCL-R training, number of psychopathic patients they worked with, number of papers read on psychopathy).

Finally, participants were asked to judge the main source they used for their ranking of the psychopathy items. They were provided with eight options ("assessments in patients with possible psychopathy," "personal experience with individuals diagnosed with psychopathy," "fiction, movies, series, books, or magazines on psychopathy," "newsfeeds on psychopathy," "intuition," "education or training on psychopathy," "scientific papers on psychopathy," and "other") and asked to rank them from most to least important.

MEASURES

The PCL-R consists of a checklist of 20 items (see Table 1). While the factor structure of the PCL-R is debated (Cooke & Michie, 2001; Neumann, Vitacco, Hare, & Wupperman, 2005), the PCL-R manual describes a four-factor structure that groups the 20 items into an affective factor (*lack of remorse or*
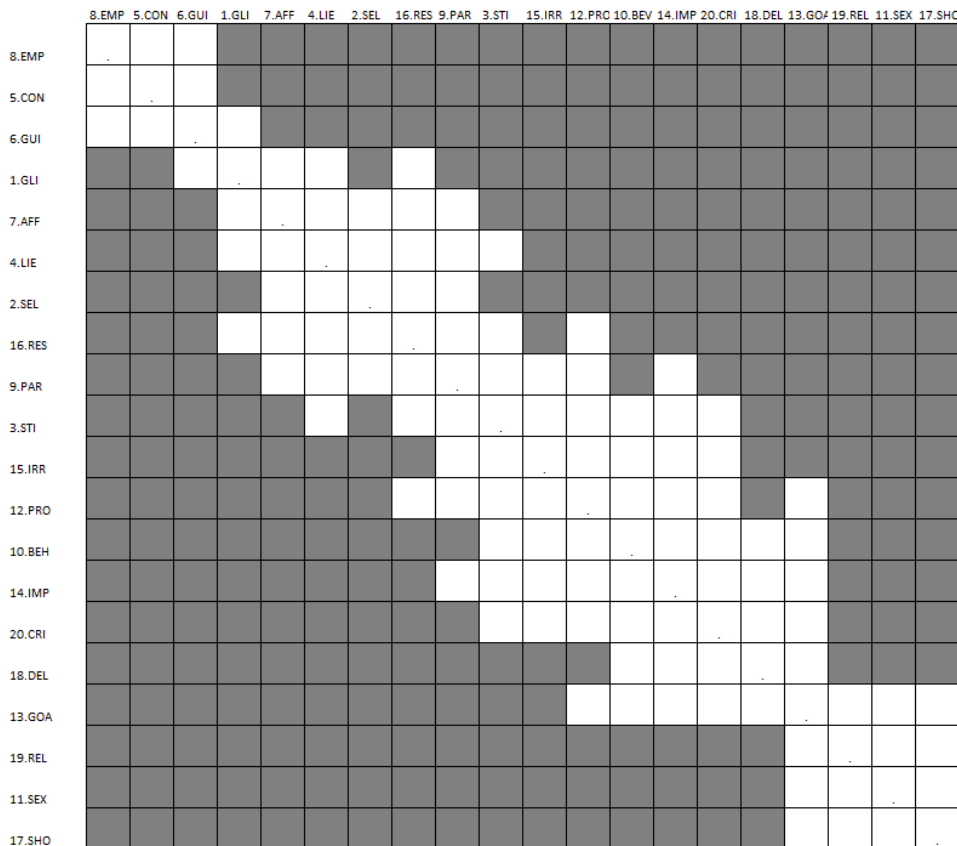
FIGURE 1. Differences in judged prototypicality between PCL-R items. Gray boxes
mark differences that were significant at $p < .005$. White boxes mark differences
that were not significant. EMP: callous/lack of empathy; CON: cunning/manipulative;
GUI: lack of remorse or guilt; GLI: glibness/superficial charm; AFF: shallow affect;
LIE: pathological lying; SEL: grandiose sense of self-worth; RES: failure to accept
responsibility; PAR: parasitic lifestyle; STI: need for stimulation; IRR: irresponsibility;
PRO: early behavioral problems; BEH: poor behavioral controls; IMP: impulsivity;
CRI: criminal versatility; DEL: juvenile delinquency; GOA: lack of realistic,
long-term goals; REL: revocation of conditional release; SEX: promiscuous
sexual behavior; SHO: many short-term marital relations.

guilt, *shallow affect*, *callous/lack of empathy*, *failure to accept responsibility*),
an interpersonal factor (*glibness/superficial charm, grandiose sense of self-worth, pathological lying, conning/manipulative*), a lifestyle factor (*impulsive, irresponsible, need for stimulation, parasitic lifestyle, lack of realistic long-term goals*), and an antisocial factor (*criminal versatility, revocation of conditional release, early behavioral problems, juvenile delinquency*). Two items contribute to the psychopathy total score, but they do not load on any of the four factors (*promiscuous sexual behavior, many short-term marital relations*). We provided participants with the descriptive labels (mentioned in italics above) of the 20 items.

TABLE 2. Importance of PCL-R Items for Psychopathy
as Judged by Forensic Mental Health Professionals

PCL-R facet (Hare, 2003)	Ranked importance
	M (SD)
Affect	6.14 (2.25)
Interpersonal	6.73 (2.57)
Lifestyle	11.66 (1.85)
Antisocial	13.48 (2.29)

Note. Ranking can vary from 1 (most important) to 20 (least important).

RESULTS

Table 1 presents the PCL-R items, in judged order of importance. The two-way random model for consistency, average measures, showed an intraclass correlation coefficient (ICC) of .98. It is noteworthy that all affective–interpersonal items were judged to be of more importance than the lifestyle–antisocial items. This is clear when collapsing judged order of importance per PCL-R factor (see Table 2). The ranked importance for items of the affective and interpersonal factors did not differ, $t(56) = 1.25$, $p = .21$, $d = .18$, but both were judged to be of greater importance than items of the lifestyle factor, $t(56) = 12.45$, $p < .001$, $d = 1.65$, and $t(56) = 10.30$, $p < .001$, $d = 1.37$, respectively, and than items of the antisocial factor, $t(56) = 14.54$, $p < .001$, $d = 1.92$, and $t(56) = 11.77$, $p < .001$, $d = 1.56$, respectively.

We ran paired sample t tests, using an alpha level of .005 (Benjamin et al., 2017), to explore whether there were significant differences between PCL-R items in judged importance. Figure 1 displays the results of those tests, with white boxes marking differences that were not significant and gray boxes marking differences that were significant. The results confirm that *callous/lack of empathy*, *conning/manipulative*, and *lack of remorse or guilt* were judged to be of most importance and were rated as being of greater importance than nearly all other items.

The ranking of the items may be a result of education and training. Specifically, scientific sources on psychopathy often stress the importance of affective–interpersonal traits, and forensic mental health professionals may have ranked the items according to what they were taught. One way to explore this issue was by asking participants on which sources they based their ranking. Table 3 presents, in order of importance, the sources that participants used for their judgment. Participants judged *Personal experience* as their most importance source for their ranking. This provides some indication that the ranking resulted from their experience with psychopathic patients, more so than training and education.

Finally, we examined to what extent our findings converge with psychometric research on the PCL-R. We calculated the Spearman rho correlation between the rank order of item importance as observed in our prototypicality analyses with the rank orders of item importance as identified through three different psychometric approaches:

TABLE 3. Source Used in Ranking Psychopathy Items by Forensic Mental Health Professionals, in Order of Importance

Source	Ranked importance
	M (SD)
Personal experience	2.53 (1.90)
Education or training	2.72 (1.58)
Scientific papers	3.28 (1.64)
Assessments	3.79 (1.90)
Intuition	4.30 (1.68)
News reports	5.86 (1.09)
Other	6.75 (1.87)
Fiction	6.77 (1.19)

Note. Ranking can vary from 1 (most important) to 8 (least important).

1. Network centrality, which reflects the overall association between a PCL-R item and all other PCL-R items. Specifically, we used the strength index, obtained in a large North American (i.e., Wisconsin) sample (because it was the largest sample, and findings replicated another North American sample; Verschuere et al., 2018).

2. The item-total correlation as found in a pooled North American sample (Hare et al., 1990), which reflects the correlation between a PCL-R item and the PCL-R total score and provides an indication of how discriminative a PCL-R item is for PCL-R defined psychopathy.

3. The item response theory (IRT) discrimination parameter *a* obtained in a large North American male offender sample (Bolt, Hare, Vitale, & Newman, 2004). This parameter reflects how well the PCL-R item differentiates between those with versus those without the presumed underlying construct (PCL-R psychopathy).

When two items had the same value on any of the three psychometric indices (e.g., an equal item-total correlation coefficient), they received the same rank (e.g., PCL-R Item 8 showed the highest item-total correlation and thus received the rank of 1. PCL-R Items 3, 5, and 7 all correlated .58 with the PCL-R total score and therefore shared Rank 3 [the average of Ranks 2, 3, and 4]). As

TABLE 4. Association Between Prototypicality Judgments and Psychometric Indices of Item Importance (Network Centrality, Item-Total Correlation, and IRT Discrimination Parameter)

	Centrality	Item-total correlation	IRT discrimination parameter
Prototypicality judgments	.64**	.76**	.86**
Centrality	—	.57**	.64**
Item-total correlation		—	.92**
IRT discrimination parameter			—

Note. IRT = item response theory. *p < .05. **p < .01.

is clear from Table 4, the prototypicality ratings strongly aligned with item importance as determined by the different psychometric approaches.

DISCUSSION

To try to identify core features of criminal psychopathy, we asked forensic mental health professionals to rank PCL-R items on their importance for psychopathy. Affective–interpersonal items were judged to be of greater importance than the lifestyle–antisocial items, with *callous/lack of empathy*, *conning/manipulative,* and *lack of remorse or guilt* deemed most important. Interestingly, there is high overlap with the CAPP items that received the highest prototypicality ratings (Kreis et al., 2012): *Lacks remorse*, *Unempathic*, *Self-centered*, *Manipulative*, and *Lacks emotional depth*. Our findings also converge remarkably well with the outcome of totally different approaches (item-total correlation, network centrality, and IRT). Our findings also align with the Big-Five perspective on psychopathy (Lynam & Miller, 2015). While a comprehensive description of psychopathy in Big-Five terms involves facets of all five domains (e.g., Neuroticism: low depression; Agreeableness: low altruism; Conscientiousness: low self-discipline, Extraversion: high excitement seeking; Openness: low openness in feelings), it has been found that, across expert ratings, correlational approaches and a Big-Five translation of the PCL-R facets of Agreeableness (A)—the tendency to be compassionate and cooperative toward others—are most central to psychopathy (Lynam & Miller, 2015). This has led some to suggest that, at least for some measures, "Agreeableness, or its converse Antagonism, should be considered a core feature, perhaps *the* core feature, of psychopathy" (Sherman, Lynam, & Heyde, 2014, p. 275). It is noteworthy that while the putative core psychopathy features show some overlap with items prototypical for APD (Rogers et al., 1994), there are important differences, with forensic experts assigning greater importance to behavioral–lifestyle features (i.e., *Attitude of irresponsibility*, *Fails to conform socially*, *Adult antisocial behavior*) in the definition of APD.

     This study is not without its limitations. First, one could argue that the use of forced ranking may have artificially created differences in ranked importance. However, we think that the modest standard deviations of the ranked importance, the high intraclass correlation, and the convergence with previous psychometric work tempers this criticism. Second, our study is limited to the specific list of items used, that is, the 20 PCL-R items. We chose the PCL-R because it is the most often applied instrument in forensic settings. At the same time, the PCL-R has its limitations and does not address all possible psychopathy features. In that sense, our study does not answer the question: Does the PCL-R capture the essential features of psychopathy? Indeed, some features that were theorized to be of crucial importance to psychopathy— for instance, fearlessness (Lykken, 1957) and boldness (Patrick, Fowles, & Krueger, 2009)—are not explicitly assessed by the PCL-R. To address this issue, it would be important to extend our forced ranking procedure beyond the PCL-R items. Third, we focused on criminal psychopathy because forensic mental health experts have expertise in criminal psychopathy. While it would

be a challenge to identify those with experience in noncriminal psychopathy, it would be interesting to extend our work to noncriminal psychopathy, particularly because the focus on criminal psychopathy may have downplayed the role of antisocial behavior (which is arguably less discriminative for psychopathy within criminal samples than within noncriminal samples). Fourth, we relied on a convenience sample and lacked data on the response rate.

Despite its limitations, our study advances the identification of features that are most representative of psychopathy. Our findings, along with psychometric research and prototypicality ratings on other instruments, indicate that affective–interpersonal features—specifically, lacking empathy, being manipulative, and lacking remorse—may constitute the core of psychopathy.

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