What is the opposite of psychopathy? A statistical and graphical exploration of the psychopathy continuum

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ABSTRACT

Statistical and graphical methods were used to explore the conceptual networks of high and low psychopathy scores, with a particular focus on discovering what constitutes the opposite of psychopathy. The participants, 615 university students, completed three measures of psychopathy along with an assortment of measures of personality, interpersonal strengths and problems, and well-being. Most of the psychopathy measures had normal distributions, which indicates that there is a reverse or opposite side of psychopathy that can be explored and defined. The exceptions were measures of criminal tendencies and rebellious nonconformity, which were notably skewed. Multidimensional scaling analyses resulted in a two-dimensional circular configuration that clearly revealed the positioning of psychopathy scales in relation to the contextual variables. The opposite of psychopathy was defined by a tendency to experience guilt following private transgressions, by a tendency to experience shame following publicly exposed transgressions, by honesty, humility, cooperativeness, agreeableness, consideration, restraint, and conscientiousness. Importantly, the tendencies to experience guilt or shame following transgressions displayed mild, positive associations with well-being. The opposite of psychopathy did not involve timidity or gregariousness, and it did not involve internalizing distress. "Compassionate morality" is suggested as a possible label.

1. Introduction

Attempts to measure psychopathy have focused on the characteristics of prototypical psychopathy. The defining features include the remorseless exploitation of others, callous affect, Machiavellianism, and rebelliousness, among other features (for reviews, see Herve & Yuille, 2017; Patrick, 2006; Skeem & Cooke, 2010; Skeem, Polaschek, Patrick, & Lilienfeld, 2011). Most of the research on psychopathy has focused on the persons who obtain higher scores on measures of these traits. We have consequently learned much about the upper end of the psychopathy continuum but less about the meaning of low scores.

One purpose of the present study was to explore the distributions of scores for multiple measures of psychopathy. If psychopathy scales have normal distributions, then the scales have opposite ends, or reverse poles, that should be explored and defined. There would be little reason to explore the meaning of low scores if there was positive skewness i.e., if most scores occurred at the low end. For example, scores on a measure of schizophrenia are likely concentrated at the low end because most people do not have the psychotic symptoms that define schizophrenia. There is probably no meaningful "opposite of schizophrenia" to be explored. But we do not know if this is the case for psychopathy.

Graphs of variable distributions are rarely provided in published reports. Hare (2003, pp. 55-57) provided graphs for the distributions of PCL-R total scores, which were clearly normal or near-normal. We suspected that measures of the personality-based features of psychopathy, such as those related to callous affect or interpersonal manipulation, might well have normal or near-normal distributions i.e., might have opposite ends that should be defined. However, we suspected that the subscales of psychopathy that pertain to antisocial behavior, such as criminal tendencies, may not have normal distributions.

A second purpose of this study was to graphically reveal the positionings of psychopathy measures in the broader network of familiar, important, personality and psychological adjustment variables. Previous studies have provided correlations between psychopathy and scores on such other variables. For example, psychopathy is negatively correlated with honesty-humility (Lee & Ashton, 2005; Paulhus & Williams, 2002); it displays a mix of correlations with five-factor model traits, perhaps most consistently with low Agreeableness (Love & Holder, 2014; Miller, Lynam, Widiger, & Leukefeld, 2001; Poy, Segarra, Esteller, López, & Moltó, 2014); and it is mildly negatively correlated with well-being variables (Love & Holder, 2014). However, the findings from previous studies are somewhat scattered and difficult to integrate

because of the typical focus on a small number of conceptually similar variables in the individual research reports.

Our focus in the present study was on the big, joint picture of many psychopathy variables and many contextual variables placed in the same analysis. What variables in the joint space define the opposite of psychopathy? Where is psychopathy located with regards to measures of normal personality traits, interpersonal strengths and problems, psychological distress, positive and negative affect, and well-being? Multidimensional scaling analyses (MDS) of the all-variables correlation matrix were used to provide answers to these questions. An MDS graphical depiction of psychopathy in this broader network should provide a bird's eye view that could otherwise be missed in lists of bivariate correlations.

There is an extensive literature on the dimensionality of psychopathy. Recently, some have found evidence from bifactor analyses for a single general factor (Jonason & Luévano, 2013), whereas others have found evidence for two general psychopathy factors (Boduszek, Dhingra, Hyland, & Debowska, 2016). The different factors and facets of psychopathy also have different correlates (Herve & Yuille, 2017; Patrick, 2006; Skeem et al., 2011). What constitutes the opposite of psychopathy could possibly vary across facets and subscales. MDS analyses can be used to reveal if this is the case.

2. Methods

2.1. Participants

The participants who provided complete, useable data were 615 English-speaking undergraduate students registered in psychology courses at a western Canadian university. Their ages ranged from 17 to 25 (mean = 19.8, SD = 1.6), with 75% reporting as female. Data from 30 participants who were older than 25 years were excluded at a reviewer's request. Data from an additional 118 participants were excluded due to excessive missing values. Recruitment and administration of the measures took place online. Participants received bonus course credits in compensation for their time. The research was conducted in accordance with The Code of Ethics of the World Medical Association.

2.2. Measures

The means, standard deviations, and Cronbach alpha reliabilities for the measures (involving 358 items) are provided in Table 1 and in the Supplementary Materials. The reliabilities were similar to the values reported in previous studies.

2.2.1. Psychopathy

Psychopathy was assessed using three separate measures. The Hare Self-Report of Psychopathy (SRP-4; Paulhus, Neumann, & Hare, 2014) is a 64-item measure that assesses the same facets as the Revised Psychopathy Checklist (Hare, 2003) that is commonly used in forensic research: Interpersonal Manipulation (e.g., "I purposefully flatter people to get them on my side"), Callous Affect (e.g., "people sometimes say I'm cold-hearted"), Erratic Lifestyle (e.g., "I enjoy doing wild things" or "I rarely follow the rules"), and Criminal Tendencies (e.g., breaking and entering, theft, etc.). The measure has good reliability and convergent and discriminant validity.

The Levenson Self-Report of Psychopathy (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) is a 26-item measure that assesses Primary Psychopathy (a selfish, uncaring, callous, and manipulative orientation to others; e.g., "I enjoy manipulating other people's feelings"), and Secondary Psychopathy (impulsivity, reactivity, and deviant lifestyle; e.g., "I have been in a lot of shouting matches with other people"). The LSRP has been shown to be reliable and related to other self-report measures and common correlates of psychopathy (Lynam, Whiteside, & Jones, 1999).

The Psychopathic Personality Inventory (PPI-R-40; Eisenbarth, Lilienfeld, & Yarkoni, 2015) is a 40-item, 8-subscale measure that assesses Machiavellian Egocentricity (e.g., "If I can't change the rules, I try to get others to bend them for me"), Rebellious Nonconformity (e.g., "I've always seen myself as something of a rebel"), Social Influence (e.g., "I have a talent for getting people to talk to me"), Carefree Nonplanfulness (e.g., "I've thought a lot about my long term goals"), Coldheartedness (e.g., "It bothers me a lot when I see someone crying"), Fearlessness (e.g., "I am a daredevil"), Blame Externalization (e.g., "I've been the victim of a lot of bad luck"), and Stress Immunity (e.g., "I don't let everyday hassles get on my nerves"; Lilienfeld & Andrews, 1996; Lilienfeld & Widows, 2005). The PPI-R has also been found to have good reliability and validity in non-forensic populations (Copestake, Gray, & Snowden, 2011).

2.2.2. Delinquency

Participants' histories of deviant behaviours were assessed in order to provide a reference point for the psychopathy variables in the statistical and graphical analyses. Delinquency should be associated with psychopathy, and it is unlikely to have a normal distribution. Using the 14-item Self-Reported Delinquency Scale provided by Latimer (2003), participants indicated whether they had ever committed morally or legally deviant acts such as arson, vandalism, threatening others, and theft. The measure focuses on the variety of past delinquent acts and

Table 1
Cronbach Alpha reliabilities and descriptive statistics for psychopathy scores.

Measure/subscale	Alpha	mean	SD	Skew-ness	Skew-ness (z)	Kurt-osis	Kurt-osis (z)	Norm W
LSRP primary	0.85	2.30	0.54	0.38	3.83	−0.02	1.91	0.99
LSRP secondary	0.70	2.37	0.52	0.32	3.23	−0.10	1.61	0.99
LSRP total	0.87	2.32	0.47	0.24	2.41	−0.19	1.21	0.99
SRP criminal tendencies	0.80	1.51	0.46	1.32	13.37	1.88	6.69	0.88
SRP erratic lifestyle	0.81	2.60	0.58	−0.02	−0.20	−0.26	−0.10	1.00
SRP interpersonal Manip.	0.85	2.49	0.58	0.26	2.62	−0.14	1.31	0.99
SRP callous affect	0.79	2.23	0.51	0.48	4.89	0.19	2.44	0.98
SRP total	0.92	2.21	0.43	0.34	3.41	0.03	1.71	0.99
PPI blame externalization	0.72	5.13	1.24	−0.71	−7.21	0.30	−3.60	0.96
PPI carefree nonplanfulness	0.70	5.49	1.01	−0.87	−8.82	1.04	−4.41	0.95
PPI coldheartedness	0.71	5.58	1.15	−0.99	−10.04	0.98	−5.02	0.92
PPI fearlessness	0.75	3.17	1.07	0.44	4.50	0.01	2.25	0.98
PPI Machiavellian egocentric	0.62	1.97	0.60	0.43	4.30	−0.24	2.15	0.97
PPI Rebellious nonconform.	0.69	1.89	0.55	0.74	7.53	0.72	3.76	0.95
PPI social influence	0.62	1.99	0.56	0.67	6.80	0.74	3.40	0.96
PPI stress immunity	0.70	2.32	0.74	0.08	0.85	−0.66	0.42	0.98
PPI total	0.83	2.11	0.55	0.28	2.83	−0.22	1.41	0.98

Note. The response options ranged from 1 to 5 for the LSRP and SRP, and from 1 to 4 for the PPI. "Norm W" values are from the Shapiro-Wilk test for normality. $P < 0.05$ for all Norm W values except SRP Erratic Lifestyle.