Abstract

A current shift in intergroup relations research aims to delve deeper into whether, and how, individual differences predict social attitudes. Recent research goes beyond the measurement of typical personality traits and focuses also on the subclinical area of malicious traits. The present studies aimed at exploring the role of one such trait, psychopathy, as a predictor of negative social attitudes. The role of empathy was examined as a key underlying process explaining the relationship between primary and secondary psychopathy and social attitudes. Study 1 ($N = 171$) and Study 2 ($N = 332$) demonstrated that when entered as simultaneous predictors of negative attitudes toward immigrants (Study 1) and racism (Study 2), only primary psychopathy emerged as a significant predictor. Study 1 further demonstrated that lower levels of empathy mediated the psychopathy – attitudes path. Study 2 decomposed empathy into cognitive and affective, and tested the explanatory role of social dominance orientation (SDO) and right-wing authoritarianism (RWA). Primary psychopathy predicted lower cognitive and affective empathy, which sequentially predicted racism via SDO (in the case of cognitive empathy) and RWA (in the case of affective empathy). The results are discussed in the context of an integration between the personality and intergroup relations literature.

Keywords: PSYCHOPATHY; ATTITUDES; PREJUDICE; RACISM; EMPATHY; SOCIAL DOMINANCE ORIENTATION; RIGHT-WING AUTHORITARIANISM

Introduction

In increasingly multicultural societies it is vital to understand people's attitudes toward diversity generally and toward people with different backgrounds more specifically. Research on the psychological basis of attitudes between groups that differ in terms of ethnicity, nationality, or religion is vital, especially when acknowledging high rates of prejudice and discrimination globally (Ipsos Mori, 2016). Increases in immigration and asylum-seeking numbers (Office for National Statistics, 2019), and the globalization of education and employment, underscore the need to understand how to promote and enhance intergroup attitudes. A critical step in this direction is achieved via understanding, and ultimately attenuating, prejudice (Hewstone et al., 2002).

Traditionally, research on prejudice and intergroup relations has taken a social psychological approach that emphasises the explanatory role of competing social identities (Turner et al., 1987; Tajfel & Turner, 1979). When research on prejudice focuses instead on the study of personality, it has predominantly focused on socio-political ideologies that account for prejudice (Cichocka & Dhont, 2018). In this area, it is primarily social dominance orientation (SDO) and right-wing authoritarianism (RWA) that have been explored as factors explaining prejudicial attitudes (Cowling et al., 2019). SDO is a social ideology that favours group hierarchies and group dominance, while RWA denotes obedience to authority and intolerance toward deviant groups and group members. In our research, we extend the study of individual differences in the context of prejudice by focusing on the subclinical area of malicious personality traits. Specifically, we examine the role of psychopathy as a predictor of negative social attitudes toward immigrants (Study 1) and racism more generally (Study 2). To further understand the underlying processes that account for the association between psychopathy and negative social attitudes we examine, for the first time, the mediating role of

empathy (Studies 1 and 2) and social ideology variables, specifically SDO and RWA (Study 2).

Individual differences and prejudice

Research investigating the relationship between individual differences and prejudice now integrates personality and social psychological approaches (see Hodson et al., 2017) and seeks to understand further if, and why, some individuals are more prejudiced than others by exploring personality traits that have been overlooked in the past. Both Big-5 (Koehn et al., 2019) and HEXACO (Bergh & Akrami, 2016) personality traits have been found to predict prejudice, with some studies finding that personality traits predict prejudice indirectly via SDO and RWA (e.g., Ekehammar et al., 2004).

Hodson et al. (2009) explored not only Big-5 and ideology factors as predictors of prejudice, but also *dark* personalities. The authors found that higher levels of narcissism, Machiavellianism and psychopathy, composing a subclinical set of personality traits described as the *dark triad*, predicted higher levels of racism. Other studies have found that *dark triad* (Jonason et al., 2020) or *dark tetrad* (also incorporating sadism; Moor et al., 2019) measures predict prejudicial attitudes independently of socio-political ideologies. Of note is a meta-analysis testing the relationship between dark triad traits and psychosocial outcomes which found that, of the three traits, only psychopathy predicted prejudice when the other two were controlled for (Muris et al., 2017).

Psychopathy comprises of a constellation of co-occurring traits that load on to two factors: primary and secondary psychopathy (Hare & Neumann, 2008; Neumann et al., 2015). Primary psychopathy is characterized by a callous disregard for others, a lack of remorse or guilt, and a manipulative interpersonal style, while secondary psychopathy consists of a reckless lifestyle, impulsivity and antisocial behaviour. Although the highest concentration of individuals with psychopathic traits are found in forensic populations, low to

moderate levels of psychopathic traits within the general population are normally distributed and can be found in approximately 29% of the population (Coid & Yang, 2008; Coid et al., 2009). However, a number of psychopathic subtypes have been identified in general population studies that differ on both a range of outcomes as well as on their levels of primary versus secondary psychopathic traits (Coid et al., 2012; Falkenbach et al., 2014). Therefore, it is important to test the associations between both primary and secondary psychopathy and prejudice.

To date, there have been few studies specifically investigating the association between primary and secondary psychopathy and prejudice. Grigg and Manderson (2015) found that primary psychopathy was associated with racism in both adults and adolescents in an Australian community sample. Anderson and Cheers (2017) found that psychopathy predicted negative attitudes towards asylum seekers, also in an Australian community sample. In a longitudinal study of adolescents, Van Zalk and Kerr (2014) found that Callous-Unemotional (CU) traits, a cluster of primary psychopathic traits, reduced the otherwise normative decrease in prejudice toward immigrants. However, none of these studies investigated the relationship between secondary psychopathy and prejudice.

The two studies that have tested the relationship between both primary and secondary psychopathy and prejudice have produced conflicting results. Hodson et al. (2009) found that callous affect, and not secondary psychopathy, was associated with prejudice. In contrast, Mitchell et al. (2015) found that secondary psychopathic traits predicted ethnic in-group bias, possibly due to poor response inhibition among individuals with elevated secondary psychopathy. Therefore, there is a need for further research to test whether primary psychopathy, secondary psychopathy, or both, predict prejudice, and importantly, to understand the underlying processes that explain these potential relationships. This was the

first aim of Study 1, which tested whether primary or secondary psychopathy predict prejudice. Prejudice here was specifically framed as negative attitudes toward immigrants.

Empathy and prejudice

In seeking to understand prejudice and prejudice reduction, the intergroup relations literature has highlighted the role of empathy as an important affective factor that relates to improved attitudes toward social groups (Batson et al., 1997). Although there is no consensual definition of the construct of empathy, it has been broadly defined as an "important component of social cognition that contributes to one's ability to understand and respond adaptively to others' emotions, succeed in emotional communication, and promote prosocial behaviour" (Spreng et al., 2009, p. 62). Feelings of empathy for a single member of a stigmatized group can improve attitudes towards the whole stigmatized group and increase helping behaviours (Batson et al., 2002). Providing further support for the role of empathy, a meta-analysis that examined the affective and cognitive processes underlying the path between intergroup contact and prejudice identified empathy (as well as intergroup anxiety) as one of the key mechanisms that explain reductions in prejudice (Pettigrew & Tropp, 2008).

The present studies

Whilst the association between psychopathy and prejudice has been documented, it is not clear why individuals with psychopathic traits should have higher levels of prejudice, as explanatory mechanisms have not been sufficiently investigated. Given that it is crucial to understand why people high in psychopathy may have more negative intergroup attitudes than people low in psychopathy, more research regarding the variables that explain the personality-prejudice relationship is necessary. The examination of such potential explanatory mechanisms is vital in the effort to attenuate prejudice since these mechanisms

are likely to be a target for interventions (rather than, for example, psychopathic personality traits themselves).

Impaired empathy is considered to be a core feature of psychopathy (e.g., Blair et al., 2005), leading some authors to describe it as the "archetypal empathy disorder" (Bird & Viding, 2014, p. 526). Given that a lack of empathy is correlated with negative social attitudes and behaviours including prejudice (Finlay & Stephan, 2000; Jolliffe & Farrington, 2006a; Vescio et al., 2003;), and that there is some evidence that empathy mediates the relationship between some psychopathic traits and political attitudes (Preston & Anestis, 2018), in Study 1, we examined whether primary psychopathy, secondary psychopathy, or both, predict prejudice and, using a general measure of empathy, tested whether lower levels of empathy mediates the relationship between psychopathy and attitudes towards immigrants. One recent study found that socio-political ideologies may mediate the relationship between the dark triad and prejudice (Zemojtel-Piotrowska et al., 2020). Therefore, aiming to replicate and extend Study 1, in Study 2 we focused on racism generally, and integrated the role of social ideology in the psychopathy – empathy – prejudice path, hypothesizing that SDO and RWA will further mediate the path to racism.

Study 1

This study aimed to provide initial evidence regarding the mediating role of empathy in the relationship between psychopathy and prejudice, and specifically negative attitudes toward immigrants. We further test the predictive role of both primary and secondary psychopathy on empathy and prejudice. Previous research regarding the role of primary versus secondary psychopathy on prejudice has produced conflicting results (see Hodson et al., 2009, Mitchell et al., 2015). However, based on literature that points to the negative relationship between psychopathy and empathy (e.g., see Bird & Viding, 2014, for a review)

and empathy and prejudice (Batson et al., 1997), we hypothesise that psychopathy will predict prejudice via lower levels of empathy.

Method

Participants and procedure

Participants were 171 adults, the majority of whom were female (51.9%), Caucasian (60.2%) and under the age of 30 (81.3%). 108 participants (63.2%) were undergraduate students approached and recruited on the campus of a London university. 62 participants were non-students recruited from the community in a large town in Southern England, and one participant did not indicate whether they are student or non-student. The study was approved by the local research ethics committee. Participants were approached, informed of the nature of the study, and completed self-report questionnaires. Upon completion, participants were thanked and debriefed. The general demographics of the participants are illustrated in Table 1.

Measures

Psychopathic traits were measured with the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995). Participants were asked how much they agreed (1 = *strongly disagree;* 5 = *strongly agree*) with 26 statements such as: 'Love is overrated' (i.e. primary psychopathy), and 'Before I do anything, I consider the possible consequences' (i.e. secondary psychopathy, reverse-coded item). Items were summed to create total psychopathy (α=.84), primary psychopathy (α=.82), and secondary psychopathy (α=.68) scales. Higher numbers indicate higher levels of psychopathy.

Empathy was measured with the Toronto Empathy Questionnaire (TEQ; Spreng et al., 2009). Participants were asked how frequently (1 = *never;* 5 = *always*) they felt or acted in the manner described by 16 statements such as: 'I get a strong urge to help when I see

someone else upset'. Items were summed to create a total empathy scale (α=.85). Higher

numbers indicate higher empathy.

Negative attitudes to immigration were measured with the Attitudes to Immigration

Survey (ATIS; Hovey et al., 2000). Participants were asked how much they agreed (1 =

strongly disagree; 5 = *strongly agree*) with 8 statements such as: 'Immigrants take jobs from

those that need them'. Items were summed to create a total of negative attitudes to

immigration scale (α=.85).

T-tests revealed data to be missing randomly ($p > 0.05$). Therefore, for all scales,

missing constructs were coded as missing if more than 25% of items were missing per

participant. If fewer were missing, valid mean substitution was used to impute missing values

(Nie et al., 1975), such that the mean of the available items for each participant was

substituted for the missing data for that scale. Demographic information on age, gender,

socio-economic status (using occupation or parental occupation if student), and ethnicity was

also collected.

Results and discussion

Table 1. Participant characteristics and descriptives of the variables, Study 1

	M (SD) or % (N)
Demographics	
Age 30 and over	18.7 (32)
Male	49.1 (84)
Student	63.2 (108)
Caucasian	60.2 (103)
Main Study Variables	
Primary psychopathy	42.7 (9.4)
Secondary psychopathy	22.3 (4.9)
Empathy	41.9 (8.8)

Attitudes to immigration	22.3 (4.8)

Preliminary analysis

  Means and standard deviations for all the variables can be found in Table 1 and correlations between study variables can be found in Table 2. As predicted, primary and secondary psychopathy positively correlated with anti-immigration attitudes and negatively correlated with empathy. Empathy and anti-immigration attitudes were negatively associated.

Table 2. Bivariate correlations, Study 1

	1.	2.	3.
1. Primary psychopathy	-		
2. Secondary psychopathy	.42***	-	
3. Empathy	-.66***	-.46***	-
4. Attitudes to immigration	.27***	.21**	-.36***

**p < .01; ***p < .001*

Main analysis

  We then ran a linear regression to test primary and secondary psychopathy as simultaneous predictors of anti-immigration attitudes. Considering research that highlights gender differences in psychopathy (Bergstrøm et al., 2018; Efferson & Glenn, 2018), empathy (e.g., Christov-Moore et al., 201), and social attitudes (e.g., Altemeyer, 1998), we controlled for gender in all main analyses (regressions and mediation). When both predictors were included in a regression equation, primary psychopathy predicted anti-immigration attitudes (β = .22, p = .010), whilst secondary psychopathy was not a significant predictor (β

= .12, p = .149). Moreover, when primary and secondary psychopathy were regressed on empathy, both primary (β = -.53, p < .001) and secondary psychopathy (β = -.21, p = .001) negatively predicted the variable. Finally, when primary and secondary psychopathy, as well as empathy, were regressed on anti-immigration attitudes, the sole significant predictor was empathy (β = -.31, p = .003).

We then tested whether empathy mediates the relationship between primary and secondary psychopathy and anti-immigration attitudes, using PROCESS for SPSS, Model 4. Indirect effects are significant when confidence intervals (CIs) do not include zero (MacKinnon et al., 2007). Bootstrapping estimates (based on 5,000 bootstrap samples) revealed a significant indirect effect: primary psychopathy (controlling for secondary psychopathy and gender) predicted lower empathy, which was in turn associated with anti-immigration attitudes [b = 0.08, SE_{boot} = 0.03, CI: .02, .16]. Furthermore, although as noted above there was no significant association between secondary psychopathy and anti-immigration attitudes when controlling for primary psychopathy, a significant indirect effect emerged: secondary psychopathy (controlling for primary psychopathy and gender) predicted lower empathy, which was then associated with anti-immigration attitudes [b = 0.07, SE_{boot} = 0.03, CI: .01, .14].[1]

These results are consistent with the majority of previous studies that have shown a relationship between primary, rather than secondary, psychopathy and prejudice. Notably, for the first time, we found that empathy mediates the relationship between primary psychopathy and prejudice, suggesting that empathy is a key mechanism explaining the relationship between psychopathy and prejudice. Secondary psychopathy, when tested against primary psychopathy, did not predict prejudice directly, but did so indirectly via lower empathy.

Study 2

In Study 1, we found that empathy mediated the relationship between psychopathy and prejudice. However, we did not measure cognitive and affective empathy separately, which are regarded as interrelated but distinct constructs (Cox et al., 2012). A number of researchers make a clear distinction between these two types of empathy, arguing that affective empathy is characterized by the emotional response to others' thoughts and feelings, whilst cognitive empathy is characterized by the ability to read and understand another person's thoughts or feelings (Losoya & Eisenberg, 2001; Lovett & Sheffield, 2007). Whilst the literature provides evidence for an association between empathy and prejudice, it remains unclear as to whether this relationship is driven by a lack of cognitive empathy, a lack of affective empathy, or both.

Some studies have found that the dark triad is associated with deficits in affective, not cognitive, empathy (e.g., Wai & Tiliopoulous, 2012), and psychopathy researchers have typically regarded the empathy deficit in psychopaths to be related specifically to affective empathy (Bird & Viding, 2014). For example, Mullins-Nelson et al. (2006) found a strong, negative relationship between psychopathy and affective, but not cognitive, empathy. This relationship was also observed by Jones et al. (2010), who found that individuals with psychopathic tendencies demonstrated less affective empathy for victims of aggression than their non-psychopathic counterparts.

Studies investigating the relationship between cognitive empathy and psychopathy have produced conflicting results. Whilst some studies have found a negative association between psychopathy and emotion recognition, suggesting an association between cognitive empathy and psychopathy (Pajevic et al., 2018), other studies which investigated this relationship found psychopathy to be unrelated to cognitive empathy (Turner et al., 2019). Therefore, whilst the relationship between overall empathy and psychopathy, and affective empathy and psychopathy, is well established, the relationships between cognitive empathy,

psychopathy and prejudice remain unclear. Therefore, in Study 2, we tested the role of both cognitive and affective empathy in the path from psychopathy to racism.

To obtain a more complete understanding of how psychopathy predicts prejudice, it is important to consider whether the relationship between psychopathy and prejudice involves additional explanatory factors to empathy. RWA and SDO have been found to be strong predictors of negative social attitudes, such as attitudes towards immigration and racism (Cohrs & Stelzl, 2010; Sidanius et al., 1994). Bäckström and Björklund (2007) found that empathy, RWA and SDO all predicted generalized prejudice, with empathy predicting prejudice directly, but also indirectly through higher levels of SDO and RWA. The dark triad/tetrad traits (which include psychopathy) have also been found to indirectly predict prejudice via socio-political ideologies (Jonason, 2015; Jonason et al., 2020; Jones, 2013; Moor et al., 2019). Integrating the literature on psychopathy and empathy with social ideology, we hypothesize that psychopathic personality traits predict a lack of empathy, resulting in increased levels of SDO and RWA, which in turn predict prejudice. More specifically, in line with Study 1, we expect that the role of primary (rather than secondary) psychopathy will be highlighted; that is, primary psychopathy will be sequentially associated with racism via (mainly affective) empathy and, in turn, social attitudes (i.e., SDO and RWA). Although some research suggests that SDO predicts empathy (e.g., Ho et al., 2011) instead of empathy predicting SDO, the direction of mediation in our models is consistent with developmental literature, which has demonstrated that empathy emerges at a much younger age than social and political attitudes (Zahn-Waxler et al., 1992). This study was conducted using different measures of empathy and prejudice in order to assess the extent to which the findings of Study 1 are replicable and generalizable.

Method

Participants and procedure

Data were collected via either an online or a pen-and-paper questionnaire from 332 participants: 89 (27.1%) were male and 240 female (72.9%), with 3 participants not reporting their gender. The sample consisted of students (59.9%) and members of the public (40.1%) using opportunity sampling. The age of the participants ranged from 18 to 65 (M = 29.96, SD = 11.73 years). Of the university students, 62 were Psychology undergraduate students taking part in exchange for course credits. The general demographics of the participants are illustrated in Table 3. The study was approved by the local research ethics committee. Participants were asked to disclose demographic information and then proceeded to fill in the self-report measures. Upon completion, participants were thanked and debriefed.

Measures

Psychopathic traits were measured with the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995). Items were summed to create total psychopathy (α=.86), primary psychopathy (α=.86), and secondary psychopathy (α=.71) scales. Higher numbers indicate higher levels of psychopathy.

Empathy was measured with the Basic Empathy Scale (BES; Jolliffe & Farrington, 2006b). Participants were asked how much they agreed (1 = strongly disagree; 5 = strongly agree) with 20 statements such as 'I find it hard to know when my friends are frightened' (i.e., cognitive empathy), and 'I tend to feel scared when I am with friends who are afraid' (i.e., affective empathy). Items were summed to create total empathy (α=.90), affective empathy (α=.84), and cognitive empathy (α=.73) scales. Higher numbers indicate higher levels of empathy.

Social dominance orientation was measured with the Social Dominance Orientation Scale (Pratto et al., 1994). Participants were asked how much they agreed (1 = very negative; 7 = very positive) with 16 statements. Statements included 'It would be good if groups were equal' (reverse-coded item) and 'Some groups are simply inferior to others'. Items were

summed to create a total SDO scale (α=.92) with higher numbers indicating higher levels of SDO.

Right-wing authoritarianism was measured with the Right-wing Authoritarianism Scale (RWA; Altemeyer, 1996). Participants were asked how much they agreed (1 = very strongly disagree; 8 = very strongly agree) with 22 statements such as: 'Our country will be destroyed someday if we do not smash the perversions eating away at our moral fibre and traditional beliefs' and 'Gays and lesbians are just as healthy and moral as anybody else' (reverse-coded item). Items were summed to create a total RWA scale (α=.90) with higher numbers indicate higher levels of RWA.

Racism was measured with the Classic and Modern Racial Prejudice Scale (Akrami et al., 2000). Participants were asked how much they agreed (1 = strongly disagree; 5 = strongly agree) with 17 statements such as 'Immigrant camps should be placed far out in the countryside' (i.e., classic racism) and 'Racist groups are no longer a threat toward immigrants' (i.e., modern racism). Items were summed to create a total racism scale (α=.86) with higher numbers indicating higher levels of racism. Valid mean substitution (Nie et al., 1975) was used to impute missing values in cases where less than 30% of items were missing per scale.

Results and discussion

Table 3. Participant characteristics and descriptives of variables, Study 2

	M (SD) or % (N)
Demographics	
Age	29.9 (11.7)
Male	27.1 (89)
Student	59.9 (197)
Caucasian	59.3 (195)
Main Study Variables	

Primary psychopathy	29.8 (7.5)
Secondary psychopathy	21.6 (4.4)
Affective empathy	42.8 (6.0)
Cognitive empathy	32.5 (3.4)
Social dominance orientation	35.3 (15.2)
Right-wing authoritarianism	63.1 (21.3)
Racism	39.6 (8.6)

Preliminary analysis

Means and standard deviations for all the variables can be found in Table 3 and correlations between study variables can be found in Table 4. All correlations were in the predicted directions. Both primary and secondary psychopathy correlated positively with racism, SDO and RWA, and negatively correlated with cognitive and affective empathy. Both types of empathy were negatively associated with SDO and RWA while SDO and RWA were positively associated with racism. Replicating Study 1, when both primary and secondary psychopathy were included in a regression equation, and controlling for gender, primary psychopathy predicted racism ($\beta = .43$, $p < .001$), whilst secondary psychopathy was not a significant predictor ($\beta = .06$, $p = .280$).

Table 4. Bivariate correlations between measures, Study 2

	1.	2.	3.	4.	5.	6.
1. Primary psychopathy	-	-	-	-	-	-
2. Secondary psychopathy	.40***	-	-	-	-	-
3. Affective empathy	-.53***	-.23***	-	-	-	-
4. Cognitive empathy	-.52***	-.24***	.54***	-	-	-
5. Social dominance orientation	.53***	.23***	-.38***	-.43***	-	-
6. Right-wing authoritarianism	.41***	.19**	-.37***	-.30***	.49***	-
7. Racism	.44***	.23***	-.35***	-.34***	.57***	.51***

$**p < .01$; $***p < .001$.

Main analysis

Path analysis with observed variables was computed with IBM SPSS AMOS v. 26 to examine whether primary and secondary psychopathy predicted racism via, in turn (cognitive and affective) empathy and social ideological variables (specifically, SDO and RWA). In all main analyses, we control for gender as in Study 1. Figure 1 illustrates the significant paths and relevant β's. As can be seen, primary psychopathy predicted both affective and cognitive empathy negatively, and RWA and SDO positively. In turn, affective empathy negatively predicted RWA but did not predict SDO and racism, while cognitive empathy negatively predicted SDO but did not predict RWA and racism. Additionally, both RWA and SDO predicted racism. Secondary psychopathy did not predict any of the empathy or social ideological variables. The above variables explained 40% of the variance on racism. The fit of the model was very good, as indicated by: χ^2 (2) = 4.84, p = .089, comparative fit index (CFI) = .996, Tucker Lewis index (TLI) = .931, and root mean square error of approximation (RMSEA) = .065.

Bootstrapping estimates (based on 5,000 bootstrap samples) using PROCESS Model 6 revealed that, controlling for gender, affective empathy and RWA significantly sequentially mediated the relationship between primary psychopathy (controlling for secondary psychopathy) and racism (indirect total effect, b = 0.22, SE_{boot} = 0.05, 95% CI: .14, .32). Primary psychopathy predicted lower affective empathy, which was associated with RWA, and in turn racism [b = 0.05, SE_{boot} = 0.02, 95% CI: .02, .08]. Another significant indirect effect emerged: primary psychopathy (controlling for secondary psychopathy and gender) predicted RWA, which was associated with racism [b = 0.13, SE_{boot} = 0.04, 95% CI: .06, .20].

Cognitive empathy and SDO significantly sequentially mediated the relationship between primary psychopathy (controlling for secondary psychopathy and gender) and racism (indirect total effect, b = 0.30, SE_{boot} = 0.05, 95% CI: .21, .40). Primary psychopathy

predicted lower cognitive empathy, which was associated with SDO, and in turn, racism [$b = 0.05$, $SE_{boot} = 0.02$, 95% CI: .02, .09]. Another significant indirect effect emerged: primary psychopathy (controlling for secondary psychopathy and gender) predicted SDO, which was associated with racism [$b = 0.22$, $SE_{boot} = 0.04$, 95% CI: .14, .30][2].

The results are broadly consistent with the literature which proceeded this study; these findings concur with other studies that show a statistically significant correlational relationship between racial prejudice and a lack of empathy (Finlay & Stephan, 2000; Vescio et al., 2003), psychopathy (Grigg & Manderson, 2015), SDO (Akrami et al., 2000) and RWA (Cohrs & Stelzl, 2010; Thomsen et al., 2008). Furthermore, the results of this study are consistent with those of Bäckström and Björklund (2007), who showed that RWA and SDO mediate the relationship between a lack of empathy and racism.
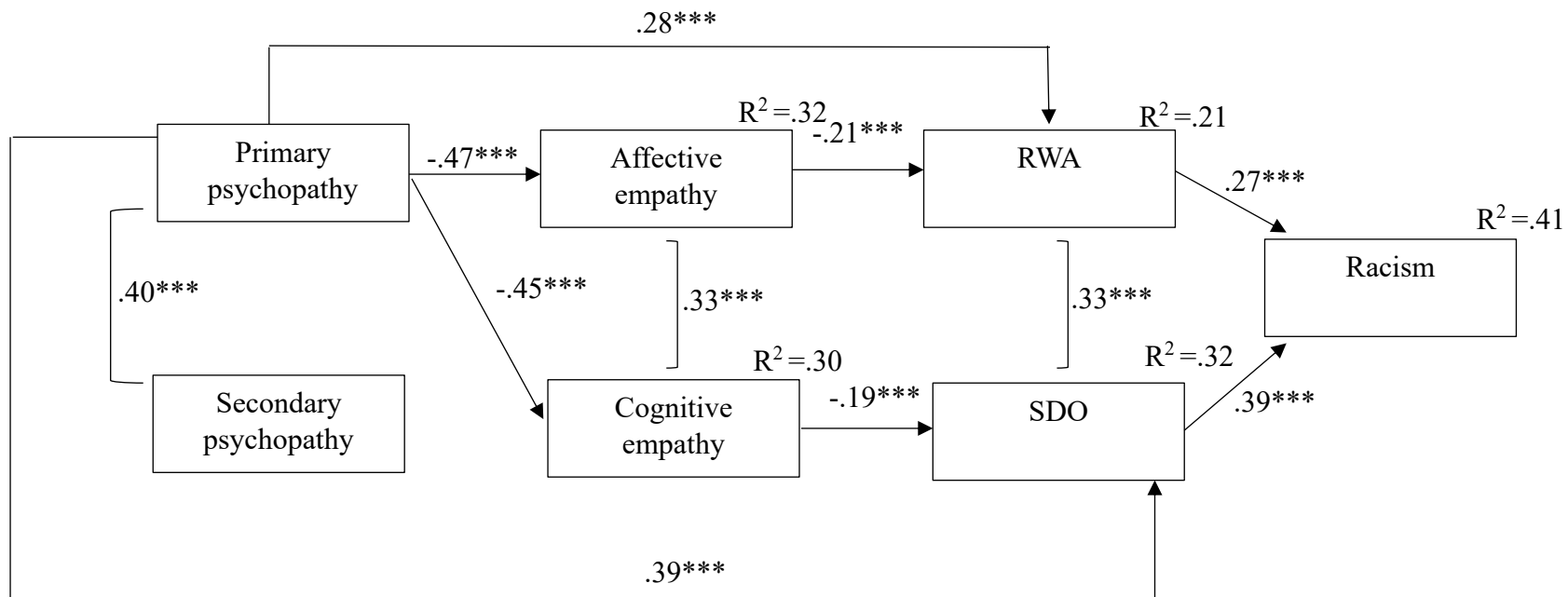
Figure 1. Path analysis with observed variables ($N = 322$), examining the role of primary and secondary psychopathy in predicting racism via affective and cognitive empathy, right-wing authoritarianism (RWA) and social dominance orientation (SDO), while controlling for gender

Standardized regression coefficients of all significant paths are presented.

Note. ***p ≤ .001.

General discussion

A small number of studies have demonstrated an association between psychopathic traits and prejudice, but research examining the mechanisms that account for that relationship is scarce. Additionally, research on the role of primary and secondary psychopathy and social attitudes has also been very limited and has provided mixed results. Our research examined the role of both primary and secondary psychopathy as predictors of prejudice. To shed light on the processes that explain the psychopathy-prejudice path, we tested the mediating role of a key affective variable, empathy (Studies 1 and 2), and two social ideological variables, SDO and RWA (Study 2). In Study 1, prejudice was operationalized as negative attitudes toward immigrants. Since anti-immigration attitudes form only one kind of prejudice, Study 2 focused on racism generally, and explored whether psychopathy and low empathy predict racism via heightened SDO and RWA, increasing the generalizability of the findings (Duckitt & Sibley, 2007).

Past research has produced mixed evidence of whether it is primary or secondary psychopathy that predicts prejudice. In Study 1, bivariate correlations indicated a stronger relationship between primary psychopathy and prejudice than between secondary psychopathy and prejudice. Furthermore, when controlling for each other, it was only primary, and not secondary, psychopathy that predicted prejudice. Study 2 replicated these findings, demonstrating that primary psychopathy, controlling for secondary psychopathy, predicted racism. Therefore, future research investigating the relationship between psychopathic traits and prejudice should test for the predictive value of primary psychopathy specifically, rather than using a general psychopathy construct.

Whilst most research has identified associations between psychopathy and deficits in affective empathy, the relationship between psychopathy and cognitive empathy is less well understood. In Study 2, we found that primary psychopathy, and not secondary psychopathy,

predicted empathy. Furthermore, we found that primary psychopathy was strongly associated with both affective and cognitive empathy. These findings add to the literature on the relationship between psychopathy and empathy, contradicting some studies showing an association with affective empathy only, and emphasise the importance of examining the relationship between both primary and secondary psychopathy and affective deficits. Again, this emphasises the importance of testing the associations between different clusters of psychopathic traits and empathy, rather than using broader measures of psychopathy, such as those used in dark triad measures (e.g. Turner et al., 2019).

In both studies, we found empathy to be a key mediator of the psychopathy-prejudice relationship. The results of Study 1 indicated that empathy mediated the relationship between primary psychopathic traits and attitudes to immigration, suggesting that the reason that individuals with psychopathic traits are more likely to hold prejudicial attitudes is because of a lack of empathy for others. Whilst secondary psychopathy did not directly predict prejudice when we controlled for primary psychopathy, there was a significant indirect path from secondary psychopathy to empathy and, in turn, to prejudice (see Hayes, 2009, for a discussion of indirect effects in the absence of main effects). However, it is unclear what might explain this indirect pathway. It is possible that individuals who are impulsive, have a reckless lifestyle, and engage in antisocial behaviour are more likely to develop prejudicial attitudes to groups who are perceived as inferior or vulnerable if they also develop lower levels of empathy. Irrespective, this indirect pathway was not replicated in Study 2.

Study 2 assessed the extent to which the relationship between psychopathy and racism is mediated by reduced levels of affective and cognitive empathy, as well as increased SDO and RWA. Replicating Study 1, Study 2 showed that both cognitive and affective empathy mediated the psychopathy-prejudice relationship. Extending Study 1, Study 2 found that SDO and RWA also mediated the relationship between primary psychopathy and racism

independently of empathy, and sequentially mediated the relationship between primary psychopathy, empathy and prejudice.

Theoretically, the dual process motivational model of prejudice (Duckitt, 2001) offers a framework to understand why RWA and SDO are complimentary predictors of intergroup attitudes (Duckitt, 2001), suggesting that they predict prejudice following distinct underlying motivational reasons. RWA reflects perceptions of a dangerous worldview, whereby the society is "a dangerous and threatening place in which good, decent people's values and way of life are threatened by bad people" (Duckitt, 2001, pp. 69). Thus, a motivation to control perceived threat, maintain social order, stability and security underlies higher RWA (Cohrs & Asbrock, 2009). SDO, on the other hand, reflects perceptions of a competitive worldview, with competition and social dominance over "subordinates" as the underlying motivation. Our findings suggest that individuals who have high levels of callousness, shallow affect and deficits in interpersonal functioning have higher levels of SDO and RWA, and these separately predict higher levels of prejudice. These findings are informative for future developmental research on the emergence CU traits (a cluster of primary psychopathic traits) and socio-political ideology. For example, children with CU traits may find committing acts of instrumental violence leading to personal gain rewarding. Given that CU traits are associated with punishment insensitivity (Blair, 2013), these children are unlikely to be deterred by the negative consequences of these acts. In combination with the narcissism and self-aggrandizement associated with primary psychopathy (Hare & Neumann, 2008), these children may be learning that the natural state of society is for the strong to dominate the weak, an attitude consistent with SDO. The mediating role of RWA in a developmental account is less clear but warrants investigation.

SDO and RWA also sequentially mediated the relationship between primary psychopathy, empathy and prejudice. In other words, individuals with high primary

psychopathic traits have lower empathy and this predicts higher racism via higher SDO and RWA. However, while, affective empathy sequentially predicted racism via RWA, it did not do so via SDO. In turn, while cognitive empathy predicted racism via SDO, it did not do so via RWA. We did not have specific hypotheses for the role of cognitive versus affective empathy on the social ideological variables, so these results need to be further disentangled by future research. It is possible that the indirect relationship from primary psychopathy to racism via affective empathy and RWA can be partly explained by relationships between these variables and types of moral reasoning. SDO and RWA are associated with utilitarian (based on the consequences of actions), rather than deontological (rule-based or principled), moral reasoning (Bostyn et al., 2016). Deontological moral reasoning is argued to involve much more of a negative emotional response to harming others (Greene, 2007) than utilitarian reasoning and imaging studies have found reduced amygdala activation (associated with emotional processing) to moral dilemmas in psychopathic individuals compared to controls (Glenn et al., 2009). In addition, psychopathy is associated with greater activation of the dorsolateral prefrontal cortex, a brain area associated with abstract and utilitarian reasoning, and the overriding of prepotent social-emotional responses (Glenn et al., 2009). Thus, there is evidence that psychopathic individuals tend to use utilitarian and unemotional moral reasoning processes and that this appears to be associated with lower affective empathy. So, it is possible that impaired affective empathy leads to a tendency towards utilitarian reasoning; that utilitarian reasoning partly explains higher levels of RWA in psychopathic individuals; that, in turn, RWA predicts higher levels of prejudice.

However, it is unclear why this mechanism would not also lead to an indirect relationship from primary psychopathy to racism via affective empathy and SDO. A number of studies have found associations between affective empathy and SDO (e.g., Sidanius et al., 2013), although most studies have not tested the associations between SDO and cognitive and

affective empathy separately (e.g., Nicol & Rounding, 2013). We found instead that the

indirect relationship between primary psychopathy and racism via SDO was mediated by

cognitive, not affective, empathy. Very few studies have attempted to examine the mediating

roles of empathy, RWA and SDO on the relationship between personality constructs and

prejudice and these studies have not found consistent results. For example, Onraet et al.

(2017) found that cognitive rather than affective empathy mediated the relationship between

trait Emotional Intelligence and SDO and RWA. Whereas, Alvarez-Castillo et al. (2018)

found that general empathy, compared to cognitive or affective empathy, was a better

mediator of the relationship between personality traits and prejudice when RWA and SDO

were included in a model. Clearly, further research is required to test the mediating role of

these constructs on the relationship between psychopathy and prejudice.

These findings have important implications for prejudice-reduction interventions.

Psychopathic traits are not uncommon in the general population (Coid et al., 2009), and,

therefore, the association between psychopathy and prejudice, and in particular, the

mediating role of empathy, is likely to have important implications for our understanding of

prejudicial attitudes at a population level. One interpretation of these results is that prejudice-

reduction interventions, which often focus on improvements in empathy as a treatment target,

are likely to be ineffective with psychopathic individuals due to impaired empathy in those

individuals. However, it is worth noting the emerging results of the childhood CU traits

intervention literature. Children with CU traits have traditionally been viewed as incapable of

benefitting from intervention (Hawes & Dadds, 2005). More recently, treatment trials have

demonstrated that interventions that focus particularly on empathy and emotion

understanding can result in behaviour improvements in these children (Waller et al., 2013).

Therefore, there is emerging evidence from this field that individuals with psychopathic traits

can benefit from interventions, and a focus on affective impairments such as empathy may be

the most effective intervention approach. Interestingly, longitudinal research has demonstrated that personality can change as a function of positive intergroup contact (Vezzali et al., 2018). Future longitudinal research can test whether prejudice-reduction interventions can not only target affective impairments but also alter subclinical personality traits such as psychopathy. Intervention trials with child and adolescent samples may be more effective and could be particularly informative of the development of personality traits and social political ideology.

A number of limitations should be noted when interpreting the results of the two studies. First, although the sample did not consist entirely of university students, the majority were under the age of 30, which may have implications for the generalizability of the findings. Second, we used the Levenson Self-Report Psychopathy (LSRP) scale to measure psychopathy (Levenson et al., 1995). Whilst this is a widely used and well-established questionnaire, some authors have suggested that a three-, rather than a two-factor model may be the best fit for the measure (Brinkley et al., 2008; Sellbom, 2011). However, a more recent study has found that the two-factor model is likely to be the better way to interpret the LSRP, and that the primary and secondary factors have meaningful relations with extratest variables, such as empathy (Salekin et al., 2014). Third, we need to acknowledge the correlational design of the two studies, which does not allow us to draw conclusions regarding causality between variables. Although correlational designs are common in personality research, longitudinal data will provide more compelling evidence, especially when seeking to understand the sequential path between empathy and social ideological variables. Fourth, some theoretical models of empathy propose a three-factor structure, with affective empathy being decomposed into affective sharing and empathic concern (Cowell & Decety, 2015). It would be informative to further test the associations found in the two studies reported here with additional empathy constructs. Fifth, some studies have treated empathy as a mediator of

SDO (Nicol & Rounding, 2013), with one study using a cross-lagged design finding that SDO influences empathy more than empathy influences SDO (Ho et al., 2011). Nevertheless, the direction of mediation in our models is more consistent with the developmental literature, which clearly shows that empathy emerges at a much younger age than social political variables (Hess & Torney-Purta, 2006; Knafo et al., 2009; Zahn-Waxler et al., 1992). Sixth, we did not include a measure of intelligence in our studies. There is some evidence to suggest that associations between empathy and outcomes are no longer significant when IQ is controlled for (Jolliffe & Farrington, 2004), therefore future studies should control for IQ. Finally, our sample in Study 2 was composed primarily of women. Although we controlled for the role of gender in the main analyses of both studies, we acknowledge that more effort is required to obtain as diverse sample as possible, and ensure equal representation of self-identified men and women.

Conclusion

In two studies, we synthesised the psychopathy and intergroup relations literatures, testing simultaneously primary and secondary psychopathy, as well as empathy and social ideologies as predictors of prejudice. By demonstrating the predictive role of, principally, primary psychopathy on attitudes toward immigrants as well as racism, and the explanatory mechanisms of empathy, SDO and RWA, we highlight the importance of understanding the interplay between individual and group level variables when seeking a comprehensive examination of social attitudes.

Footnotes

1. Significant and non-significant results remain when not controlling for gender.
2. Significant and non-significant results remain when not controlling for gender.

Transparency statement

Datasets and syntax files can be sent to researchers upon request to the first author.

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