**Abstract**

The Big Five factor of Openness/Intellect has shown a robust relationship with Right-Wing Authoritarianism (RWA) across multiple studies, but few have investigated the relative contribution of the Big Five Aspects of Openness and Intellect, with mixed findings. The present correlational study of 304 participants expands previous research by using a multi-dimensional measure of authoritarianism that resolves methodological concerns regarding prior RWA scales. Specifically, structural equation modelling indicated that Openness had a direct effect on the RWA subscales of Conservatism, Authoritarianism and Traditionalism, whilst Intellect had a direct effect on Traditionalism as well as an indirect effect on both Traditionalism and Authoritarianism via Dangerous World Perception. Additionally, the RWA subscales fully mediated the relationship between the personality variables and prejudice towards Dissident and Dangerous groups. Conservatism predicted prejudice towards Dissident groups, whilst Authoritarianism predicted prejudice towards Dangerous groups. The findings are discussed with reference to potential mechanisms underlying these relationships.

*Keywords:* openness; intellect; personality; prejudice; authoritarianism; RWA; conservatism; traditionalism

**Openness and Intellect Differentially Predict
Right-Wing Authoritarianism**

**1. Introduction**

The question of why some people show prejudice towards outgroups has long been an important topic within psychology (Allport, 1954; Altemeyer, 1981). Perspectives on whether differences in attitudes reflect personality traits or social influences have changed over time, and it is now generally accepted that both factors play a role. Duckitt’s (2001) Dual Process Model has been influential in this regard, by proposing that the link between personality, situation and prejudice follows two paths: that of Right Wing Authoritarianism (RWA) and Social Dominance Orientation (SDO).

RWA and SDO were originally thought to result from early parenting experiences, but later work indicated that RWA may primarily be influenced by the Big Five personality factor of Openness/Intellect (Akrami & Ekehammar, 2006; Flynn, 2005; Sibley & Duckitt, 2010). Openness/Intellect describes the tendency or willingness to explore, both cognitively and aesthetically (DeYoung, 2014). Individuals low in Openness/Intellect are likely to be resistant to change, novelty, and alternative perspectives and so value existing social structures and are sensitive to perceived threats to them. As such, these individuals are more likely to develop authoritarian attitudes, which then lead to prejudice (Sibley & Duckitt, 2010).

Although a number of studies have provided support for the link between Openness/Intellect and RWA (Sibley & Duckitt, 2008), these have typically been conducted using the NEO PI-R (Costa & McCrae, 1992) or the BFI measure of the Big Five traits. However, the NEO PI-R has been found to contain content overlap with measures of social attitudes, such as RWA. In a meta-analysis, Sibley and Duckitt (2008) found that studies using the NEO PI-R reported stronger relationships between Openness/Intellect and RWA, which may reflect the influence of such items.

**1.1 Openness and Intellect**

More recently, DeYoung and colleagues developed the Big Five Aspect Scales (DeYoung, Quilty, & Peterson, 2007), which eliminate content overlap with attitudinal measures and divide each factor into two aspects, which though typically correlated, may have differential relationships with other variables that could be masked in a factor-only analysis. The aspects of Openness and Intellect both reflect a tendency toward exploration, but Openness is associated with sensory and perceptual, or aesthetic, exploration, whereas Intellect reflects exploration through abstract and logical reasoning (DeYoung, 2014). The two aspects differently relate to measures such as creative achievement in the arts (Openness) and sciences (Intellect) (Kaufman et al., 2016).

Despite these differences, little research has looked at the relationship between Openness/Intellect and RWA at aspect level, and the findings to date have been mixed. Hirsh, DeYoung, Xu, and Peterson (2010) found that Openness was the stronger predictor of political party preference and liberal vs conservative values (typically correlated with RWA), with Intellect showing a non-significant relationship. However, both Openness and Intellect showed similar relationships with the values of Order-Traditionalism. In contrast, Sibley and Duckitt (2010), in a meta-analysis, applied a proxy measure of Openness and Intellect to studies using the NEO PI-R and BFI, concluding that Intellect was the stronger predictor of RWA, though Openness had a weaker but still significant relationship. A follow up study using four-six item measures of Openness and Intellect from the BFAS found a similar pattern of results (Duckitt & Sibley, 2010).

**1.2 Tripartite RWA**

The mixed pattern of findings to date suggest that Openness and Intellect may relate to different aspects of authoritarianism. However, previous research may be confounded by methodological issues with the most commonly used measure of RWA, Altemeyer’s scale (1981), which contains multi-dimensional properties despite being treated as uni-dimensional (Duckitt, Bizumic, Krauss, & Heled, 2010). Although now thought of as an attitudinal measure, the scale was originally proposed to measure a personality dimension comprising tendencies toward authoritarian submission, aggression and conventionalism. However, many of the scale items measure two or three of these concepts simultaneously, potentially creating spurious relationships (Duckitt et al., 2010). Additionally, authoritarian aggression is largely assessed by protrait items, and conventionalism by contrait items. Very few items assess authoritarian submission, despite its central role in the concept of authoritarianism (Duckitt et al., 2010). Some items also assess prejudice towards particular outgroups, which may inflate the relationship between RWA and prejudice (Duckitt et al., 2010).

In response to these concerns, Duckitt et al (2010) developed a superior 38-item Tripartite scale, comprising balanced subscales separately measuring Conservatism, Authoritarianism and Traditionalism (corresponding to authoritarian submission, aggression and conventionalism, respectively). The scale items also remove references towards targets of prejudice. The scale has been tested successfully in different cultural contexts (New Zealand, Serbia), showing that cultural factors influence the expression of each subscale (Duckitt & Bizumic, 2013).

To date, only one study has examined the Tripartite RWA scale in relation to the Big Five factors, finding that Openness/Intellect was correlated with all three subscales to a similar degree (Nicol & De France, 2016). However, the relationship was not examined using the BFAS so it is not yet known how the aspects of Openness and Intellect might differentially relate to the RWA subscales.

Additionally, as yet no studies have examined possible mechanisms underlying the relationship between Openness/Intellect and RWA at aspect level. However, Perry and Sibley (2013) found that Intellect, but not Openness, moderated the effect of a threat anchor on Dangerous World Perception, which according to the Dual Process Model is a precursor to RWA (Duckitt, 2001). Testing Dangerous World Perception as a mediator of the link between Intellect and RWA could further elucidate the nature of this relationship.

**1.3 Targets of Prejudice**

It is also not known whether Openness and Intellect relate to prejudice towards specific groups. The Dual Process Model (Duckitt et al, 2010) indicates that RWA should predict prejudice towards dissident groups, who threaten to challenge social norms, whilst SDO should predict prejudice towards disadvantaged groups, who might threaten the existing social hierarchy. Both RWA and SDO should predict prejudice towards dangerous groups, who represent an existential threat (Duckitt et al., 2010). Research employing the Hexaco personality measure (Sibley, Harding, Perry, Asbrock, & Duckitt, 2010) found that Openness/Intellect was negatively associated with RWA and prejudice towards dissident and disadvantaged groups, while RWA was also associated with prejudice towards dangerous groups. However, Openness/Intellect was not tested at aspect level, nor were the subscales of RWA measured.

Further studies found that the subscale of Conservatism predicts prejudice towards Dissident groups; Authoritarianism predicts prejudice towards Dangerous groups, and Traditionalism does not significantly predict prejudice toward any of the three groups (Duckitt & Bizumic, 2013). However, this study did not include a personality measure. If Openness and Intellect show differential relationships with these subscales, we may also expect differential relationships with the prejudice outgroups.

**1.4 The Present Study**

As yet, no studies have examined how Openness and Intellect might differentially relate to the subscales of the Tripartite RWA measure or to the aforementioned prejudice outgroups. Additionally, no studies have examined potential mediators of the relationship between the Openness/Intellect aspects and RWA. The present study aims to bridge these gaps.

We predict that Intellect will be most strongly related to the Traditionalism subscale, and that Openness will be most strongly related to the Conservatism subscale. Individuals low in Intellect tend to be averse to cognitive exploration and abstract reasoning (DeYoung, 2014), and so are likely to be satisfied by a clearly structured and stable system of rules and norms, encapsulated by the Traditionalism subscale. In contrast, Openness, which is associated with aesthetic expression, exploration and imagination (DeYoung, 2014), is most likely to be negatively related to the Conservatism subscale, which emphasises social conformity and obedience to authority. However, we recognise that Openness may also be negatively related to Traditionalism, as suggested by the findings of Hirsh and colleagues (2010). Both Openness and Intellect are predicted to be negatively related to the Authoritarianism subscale, which represents a more extreme attitude toward threats to stability and security. We also expect that the relationships between Intellect and Traditionalism and between Intellect and Authoritarianism will be at least partially mediated by Dangerous World Perception. Additionally, Traditionalism and Conservatism are expected to predict Authoritarianism.

The RWA subscales are predicted to fully mediate the relationship between the Openness and Intellect aspects and prejudice, such that Openness will be related to prejudice towards Dissident groups via Conservatism, whilst both Intellect and Openness will be related to prejudice towards Dangerous groups via Authoritarianism. The RWA subscales are not expected to predict prejudice towards Disadvantaged groups. Figure 1 displays the hypothesised model.

Testing these hypotheses will extend previous research by clarifying the nature of the relationship between Openness/Intellect, RWA and prejudice, and providing indications as to the mechanisms which may give rise to these attitudes.

**2. Method**

**2.1 Participants**

We calculated that a minimum of 200 participants would be required for the hypothesised SEM model to detect a medium-sized effect with a power of 0.8. Following exclusions due to more than 30% of values missing on any one scale (*N=4*) or feedback indicating familiarity with the scales used (*N=3*), 313 (203 female, 106 male, 4 other) participants were included for analysis. Participants were recruited online via portals advertising research studies, and took part in exchange for the chance to win a £100 voucher or were paid £2 for their participation. Participants were all fluent English speakers and resided in Western Europe, North America or Australasia. Participants were aged 18–76 (*M*=35.7, *SD*=12.3). Students comprised 26.8% of the sample and 54.3% held an undergraduate degree or higher. 87.5% of participants identified as White, 2.2% Black, 2.2% East Asian, 1.9% South Asian and 5.4% other ethnic background. 22.4% of participants were Christian, 1.9% Muslim, 11.5% other, and 63.3% had no religion.

**2.2 Measures**

Participants completed an online survey presented via Qualtrics. The following questionnaires were employed:

**2.2.1 Openness/Intellect** was measured using the Big Five Aspect Scales (DeYoung et al, 2007), which divide each factor into two aspects. Participants answered 10 questions assessing each aspect. Items assessing Openness include: “Seldom daydream” (reverse-coded) and “Need a creative outlet”; those assessing Intellect include: “Am quick to understand things” and “Avoid philosophical discussions” (reverse-coded). The pairs of aspects were then averaged to form an overall factor score. The items were measured using a 5-point Likert scale (1=*strongly disagree*, 5=*strongly agree*).

**2.2.2 Dangerous World Perception** was assessed by the 10-item measure designed by Altemeyer (1998) and further developed by Duckitt (2001). Items were measured with a 7-point Likert scale (1=*strongly disagree*, 7=*strongly agree*). Items include: “There are many dangerous people in our society who will attack someone out of pure meanness, for no reason at all”.

**2.2.3 Right Wing Authoritarianism** was measured using the 38-item Tripartite scale (Duckitt et al., 2010), comprising subscales measuring Traditionalism (e.g. “It is important that we preserve our traditional values and moral standards.”), Conservatism (e.g. “Obedience and respect for authority are the most important virtues children should learn.”) and Authoritarianism (e.g. “What our country really needs is a tough, harsh dose of law and order.”). Items were answered using a 7-point Likert scale (1=*strongly disagree*, 7=*strongly agree*).

**2.2.4 Prejudice**was measured using feeling thermometer scales ranging from *unfavourable* to *favourable* (0-100) for a range of 21 outgroups developed by Asbrock et al (2010), following Duckitt et al’s (2010) original categories of Disadvantaged, Dangerous, and Dissident. Outgroups were presented in a random order and the scales reversed-coded before analysis for ease of interpretation. Mean scores for Disadvantaged, Dangerous and Dissident groups allowed a minimum of four of the seven items per group to be answered, due to a relatively high proportion of missing values. Examples of outgroups include: “Unemployed people” (Disadvantaged); “Gang members” (Dangerous); “Protestors” (Dissident).

Demographic details were collected following the questionnaires. Participants did not give consent to their data being made openly accessible; however qualified researchers may contact the authors to request access to the data and associated syntax files.

**3. Results**

**3.1 Data screening**

Prior to analysis, the BFAS factor scores, along with scores for Dangerous World Perception, RWA, and the three prejudice groups were assessed for accurate data entry, missing values, outliers, and assumptions of normality.

Inspection of key variables revealed that Openness, RWA Traditionalism, and prejudice towards Dangerous groups each had 1-3 outliers with z-scores greater than 3.29. These variables were also negatively (Openness: -0.61, *SE*=0.14; Prejudice Dangerous: -1.23, *SE*=0.14) or positively (Traditionalism: 0.74, *SE*=0.14) skewed. Removal of these six outliers corrected the skewness of Openness (-0.39, *SE*=0.14) and Traditionalism (0.52, *SE*=0.14), and considerably improved that of prejudice towards Dangerous groups (-0.97, *SE*=0.14). Given that the outlying scores represented low Openness and high Traditionalism, removal was a conservative choice likely to reduce Type 1 errors.

The only observed variable with missing values (*N*=13) was prejudice towards Dangerous groups. Closer inspection revealed that six of the seven Dangerous outgroups had relatively large numbers of missing values, ranging from 9 to 26, while the other prejudice outgroups were largely unaffected. Thus, the values were likely not missing at random and may have represented participant discomfort with answering the questions. As such, in subsequent analyses pair-wise deletion was used to minimise loss of data. In SEM, maximum likelihood estimation was used.

Prior to conducting the regression analyses, three multivariate outliers were identified via Mahalanobis distance and removed. Following the above exclusions, the reported sample consists of 304 participants. See the supplementary materials for the analyses with outliers included.

**3.2 Correlations**

An initial check of the expected relationships between key variables is displayed in Table 1.

Of the Big Five factors, Openness/Intellect showed the largest relationship with the overall RWA score (*r=*-0.57*, p<*.01), though Conscientiousness was also positively related (*r=*0.34*, p<*.01) to a lesser degree (*z*=-12.449, *p*<.01). When examined by RWA subscale, Openness/Intellect showed a strong negative relationship with Conservatism (*r=*-0.55*, p<*.01), Traditionalism (*r=*-0.44*, p<*.01) and Authoritarianism (*r=*-0.57*, p<*.01) though the strength of these relationships did not significantly differ. Openness/Intellect also showed the largest relationship (*z*=-8.865, *p*<0.1) with prejudice towards Dissident groups (*r=*-0.45*, p<*.01), and was strongly related to prejudice towards Dangerous groups (*r=*-0.25*, p<*.01), though the relationship with Conscientiousness (*r=*-0.26*, p<*.01) was slightly higher (*z*=-6.161, *p*<.01).

When examined at aspect level, both Openness (*r=*-0.48*, p<*.01) and Intellect (*r*=-0.45*, p<*.01) showed similarly strong negative relationships with RWA, and with the three RWA subscales. Though these relationships were in the direction of the hypotheses, with Openness showing a slightly larger relationship with Conservatism, and Intellect with Traditionalism, when tested these relationships were not significantly different. Intellect showed a significantly stronger relationship (*z*=3.151, *p*<.01) with Dangerous World Perception (*r=*-0.32*, p<*.01), compared to Openness (*r*=-.11, *p*<.01), as predicted.

The overall RWA score was positively related to all three prejudice groups, however the relationships varied significantly in strength. The relationship with prejudice towards Dissident groups (*r=*0.74*, p<*.01) was stronger (*z*=8.059, *p*<.01) than that for Dangerous groups (*r=*0.36*, p<*.01), which in turn was stronger (*z*=-2.909, *p*<.01) than that for Disadvantaged groups (*r=*0.18*, p<*.01), following the predicted pattern. When examined by subscale, the relationships between the three subscales and each prejudice outgroup, whilst in the direction of the hypotheses, were not found to be significantly different from one another.

Both Openness and Intellect showed similar patterns of relationships with the prejudice outgroups, though Openness showed a larger relationship with prejudice towards Dissident groups (*r*=-0.44, *p*<.01, *z*=-2.553, *p*<.01), and with prejudice towards Disadvantaged groups (*r=*-0.23*, p<*.01, *z*=-3.169, *p*<.01), compared to Intellect (*r*=-0.29, *p*<.01; *r*=-0.17, *p*<.01).

**3.3 Regression analyses**

**3.3.1 Big Five Factors and RWA.** Multiple regression analyses were conducted to confirm that Openness/Intellect was the key predictor of RWA when controlling for the other Big Five factors, as well as age and gender. All variables were entered simultaneously. Table 2 shows that Openness/Intellect explained the largest proportion of unique variance in the RWA total score (21%), Conservatism (22%), Traditionalism (11%) and Authoritarianism (21%), as expected.

The unique variance explained by each model was approximately two thirds of the total variance, indicating that the remainder was shared with Age and Conscientiousness.

**3.3.2 Big Five Factors and Dangerous World Perception.** Openness/Intellect (3%) and Neuroticism (4%) explained similar proportions of variance in Dangerous World Perception, though the unique contributions were very small, and the remaining variance was shared with Agreeableness and Conscientiousness.

**3.3.3 Openness, Intellect and RWA.** To closely examine the relative contributions of Openness and Intellect to RWA, a further simultaneous regression was carried out for these aspects, controlling for Age and Gender. As the correlation coefficients were not significantly different, Johnson’s (2000) relative weights procedure was used to determine the proportion of variance explained by each predictor after collinearity is taken into account, as recommended by Kraha, Turner, Nimon, Zientek and Henson (2012). Alpha reliabilities for the predictor variables were included in the analyses to further improve accuracy.

Table 3 shows that as predicted, Openness explained relatively more of the variance in Conservatism (55.7%) than did Intellect (29%). Intellect explained more of the variance in Traditionalism (42.2%), though it was similar to that explained by Openness (37.7%). Openness explained more variance in Authoritarianism (55.8%) compared to Intellect (34.2%). Gender explained very little variance (0-1%), however age explained 13-19% of the variance in the RWA subscales. Some caution should be applied in interpreting these results however, as there was some overlap in the confidence intervals for the relative weights of Openness and Intellect, particularly for the Traditionalism subscale.

**3.3.4 Openness, Intellect and Dangerous World Perception.** As expected, Intellect predicted Dangerous World Perception but Openness did not. Intellect was the only significant predictor, explaining 35% of the variance.

In summary, Openness and Intellect showed differential relationships with the RWA subscales and Dangerous World Perception, largely following the predicted patterns, though both aspects predicted Traditionalism to a similar degree, and Openness explained more of the overall variance.
**3.4 SEM analysis**

To test the hypotheses that Dangerous World Perception would mediate the relationship between Intellect, Traditionalism and Authoritarianism, and that the RWA subscales would mediate the relationship between the personality variables and the prejudice outgroups, structural equation modelling using latent variables was performed using AMOS V22. The latent variables were each indicated by three item parcels containing 2-4 scale items, assigned randomly. Openness and Intellect were allowed to correlate.

We first tested a simple model in which all three RWA subscales were regressed on Openness and Intellect, and then one in which Dangerous World Perception was introduced as mediator, to formally test for direct versus indirect effects. The RWA subscales were not connected, to clarify the indirect effect of Dangerous World Perception. We found that initially, Openness negatively predicted all three subscales (Conservatism *β* =-1.12, *p*<.01, 90% CI [-1.62, -0.92]; Authoritarianism *β* =-0.99, *p*<.01, 90% CI [-1.36, -0.83]; Traditionalism *β* =-0.96, *p*<.01, 90% CI [-1.35, -0.77]) whilst Intellect did not show a significant relationship with any. Introducing Dangerous World Perception as a mediator slightly reduced the strength of the direct relationships between Openness and the RWA subscales (Conservatism *β* =-1.01, *p*<.01, 90% CI [-1.38, -0.81]; Authoritarianism *β* =-0.82, *p*<.01, 90% CI [-1.05, -0.68]; Traditionalism *β* =-0.77, *p*<.01, 90% CI [-1.03, -0.58]), but there were no significant indirect effects. Conversely, Intellect showed a significant indirect relationship with all three subscales (Conservatism *β* =-0.18, *p=*.02, 90% CI [-0.54, -0.03]; Authoritarianism *β* =-0.25, *p*=.02, 90% CI [-0.57, -0.07]; Traditionalism *β* =-0.24, *p=*.01, 90% CI [-0.60, -0.06]), but no direct effects. The mediated model (χ2 (123) =415.727, CFI =.928, RMSEA =.089, 90% CI [.079, .098]) was also a better fit than the initial model (χ2 (83) =344.469, CFI =.926, RMSEA =.102, 90% CI [.091, .113]). We therefore had support for our hypothesised model in which Dangerous World Perception operated as a mediator for Intellect only.

We then tested the full hypothesised model, incorporating the prejudice outgroups and allowing direct and indirect relationships between Intellect, Traditionalism and Authoritarianism. The RWA subscales were connected via Conservatism and Traditionalism leading to Authoritarianism. We used regression imputation to account for missing values, to formally test for indirect effects using a bootstrap procedure. The initial model proved a poor fit: χ2 (240) =777.41, CFI =.894, RMSEA =.086, 90% CI [.079, .093]. Examination of the output revealed that the direct relationship between Intellect and Authoritarianism was non-significant. The path between Traditionalism and Authoritarianism was also non-significant, however a path between Traditionalism and Conservatism was significant. Additionally, a direct path between Openness and Traditionalism was significant, as the regression analyses had indicated. The model was adapted to reflect these four findings and it then showed an acceptable fit: χ2 (240) =510.31, CFI =.946, RMSEA =.061, 90% CI [.054, .068]. Figure 2 displays the new model.

Both Openness and Intellect were predictors of RWA, but for Intellect this relationship was partly mediated by Dangerous World Perception. Openness had a direct effect on Conservatism (*β* =-0.30, *p*<.01, 90% CI [-0.37, -0.23]) and Traditionalism (*β=*-0.23, *p*<.01, 90% CI [-0.34, -0.12]), and a weaker but still significant effect on Authoritarianism (*β* =-0.14, *p*<.01, 90% CI [-0.21, -0.07]), whilst Intellect had a direct effect on Traditionalism (*β* =-0.19, *p*<.01, 90% CI [-0.30, -0.07]), and an indirect effect on Traditionalism (*β* =-0.17, *p*<0.1, 90% CI [-0.24, -0.11]) and Authoritarianism (*β* =-0.29, *p*<0.1, 90% CI [-0.37, -0.22]) via Dangerous World Perception.

Additionally, the RWA subscales mediated the relationship between the personality variables and prejudice towards Dissident and Dangerous groups, as expected. Conservatism predicted prejudice towards Dissident groups (*β* =0.81, *p*<.01, 90% CI [0.76, 0.85]), whilst Authoritarianism predicted prejudice towards Dangerous groups (*β* =0.42, *p*<.01, 90% CI [0.29, 0.54]). Openness indirectly predicted prejudice towards Dissident groups (*β* =-0.38, *p*<0.1, 90% CI [-0.45, -0.30]) and Dangerous groups (*β* =-0.19, *p*<0.1, 90% CI [-0.27, -0.13]). Intellect also indirectly predicted prejudice towards Dissident (*β* =-0.22, *p*<0.1, 90% CI [-0.28, -0.15]) and Dangerous groups (*β* =-0.12, *p*<0.1, 90% CI [-0.18, -0.08]). Traditionalism predicted Conservatism (*β* =0.75, *p*<.01, 90% CI [0.68, 0.80]), whilst Conservatism predicted Authoritarianism (*β* =0.69, *p*<.01, 90% CI [0.61, 0.76]).

**4. Discussion**

The present study examined whether Openness and Intellect differentially predict RWA when it is measured at a multi-dimensional level, and tested a potential mechanism for this relationship. Additionally, the study examined how RWA mediates the relationship between Openness, Intellect and prejudice.

The results of the regression and SEM analyses largely support the hypotheses. Openness was the stronger predictor of Conservatism, and both Openness and Intellect predicted Authoritarianism, but for Intellect this effect was mediated by Dangerous World Perception. In contrast to our hypotheses, we found that both Intellect and Openness predicted Traditionalism to a similar extent, though for Intellect this was partially mediated by Dangerous World Perception, as predicted. The relationship between the personality aspects and prejudice towards Dissident and Dangerous groups was mediated by the Conservatism and Authoritarianism subscales, as predicted. Traditionalism did not predict Authoritarianism as expected, but did predict Conservatism. In turn, Conservatism predicted Authoritarianism.

The results show parallels with previous research and also help to clarify past findings. In their meta-analysis, Sibley and Duckitt (2010) concluded that Intellect was the stronger predictor of RWA. However, the studies reviewed used a uni-dimensional measure of RWA that does not adequately assess Conservatism, an important component of RWA. The present research reveals that when using a multi-dimensional measure of RWA, the role of Openness becomes clearer, in that it is the key predictor of Conservatism, whilst also showing direct relationships with the other subscales. In contrast, Intellect exerts a direct effect only on Traditionalism, as well as indirect effects on Traditionalism and Authoritarianism via Dangerous World Perception.

The results are also in keeping with the findings of Hirsh and colleagues (2010), who found a stronger role for Openness in relation to political conservatism, while both Openness and Intellect predicted the values of Order-Traditionalism. Additionally, previous research (Perry & Sibley, 2013) indicates a relationship between Dangerous World Perception and Intellect, but not Openness, which was supported by the present findings.

The Conservatism component of RWA describes the tendency to support deference to authority as a means to achieve goals of social stability and cohesion (Duckitt et al., 2010). The negative relationship between Conservatism and Openness suggests that striving for aesthetic novelty, expression and exploration is at odds with goals of social conformity, whereas individuals low in Openness may more readily accept Conservatism as a strategy for meeting other needs. The fact that Openness also negatively predicted Traditionalism suggests that the tendency to question existing norms and structures is a hallmark of the Open personality.

The relationship between Intellect and Traditionalism suggests that an aversion to cognitive exploration may be most easily satisfied by a clearly structured and unambiguous system of beliefs. Additionally, the mediation of this relationship by Dangerous World Perception suggests that a tendency to avoid cognitive exploration could be at least partly fear-based. Those high in Intellect may be able to assess risk more accurately, whereas those low in Intellect may tend to believe that exploration results in increased risk.

We hypothesised that Traditionalism would predict Authoritarianism, but instead, Traditionalism predicted Conservatism. This finding could indicate that Traditionalism may predict support for the status quo in societies where social norms have developed in part due to the influence of traditional values. That is, for individuals whose traditions are in line with the dominant cultural and historical ideology, Traditionalist attitudes are likely to predict Conservatism. An interesting question is whether this relationship would hold for minority groups whose traditions may not be supported by the dominant culture.

Importantly, the current findings indicate that RWA mediates the relationship between Openness, Intellect and prejudice towards distinct groups. Openness and Intellect were negatively related to prejudice towards Dissident and Dangerous groups via the RWA aspects, with Openness displaying a significantly stronger relationship with the former. Although not included in the tested model, Openness was also negatively related to prejudice towards Disadvantaged groups, but not Intellect, which adds to prior research findings.

Although the current findings suggest that Traditionalism is not inevitably linked to prejudice, they indicate that traditionalist views may lead to uncritical support of the existing social structure, which may then lead to prejudice towards Dissident groups, and the advocating of authoritarian aggression. Those who seek to preserve the status quo could benefit from considering the aspects of Openness and Intellect which allow critical analysis of their position, for example exploration of alternative perspectives and recognition of the value of non-conformity.

Overall, the findings help to further elucidate the nature of prejudice, revealing that the Openness and Intellect show differential relationships with components of authoritarian attitudes, and prejudice towards specific groups.

**4.1 Limitations and future directions**

In correlational research, the causal nature of relationships is open to question. However, the present study theoretically follows the assumptions of the Dual Process Model (Duckitt, 2001), in which personality precedes authoritarianism and prejudice, and follows a long line of research which has furthered the case for the direction of this relationship via experimental and longitudinal studies.

The relatively high correlations between the subscales of RWA could suggest collinearity, however assumptions of non-collinearity were not violated in the regression analyses. Mean scores on the RWA subscales were below the mid-point of the scale, indicating that the sample was relatively low in authoritarianism, as well as above the mid-point for Openness/Intellect and largely non-religious. As such, the variation between the RWA subscales may have been reduced due to the characteristics of the sample.

A strength of the current study was the good balance of education levels and the high proportion of non-students, thus increasing chances of replication. However, although the mean age was higher than typical student samples, the range was positively skewed. Future studies could test a broader age distribution.

Previous research has indicated cross-cultural similarity in the relationship between Openness/Intellect and prejudice across Europe, the US and Canada (Sibley & Duckitt, 2008), thus criteria for participation in the study was kept relatively open. However, balanced cross-national surveys would be helpful in assessing generalisability of the findings. For example, the relationship between Traditionalism and Conservatism may vary as a result of cultural and historical differences.

The self-report nature of the questionnaires is also a limitation, though peer-report ratings of personality tend to be in accordance with self-report (Cohrs, Kämpfe-Hargrave, & Riemann, 2012). Attitudinal, and especially prejudice measures, may be more prone to reporting bias, however. Future research could consider using implicit measures of prejudice instead.

Finally, the SEM model showed a good, but not excellent, fit to the data. Allowing error terms to covary may have improved the fit, but the decision not to was made in order to preserve a more parsimonious structure. It is possible that other mediators would have helped to explain more of the variance observed. However, the current study is an important first step in identifying the relative roles of Openness and Intellect before examining the mechanisms underlying them further.

In conclusion, the current study demonstrates that Openness and Intellect appear to differentially predict prejudice via Dangerous World Perception, Conservatism, Traditionalism and Authoritarianism. Whereas previous research has highlighted the role of Intellect, or the cognition aspect of Openness/Intellect, the present study indicates that Openness has an equally important relationship with RWA and prejudice. When RWA is examined at a multi-dimensional level, this distinction is made apparent.

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Figure 1. *Hypothesised model*



Table 1



Table 2



Table 3

Figure 2: *SEM Model of the Relationships between Openness, Intellect, DWP, RWA and Prejudice*

