



## Right-wing authoritarianism, Big Five, and perceived threat to safety

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## Right-wing authoritarianism, Big Five, and perceived threat to safety

## Abstract

Using structural equations modeling, we performed a secondary analysis of the data collected by the Italian Observatory of the North West (Italian national sample,  $N = 976$ ) to investigate the direct, mediated, and moderated relations connecting the Big Five personality factors and perceived personal and societal threat to safety with right-wing authoritarianism (RWA). Openness, Conscientiousness, and perceived societal threat to safety exerted additive effects on RWA; the relation between Openness and RWA was partially mediated by societal threat to safety and that between societal threat to safety and RWA was moderated by Openness. Limitations and possible developments of this research are discussed.

Key words: Right-wing Authoritarianism, Big Five, Threat, Safety

## Right-wing authoritarianism, Big Five, and perceived threat to safety

At present, the most widely used approach to right-wing authoritarianism is that of Altemeyer (1981, 1988, 1996). Altemeyer conceives right-wing authoritarianism (RWA) as the covariation of three attitudinal clusters: (a) *authoritarian submission* (a strong tendency to submit to authorities, which are perceived as established and legitimate in the society in which one lives); (b) *authoritarian aggression* (a general aggressiveness, directed against various people, and perceived to be positively sanctioned by established authorities); and (c) *conventionalism* (a strong tendency to adhere to the social conventions, which are perceived as endorsed by the society and its established authorities) (Altemeyer, 1996). The standard questionnaire for measuring RWA is Altemeyer's (1996) RWA scale, a balanced Likert scale that allows the RWA estimates to be corrected for acquiescent response set (for some critiques on this scale, see Funke, 2005; Van Hiel, Cornelis, & Roets, 2007). Previous studies have shown that personality and threat are two important families of variables that exert a significant influence on RWA.

Broadband personality has been assumed to underlie authoritarianism. Most studies focusing on the personality base of authoritarianism started from the Five-Factor Model perspective (McCrae & Costa, 1996, 1999). The Five-Factor Model traces individual personality differences back to five main dimensions: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness. Research has systematically shown strong relations between RWA and Openness (negative correlation: cf. Akrami & Ekehammar, 2006; Altemeyer, 1996; Duriez & Soenens, 2006; Ekehammar, Akrami, Gylje, & Zakrisson, 2004; Heaven & Bucci, 2001; Lippa & Arad, 1999; Peterson & Lane, 2001; Peterson, Smirles, & Wentworth, 1997; Van Hiel, Cornelis, & Roets, 2007; Van Hiel, & Mervielde, 2004) on the one hand and Conscientiousness (positive correlation: cf. Altemeyer, 1996; Duriez & Soenens, 2006; Ekehammar et al., 2004; Heaven & Bucci, 2001) on the other. Sometimes, significant positive relations have also been found between RWA and Emotional stability (Ekehammar et al., 2004) on the one hand and Extraversion (Altemeyer, 1996; Ekehammar et al., 2004; Lippa & Arad, 1999) on the other.<sup>1</sup> However, in a recent meta-analysis, Sibley and

Duckitt (2008) showed that the only associations fairly consistent and robust across a number of different measurement methods, samples, and nations were those between Openness and Conscientiousness on the one hand and RWA on the other and that Extraversion, Agreeableness, and Neuroticism do not contribute in explaining RWA.

Threat—both actual and perceived—constitutes a second family of potent predictors of authoritarianism. Analyses of aggregate data have shown that authoritarian attitudes and behaviors spread particularly during periods of high threat (Doty, Peterson, & Winter, 1991; Peterson & Gerstein, 2005; Sales, 1973). However, ecological data are exposed to so-called “ecologic fallacy” (Robinson, 1950) as the correlations identified at the aggregate level do not necessarily reflect those at the individual level. Nonetheless, some researchers have revealed the existence of a link between authoritarianism and perceived threat at the individual level also. Sales and Friend (1973) experimentally manipulated threat to self-image, inducing their participants to believe they had performed well or poorly on an anagram task presented as measuring ability and intelligence: Pretended failure increased participants’ level of authoritarianism, whereas pretended success decreased it. Moreover, Altemeyer (1988) found strong correlations between RWA and his Belief in a Dangerous World Scale. However, according to Duckitt (1992), threat to social cohesion and integration ought to foster RWA much more than personal threat. This hypothesis was first confirmed by Feldman and Stenner (1997) who performed a correlational, secondary analysis of the 1992 American National Election Studies data using four groups of variables: (a) authoritarian manifestations in attitudes and opinions (mainly negative attitudes toward minority groups, authoritarian social and political attitudes, and favorable attitudes toward the use of force in domestic and foreign politics), (b) authoritarian predispositions (mainly authoritarian values in the domain of child-rearing), (c) perception of societal threat (for example, deterioration of the national economy), and (d) perception of personal threat (for example, deterioration of one’s own economic situation). In their analyses, societal but not personal threat, interacting with authoritarian predispositions, fostered authoritarian manifestations. Feldman and Stenner, however, could not

measure authoritarian predispositions directly; consequently, their conclusions were less solid than may seem at first sight. Nonetheless, Rickert (1998) and Stevens, Bishin, and Barr (2006), who directly assessed authoritarianism, substantially confirmed Feldman and Stenner's results.

Broadband personality and perceived threat have been integrated by Duckitt and colleagues (Duckitt, 2001; Duckitt, Wagner, du Plessis, & Birum, 2002) in a single model to account for authoritarianism. Using structural equation modeling, Duckitt discovered the existence of a rather complex framework of relations between personality, social worldviews, and RWA. In his structural equation models, the "social conformity" dimension of personality influenced RWA both directly and indirectly via the partial mediation of dangerous social worldviews, i.e., believing the world is a dangerous and threatening place. However, Duckitt's studies had four limitations. First, he only analyzed the additive and mediated effects exerted on RWA by personality and social worldviews, without taking into consideration their possible multiplicative effects. Second, he only analyzed direct and mediated effects exerted on RWA by believing the world is a dangerous and threatening place, without differentiating between perceived personal and social threat. Third, five items of Duckitt's Dangerous Social Worldview measure and nine RWA items partly overlapped (Van Hiel, Cornelis, & Roets, 2007), thus artificially inflating the common variance between the independent and dependent variables of the model and therefore violating, at least in part, Von Wright's (1971) condition, which requires the *explanans* and the *explanandum* to be semantically independent of each other. However, this violation was slight as the elimination of the overlapping items had a very small effect on the magnitude of the relationships between dangerous worldviews and RWA (Van Hiel et al., 2007). Fourth, as Duckitt himself noted (Sibley & Duckitt, 2008), because social conformity was a far from standard measure of personality, the results obtained were difficult to compare with those previously published in the literature.

### Goals and Hypotheses

We aimed to extend Duckitt's (2001) model and overcome some of its limitations. In particular, we had four goals. We pursued the first three goals using a mix of theoretically driven and exploratory analyses and the fourth goal using an exploratory approach.

Our first goal was to analyze the additive relations connecting the Big Five and perceived societal and personal threat to safety with RWA in an Italian national sample. Regarding the additive effects exerted by the Big Five on RWA, based on Sibley and Duckitt (2008), we hypothesized Openness to negatively influence RWA (HP1.1) and Conscientiousness to positively influence RWA (HP1.2). We tested these hypotheses in our first additive model (ADD1). As the literature is somewhat inconsistent on this topic (see Sibley and Duckitt, 2008), we could not form solid hypotheses on the relations between the other three Big Five factors and RWA. Thus, we explored these relations adding them to our ADD1 model in a second step. With respect to the relations between perceived threat to safety and RWA, based on Feldman and Stenner (1997), Rickert (1998), Sales and Friend (1973), and Stevens, Bishin, and Barr (2006), we hypothesized perceived societal threat to safety, but not perceived personal threat to safety, to positively influence RWA (HP1.3). This hypothesis was tested in our second additive model (ADD2).

No additive models exist in the literature that are aimed at predicting RWA using the Big Five and perceived threat to safety at the same time. Thus, we explored these relations in a final additive (ADD3) model in which we entered all the significant additive effects exerted by the Big Five factors and by perceived threat to safety on RWA detected in the two previous additive models

To achieve our second goal, concerning the indirect effects exerted by personality on RWA via the mediation of perceived threat to safety, based on Sibley and Duckitt (2008)—who state that social conformity may be considered a “combination of facets subsumed by low Openness and high Conscientiousness” (p. 251)—we tested two hypotheses in a mediation (MED) model. As previous studies have found Openness to have statistically significant links with perceived threat (Sibley & Duckitt, 2008) and perceived societal threat to have statistically significant links with RWA (Duckitt, 1992; Feldman & Stenner, 1997; Rickert, 1998; Stevens, Bishin, & Barr, 2006), we

hypothesized: (a) the relation between Openness and RWA to be mediated by perceived societal threat to safety (HP2.1); and (b) adding the indirect link between Openness and RWA via the mediation of societal threat to safety, to significantly improve the fit of the ADD3 model (HP2.2). We could not find any result in the extant literature that allowed us to hypothesize an indirect link between Conscientiousness and RWA via the mediation of perceived societal threat; thus, we subsequently exploratory tested the existence of such link.

Our third goal was to analyze the interactive effects exerted by the Big Five and by perceived threat to safety on RWA using a mix of theoretically driven and exploratory analyses. According to the literature, the identification of moderators of relations between independent variables indicates the degree of sophistication and maturity of a field of investigation (Aguinis, Boik, & Pierce, 2001; Judd, McClelland, & Culhane, 1995). However, although Sibley and Duckitt (2008) underscored the need for research on the interactions between the predictors of RWA, such research has not been performed yet.

According to previous studies, people high in Openness tend to be particularly sensitive to perceptual stimuli and inclined to feel vulnerable and unprotected (Hartmann, 1991, McCrae 1994, Van Hiel, & Mervielde, 2004). Moreover, some authors recently argued that authoritarian responses could represent an efficient mechanism for coping with threat (Kessler & Cohrs, 2008; Napier & Jost, 2008; Van Hiel & De Clercq, 2009). Thus, we hypothesized the interaction between Openness and perceived threat to safety to significantly influence RWA. In particular, we expected that people high in Openness, who under “normal” conditions of perceived security and stability are less authoritarian than people low in Openness, would significantly increase their RWA level when strongly perceiving a threat to their safety as a defensive reaction against perceived threat and their feelings of personal vulnerability. From this perspective, their “authoritarian response” could be considered a mechanism for coping with threat. The same coping mechanism ought not to be observed in people low in Openness who, in “normal” conditions of perceived security and stability, besides showing high RWA levels, tend to feel less vulnerable than people high in Openness. This



was our HP3.1. If this hypothesis is confirmed, we would expect that adding this moderation effect would improve the fit of the ADD3 model (HP3.2). We tested these two hypotheses in a moderation (MOD) model in which we added to the ADD3 model the interactions between Openness and our two variables assessing perceived threat to safety. Subsequently, as in the literature we did not find any key for building other moderation hypotheses, we used an exploratory approach to add all the other eight interactions between the Big Five and our two variables assessing perceived threat to safety to the MOD model.

As a fourth goal, we explored whether adding both the significant mediated and moderated effects exerted on RWA by personality and perceived threat to safety would significantly improve our ability to explain RWA when integrated in a final mediation and moderation (MEDMOD) model.

## Method

### *Participants and Procedure*

We performed a secondary analysis of the data collected via mail by the Italian Observatory of the North-West ([www.nordovest.org](http://www.nordovest.org)). The sample was composed of 976 Italians from the entire national territory, aged between 16 and 92 ( $M = 54.4$ ,  $SD = 15.47$ ). The sample was not perfectly representative of the Italian population as women (40.2% vs. 51.8%) and people under 30 years old (8.5% vs. 18.3%) were under-represented. However, it was much more heterogeneous than most student samples typically used in psychological research.

### *Measures*

RWA was assessed using a short version (10 items, 5 response categories) of Giampaglia and Roccato's (2002) Italian adaptation of the RWA scale (Altemeyer, 1998) previously used by Dallago, Cima, Roccato, Ricolfi, & Mirisola (2008). The reliability of the scale was satisfactory,  $\alpha = .73$ . However, in line with previous reports (e.g., Altemeyer, 1996; Canetti-Nisim, 2004; Duckitt & Fisher, 2003; Krauss, 2002; Roccato & Ricolfi, 2005, Study 3; Tarr & Lorr, 1991), exploratory factor analysis (extraction: maximum likelihood, varimax rotation) revealed two method factors

(explained variance 30.28% and 14.57% for the protrait and contrait factors, respectively). Such results plausibly depended on a partial distortion of the data caused by the acquiescent response-set (cf. Winkler, Kanouse, & Ware, 1982). This direction-of-wording method effect typically occurs in poorly educated samples (cf. Bass, 1955). Thus, this result was far from surprising as our sample was extracted from the general population and hence was considerably less educated than the student samples traditionally used in psychological research: Our sample had an average of 10.82 years of education ( $SD = 3.86$ ), significantly fewer than 13, which is the minimum number of years of formal education needed to attend an Italian university,  $t(975) = -17.654, p < .001$ .

In order to compute individual RWA scores that were free from this method effect, we used structural equations modeling, adopting Marsh's (1989) correlated uniqueness approach. Therefore, we modeled RWA as a latent variable measured by four item parcels, respectively computed by summing two or three of the pro-trait items and two or three of the con-trait ones, randomly chosen, and controlling the variance due to the method factor by correlating the errors of the two con-trait parcels. Based on Hu and Bentler (1999) and Primi (2002), we evaluated the fit of this and the other models by combining different indexes: the Root Mean Square Error of Approximation (*RMSEA*: Steiger, 1980), the comparative fit index (*CFI*: Bentler, 1990), and the Tucker-Lewis coefficient (*TLI*: Tucker & Lewis, 1973)—also known as *NNFI* (Bentler & Bonnett, 1980). We considered *CFI* and *TLI* as satisfactory if higher than .90, and *RMSEA* if lower than .08, as suggested by Bentler (1990) and Browne (1990), respectively. As typically happens when data are distorted by acquiescent response set (Roccato, 2003), the absolute values of the paths between the pro-trait parcels and the latent variable were stronger than those between the con-trait items and the latent variable ( $\beta_s = .75, p < .001, .82, p < .001, -.19, p < .001, \text{ and } -.40, p < .001$ , respectively). The fit of the resulting model was satisfactory,  $\chi^2(1) = .219, p = .640, TLI = 1.000, CFI = 1.000, RMSEA = 0.000$  (90% CL = .000, .066).<sup>2</sup>

The Big Five factors of personality were assessed using a short version (20 items, 5 response categories) of the Italian version of the Big Five Questionnaire (Caprara, Barbaranelli, Borgogni, &

Perugini, 1993; Caprara, Barbaranelli, & Livi, 1994). Exploratory factor analysis (extraction: maximum likelihood, varimax rotation) showed the expected five-factor structure (first six eigenvalues: 4.891, 2.113, 1.888, 1.432, 1.298, and .898). Confirmatory factor analysis confirmed such a structure. However, five items were dropped as their factor loadings were not significant.<sup>3</sup> The resulting model—composed of five latent factors (Openness,  $\alpha = .61$ ; Conscientiousness,  $\alpha = .76$ ; Emotional Stability,  $\alpha = .95$ ; Extraversion,  $\alpha = .64$ ; and Agreeableness,  $\alpha = .76$ ), each one measured by three items—showed a satisfactory fit,  $\chi^2(84) = 351.740$ ,  $p < .001$ ,  $TLI = .905$ ,  $CFI = .924$ ,  $RMSEA = .057$  (90% CL = .051, .063).<sup>4</sup>

In the data set we analyzed, two four-category items measuring perceived threat to safety were available: “Think of micro-criminality: How would you define the situation regarding this problem in Italy?” and “Think of micro-criminality: How would you define the situation regarding this problem in your area of residence?”. People who tend to perceive the world as a dangerous and threatening place are typically characterized by a “heightened sensitivity to potential dangers in the social environment, including threats of violence, terrorism, and evildoing” (Jost & Hunyady, 2005, p. 262). Moreover, according to Cohrs, Kielman, Maes, and Moschner (2005), the motivational goals of social cohesion, conformity, and security leading to RWA are particularly challenged by minority and foreign groups, among which, at least in Italy, crime rates are much higher than among the Italian population (Ricolfi, 2007), and which are systematically presented by the mass media as threatening social order (De Piccoli, Colombo, Mosso, & Tartaglia, 2003). Thus, we considered these two items as at least partially overlapping with Duckitt’s concept of dangerous social worldviews. According to the literature (Amerio & Roccato, 2005, 2007; Nardi, 2003), the first item should be considered as assessing societal threat to safety, whereas the second should be considered as assessing personal threat to safety.<sup>5</sup> Table 1 displays the correlations among our variables.

#### *Data analyses*

We tested our hypotheses using structural equations modeling, modeling our constructs as latent variables when possible.

### Results

To pursue our first goal, we started by testing our ADD1 model aimed at predicting RWA as a function of Openness and Conscientiousness.<sup>6</sup> Consistent with our HP1.1 and HP1.2, Conscientiousness ( $\beta = .23, p < .001$ ) and Openness ( $\beta = -.13, p < .01$ ) significantly influenced RWA. This first additive model showed a satisfactory fit,  $\chi^2(74) = 212.125, p < .001, TLI = .930, CFI = .943, RMSEA = .044$  (90% CL = .037, .051),  $Adj. R^2 = .059$ . The signs of the coefficients were those expected based on the literature (positive for Conscientiousness and negative for Openness). Consistent with Sibley and Duckitt's (2008) meta-analysis, the relations between the other Big Five factors and RWA, which we explored in a second step, were not statistically significant (Agreeableness:  $\beta = .09, p = .08$ , Extraversion:  $\beta = .08, p = .16$ , and Emotional stability:  $\beta = -.02, p = .72$ ).

Next, we tested our ADD2 model aimed at predicting RWA as a function of perceived societal and personal threat to safety. Consistent with our HP1.3, perceived societal threat to safety significantly influenced RWA ( $\beta = .30, p < .001$ ), whereas perceived personal threat to safety did not ( $\beta = .07, p = .06$ ). The sign of the significant coefficient was that expected based on the literature. This second additive model showed a satisfactory fit,  $\chi^2(87) = 190.903, p < .001, TLI = .950, CFI = .959, RMSEA = .035$  (90% CL = .028, .042),  $Adj. R^2 = .088$ .

Finally, we merged our ADD1 and ADD2 models into a new additive (ADD3) model to explore the effects exerted by personality and perceived threat to safety net of each other: Conscientiousness ( $\beta = .20, p < .001$ ), Openness ( $\beta = -.09, p < .05$ ) and perceived societal threat to safety ( $\beta = .27, p < .001$ ) continued to significantly influence RWA. Our final additive model showed a satisfactory fit,  $\chi^2(73) = 153.006, p < .001, TLI = .959, CFI = .967, RMSEA = .034$  (90% CL = .026, .041),  $Adj. R^2 = .120$ .

In order to pursue our second goal, we analyzed the indirect links between personality and RWA via the mediation of perceived threat to safety, testing our MED model in a two-step process. First, working with a confirmatory approach, we added one more path to those of the ADD3 model, linking Openness with perceived societal threat to safety. Subsequently, we added the path connecting Conscientiousness with perceived societal threat to safety as well. According to Baron and Kenny (1986), perceived societal threat to safety mediates between personality and RWA if: (a) personality directly influences RWA; (b) personality directly influences perceived threat to safety; and (c) perceived threat to safety directly influences RWA when personality is statistically partialled out; thus, we only took into consideration perceived societal threat to safety and did not explore the indirect links between the other three Big Five factors of personality and RWA.

Consistent with our HP2.1, the indirect effect exerted by Openness on RWA via the mediation of perceived societal threat was statistically significant, although weak (indirect effect =  $-.03$ ,  $z = -2.38$ ,  $p < .05$ ). As the path between Conscientiousness and perception of societal threat to safety did not reach statistical significance ( $\beta = .05$ ,  $p = .11$ ), we did not include it in our final MED model in which Conscientiousness only influenced RWA directly ( $\beta = .20$ ;  $p < .001$ ), whereas Openness influenced RWA both directly ( $\beta = -.09$ ;  $p < .05$ ) and via the partial mediation of perception of societal threat to safety. Indeed, according to Baron and Kenny (1986), mediation is partial when, just as in this case, the independent variable significantly influences the dependent variable net of the effect exerted on it by the mediator variable; on the contrary, mediation is total if such a relation is not statistically significant. The MED model showed a satisfactory fit,  $\chi^2(72) = 146.171$ ,  $p < .001$ ,  $TLI = .961$ ,  $CFI = .969$ ,  $RMSEA = .033$  (90% CL =  $.025$ ,  $.040$ ),  $Adj. R^2 = .122$ . The fit of the MED model was more satisfactory than that of the ADD3 model,  $\Delta\chi^2(1) = 6.835$ ,  $p < .05$ . Thus, our HP2.2 was confirmed.

We pursued our third goal in two steps. First, we tested our HP3.1 adding two more paths to those of our ADD3 model, respectively linking the interactions between Openness and our two variables assessing perceived threat to RWA. We computed such interactions as latent variables.<sup>7</sup>

The interaction between Openness and perceived societal threat to safety significantly influenced RWA ( $\beta = .11, p < .01$ ), whereas that between Openness and perceived personal threat to safety did not ( $\beta = -.07, p = .10$ ). Thus we dropped the last one from our MOD model.

Based on Aiken and West (1991), to graphically show the significant moderation effect, after standardizing RWA we computed the mean RWA scores of the participants perceiving a low ( $-1 SD$ ) and a high ( $+1 SD$ ) societal threat to safety and of those characterized by a low ( $-1 SD$ ) and a high ( $+1 SD$ ) Openness score. Simple slope analysis showed that high perceived societal threat to safety significantly fostered RWA among participants showing a high Openness score, simple slope = 1.02,  $t(972) = 5.71, p < .001$ , but not among those showing a low Openness score, simple slope =  $-.10, t(972) = -0.55, p = .58$  (see Figure 1). Thus, our HP3.1 was confirmed, at least with respect to the interaction between Openness and perceived societal threat. The fit of the MOD model was satisfactory,  $\chi^2(72) = 148,638, p < .001, TLI = .960, CFI = .968, RMSEA = .033$  (90% CL = .025, .041),  $Adj. R^2 = .125$ . Consistent with our HP3.2, its fit was more satisfactory than that of the ADD3 model,  $\Delta\chi^2(1) = 4.369, p < .05$ .

As a second step, we explored the remaining interactive effects exerted by personality and perceived threat to safety on RWA, adding the other eight interactions between our independent variables (Agreeableness\*Personal threat to safety, Agreeableness\*Societal threat to safety, Conscientiousness\*Personal threat to safety, Conscientiousness\*Societal threat to safety, Emotional stability\*Personal threat to safety, Emotional stability\*Societal threat to safety, Extraversion\*Personal threat to safety, Extraversion\*Societal threat to safety). These interactions did not significantly influence RWA ( $\beta$ s =  $-.01, p = .85, -.02, p = .66, .03, p = .45, -.04, p = .30, -.01, p = .80, -.01, p = .74, -.06, p = .12, \text{ and } .02, p = .65$ , respectively).

To pursue our fourth goal, we built our last structural equations model; we labeled it MEDMOD, as it merged our MED and MOD models. Its structure and parameters are presented in Figure 2 (to simplify the diagram, we have not shown the paths from the latent to the manifest indicators; standardized path coefficients are displayed; no correlations between predictors and/or

their residual variables have been included). Its fit was satisfactory,  $\chi^2(71) = 141.803$ ,  $p < .001$ ,  $TLI = .963$ ,  $CFI = .971$ ,  $RMSEA = .032$  (90% CL = .024, .040). The quota of the RWA variance it explained was  $Adj. R^2 = .126$ . All the direct paths between Conscientiousness, Openness, societal threat to safety and RWA were significant. Moreover, the relation between Openness and RWA was partially mediated by perception of societal threat to safety; the indirect effect was significant (indirect effect =  $-.03$ ,  $z = -2.38$ ,  $p < .05$ ). The relation between the Openness\*Perceived societal threat to safety interaction and RWA was also significant ( $\beta = .08$ ,  $p < .05$ ). The fit of the MEDMOD model was more satisfactory than those of the ADD3, of the MED, and of the MOD models,  $\Delta\chi^2(2) = 11.203$ ,  $p < .001$ ,  $\Delta\chi^2(1) = 4.368$ ,  $p < .05$  and  $\Delta\chi^2(1) = 6.835$ ,  $p < .05$ , respectively.

### Discussion

In this study, we attempted to extend Duckitt's model on the origins of RWA and to overcome some of its limitations. We used structural equation modeling to analyze the direct, indirect, and multiplicative relations connecting the Big Five personality factors and perceived societal and personal threats to safety with RWA in a nation-wide Italian sample. All our hypotheses were confirmed.

Consistent with our HP1.1 and HP1.2, Openness exerted a negative, direct influence on RWA and Conscientiousness exerted a positive, direct influence on it, whereas the relations among the other Big Five factors and RWA did not reach statistical significance even though our sample was fairly large. These results were consistent with Sibley and Duckitt's (2008) recent meta-analysis of the research published on this topic. However, contrary to the findings in the literature (Sibley & Duckitt, 2008), the influence exerted by Conscientiousness on RWA was stronger than that exerted by Openness. This unexpected result was plausibly a consequence of the variables that we were able to use to assess Openness in our secondary analysis, which were not completely satisfactory. According to the literature (e.g., Caprara, Barbaranelli, & Zimbardo, 1999), the Openness factor is composed of two facets: Openness to culture and Openness to experience. Our three Openness



items (“I am attracted by programs providing cultural and scientific information”, “I am interested in knowing about ways of life and customs of other countries and people”, and “I devote much time to reading”) were possibly inadequate to cover this second facet, which shows the strongest theoretical links with RWA (Altemeyer, 1988). New research, with a more complete assessment of Openness, will probably reveal stronger links between Openness and RWA. The limitations of our secondary analysis are examined below.

Confirming our HP1.3, and consistent with Duckitt (1992), Feldman and Stenner (1997), Rickert (1998) and Stevens, Bishin, and Barr (2006), perceived societal threat to safety exerted a significant, positive influence on RWA, whereas perceived personal threat to safety did not influence it. Based on Feldman and Stenner’s (1997) interpretation, this result should be considered as consistent with Duckitt’s (1989) concept of authoritarianism as a group-related phenomenon, leading to the prediction that threats to group integrity, status, cohesion and/or identity, rather than to personal well-being, tend to activate authoritarianism. New research performed to test such a hypothesis using Stellmacher and Petzel’s (2005) Group Authoritarianism Scale will plausibly be fruitful.

Openness, Conscientiousness, and a perceived large spread of criminality in the entire national territory showed significant links with RWA even when integrated in the same additive model. This was the first time such net effects have been analyzed in the literature. According to Rickert (1998), people may perceive an increase in crime as a threat to their own personal safety rather than to society as a whole. Thus, from his perspective, our perceived societal threat variable may be considered as a proxy for perceived personal threat. However, the Italian literature concerning fear of crime has consistently shown this to not be the case, as our perceived societal threat variable is significantly predicted by variables assessing people’s exposure to the mass media and their way of perceiving relations between social groups and not by variables assessing victimization and vulnerability, which are the most effective predictors of personal fear of crime (Amerio & Roccato, 2005).



Consistent with our HP2.1, Openness also exerted a significant indirect effect on RWA via the mediation of perceived societal threat to safety. Moreover, consistent with our HP2.2, our MED model, which included such an indirect effect, showed a significantly more satisfactory fit than the ADD model, which included the additive effects only. The mediated relation between Conscientiousness and RWA did not significantly influence our dependent variable. The literature shows that indirect effects are usually small (Chaplin, 1991). Nonetheless, the indirect effect we detected was *very* small, leading to an  $R^2$  increase well below Cohen's (1992) threshold. The weakness of this effect may be attributed, at least in part, to methodological rather than theoretical reasons. Indeed, as we used secondary analysis, we were able to measure perceived societal threat to safety using a single item and not a scale; thus, we had to manage a "perceived threat to safety" variable that was plausibly heavily distorted by measurement error. New research performed using perceived societal threat scales will likely produce stronger results.

Consistent with our HP3.1, in our MOD model, Openness and perceived societal threat to safety also exerted a multiplicative effect on RWA. Consistent with our HP3.2, adding such an effect to those modeled in our ADD3 model significantly improved its fit. This moderated effect held when our previous models were integrated in a MEDMOD structural equation model, which showed a significantly more satisfactory fit than all of our other models. No other interaction between the Big Five factors and our variables assessing perceived threats to safety significantly influenced RWA. Although the detection of moderated effects is an indication of the sophistication and maturity of a field of investigation (Aguinis, Boik, & Pierce, 2001; Judd, McClelland, & Culhane, 1995), this was the first time that a multiplicative effect between the Big Five and perceived threat has been reported in the literature on the origins of RWA. From the substantive point of view, perceived societal threat fostered RWA among participants high in Openness, but not among those low in this personality trait.

This result was consistent with those of at least two different streams of studies, which showed respectively that: (a) people high in Openness are particularly sensitive to perceptual stimuli and

tend to feel vulnerable and unprotected (Hartmann, 1991, McCrae 1994, Van Hiel, & Mervielde, 2004); and (b) people tend to respond to threats with displacements toward right-wing positions and/or toward authoritarianism (Bonanno & Jost, 2006; Echebarria-Echabe & Fernández-Guede, 2006; Florian, Mikulincer, & Hirschberger, 2001; Jost, Glaser, Kruglanski, & Sulloway, 2003; McGregor, Nail, Marigold, & Kang, 2005, Study 3; Nail, McGregor, Drinkwater, Steele, & Thompson, in press; Ullrich, & Cohrs, 2007).

Two main conclusions may be drawn from this moderated effect, which was the most innovative result of our research. First, our MOD and MEDMOD models showed that in future research the well-established negative relation between Openness and RWA (Akrami & Ekehammar, 2006; Altemeyer, 1996; Duriez & Soenens, 2006; Ekehammar, et al., 2004; Heaven & Bucci, 2001; Lippa & Arad, 1999; Peterson & Lane, 2001; Peterson, Smirles, & Wentworth, 1997; Sibley & Duckitt, 2008; Van Hiel, Cornelis, & Roets, 2007; Van Hiel, & Mervielde, 2004) ought probably to be the subject of more fine-tuned analyses. Indeed, when perceiving a societal threat to their safety, people scoring high in Openness, who under “normal” conditions of security and stability are not particularly authoritarian, significantly increase their level of RWA. From this perspective, RWA may plausibly stem from a mix of personality factors and perceptual tendencies. Future research aimed at building more articulated models on these complex relations will obviously be welcome.

As a second conclusion, the moderated effect exerted by Openness and perceived societal threat on RWA confirmed, albeit indirectly, Van Hiel and De Clercq's (2009) recent article on the relations between personality and authoritarianism, at least in two senses. On the one hand, it confirmed their interpretation of RWA as an efficient mechanism for coping with stress. In their view, contrary to that postulated by the mainstream of authoritarianism literature since Reich (1933) and thereafter (e.g., Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950), authoritarianism, far from being a unavoidably dysfunctional trait, may be considered, at least in part, as “good for the self”. New research aimed at confirming such result by experimentally manipulating participants'

feelings of being threatened and using RWA as a variable mediating the relations between perceived threat and psychological well-being would obviously be welcome. On the other hand, this moderated effect confirmed that Openness may play an important role in people's quality of life. According to Van Hiel and De Clercq (2009), particular combinations of Openness and predecessors of psychological dysfunctions (e.g., stress and negative life events) may influence participants' levels of psychopathology, increasing or decreasing it. *Ad hoc* research performed to analyze such relations outside the field of authoritarianism could be particularly interesting.

This study has some limitations, mainly deriving from our use of secondary analysis. The advantages and drawbacks of this procedure are well known (see for instance Kiecolt & Nathan, 1985). In our case, the use of secondary analysis made it possible to obtain low-cost data on a wide, Italian national sample. However, the variables we used were not completely adequate for our study because they were originally chosen for different goals. This is probably one of the reasons that led to a substantially small percentage of the RWA variance we were able to explain ( $Adj. R^2 = .126$ ). As discussed earlier, we were unable to obtain a very accurate measure of the Big Five factors of personality, and thus the relations we discovered among these and the other variables we analyzed were probably an underestimation of those we could have detected by assessing them more precisely. Incidentally, each of the Big Five items we used was worded in the same direction; thus, part of their common variance could have reflected the items' direction of wording more than their content. This was inevitable, as the data we analyzed stemmed from a questionnaire administered to a sample extracted from the Italian general population, and thus it had to be much shorter and simpler than those administered to student samples. However, the structure of the Big Five items reflected that of the original version of the questionnaire and—given the small number of items measuring each one of them—the factors'  $\alpha$ s were at least reasonable. Nonetheless, future research is necessary, using more, well-balanced Big Five items.

Moreover, the perceived threat section of our research presented two main limitations. First, as stated before, because scales assessing perceived threat were not available in the data we

analyzed, we had to cope with perceived threat measures that were plausibly not very reliable. This may particularly have been a problem in the moderation section of our paper, as in moderation analyses the reliability of the measures used is very important (Little, Bovaird, & Widaman, 2006). However, the interactive link we detected was significant, consistent with the literature, and theoretically justifiable. Moreover, it significantly increased the fit of our models. Thus, we feel that such an effect should be considered as the first basis on which to build more research on the multiplicative predictors of RWA.

The content of the perceived threat items we were able to use was the second limitation of this section of the paper, as we had to focus our analyses on threat to safety only. Our results were fairly robust and consistent with the literature; moreover, as security is one of the main motivational goals of RWA (Cohrs, Moschner, Maes, & Kielmann, 2005), perceived threat to safety ought to be considered as one of the most promising RWA predictors. However, future research analyzing other kinds of threat would likely be fruitful. Perceived threat arising from the national economic situation and from the lack of protection guaranteed by the welfare state seems particularly relevant, at least in research performed in Italy because these variables constitute, together with concern for crime, the three major sources of concern for Italians (Cima & Zambrino, 2008), and because in recent research they showed strong links with political attitudes and electoral behavior (Cavazza, Corbetta, & Roccato, 2008).

Due to the correlational nature of our data, we were not able to study genuinely “causal” effects between our independent, mediator, and dependent variables. Thus, different patterns of relations among them could be postulated. One could indeed imagine that RWA, far from being influenced by the tendency to perceive the world as a threatening place, may itself influence such a tendency. However, the directions of the paths we hypothesized were faithful to Altemeyer’s theory (1988), which claims that a lack of life experience during adolescence fosters RWA via the mediation of the tendency to perceive the world as a dangerous place. Moreover, they were faithful to the literature showing an asymmetric link between social worldviews, which develop at a young

age, and social attitudes, which develop in adolescence (Alwin & Kronsik, 1991; Van Hiel, Mervielde, & De Fruyt, 2004). Nonetheless, there is clearly a need for future studies experimentally testing the asymmetric relationships we assumed in our research.

In spite of these limitations, we believe our work had two main merits. On the one hand, this was the first time the direct, mediated, and moderated effects exerted on RWA by the Big Five and the perception of threats to safety have been empirically tested in a single structural equations model. In view of the limitations highlighted above, our results, although intriguing, should be interpreted cautiously. However, they were reasonably consistent and faithful to the theory and to the literature, and all the critical effects we analyzed reached statistical significance. On the other hand, we analyzed data collected from a much more heterogeneous sample than those usually used in psychological research, thus minimizing the “student sample bias” (Meloan, 1993), i.e., the tendency of psychological research to study authoritarianism in samples characterized by low authoritarianism levels and therefore to obtain results that are hardly generalizable beyond psychology laboratories. Thus, as a whole, even considering the above-mentioned *caveats*, we feel that our model is a solid enough basis that can be used to develop more precise knowledge about the relations between personality, perceived threat, and RWA.

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## Footnotes

<sup>1</sup> The Big Five also showed stable, significant links with political ideology: In Caprara's research center-right voters scored higher both in Energy (or Extraversion) and Conscientiousness and lower both in Friendliness (or Agreeableness) and Openness than did center-left voters (Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006; Caprara & Zimbardo, 2004).

<sup>2</sup> Parallel analyses, performed through modelling RWA using the original ten RWA items instead of the four parcels, led to analogous results. Readers interested in examining them may write to the corresponding author.

<sup>3</sup> The following items were dropped: I tend to behave cordially with other people (measuring Agreeableness), I put a lot of Energy in what I do (measuring Extraversion), I am very scrupulous (measuring Conscientiousness), My mood is pretty stable (measuring Emotional stability), and I like to gain knowledge in spheres far beyond my usual interests (measuring Openness).

<sup>4</sup> To economize on space, we did not report the rotated factor matrix obtained from our exploratory factor analysis, nor the factorial loadings obtained from our confirmatory factor analysis—incidentally, these were comprised between  $\beta = .36, p < .001$  (path linking Openness to the item "I devote much time to reading") and  $\beta = .92, p < .001$  (path linking Conscientiousness to the item "I am a methodical and tidy person"). However, all the factor loadings overlapped with those of the original version of the scale. Readers interested in examining these results may request them from the corresponding author.

<sup>5</sup> The literature on fear of crime (see for instance Ferraro, 1995) shows that the latter variable should be considered as just a proxy variable for personal threat to safety, as believing that micro-criminality is a serious problem in one's life space does not necessarily imply feeling personally threatened. However, previous research has shown—at least in Italy—strong correlations between such a variable and the variables directly assessing personal threats to safety (see Parisi & Roccato, submitted).

<sup>6</sup> Due to space limitations, we have only presented the parameters of our final model. Readers interested in a detailed examination of the other models may request them from the corresponding author.

<sup>7</sup> Based on Little, Bovaird, and Widaman (2006), we computed each of the latent interactions in four steps (presented with reference to the interaction between Openness and perceived societal threat): (a) we computed the three products between the three items measuring Openness and the variable assessing perceived societal threat; (b) we performed three multiple regression analyses—in each one we used one of the three products computed in Step 1 as the dependent variable, and the items measuring Openness and perceived societal threats as independent variables; (c) we saved the residuals of the three regressions; and (d) we used such residuals to model the latent interaction between Openness and perceived societal threats. Compared to the standard mean-centered approach (e.g., Aiken & West, 1991), this residual-centered approach leads to identical inferences but with better fitting results due to the complete orthogonality between the independent and moderator variables (for statistical details, see Little et al., 2006).

Table 1.

## Correlations among the variables

Variable	1	2	3	4	5	6	7	8
1. RWA	-							
2. Agreeableness	.09*	-						
3. Conscientiousness	.22***	.25***	-					
4. Openness	-.09*	.40***	.15***	-				
5. Emotional stability	.00	.20***	.07	.08	-			
6. Extraversion	.14**	.43***	.34***	.29***	.28***	-		
7. Perceived personal threat to safety	.16***	-.09*	.08*	-.010	-.05	.02	-	
8. Perceived societal threat to safety	.29***	-.01	.06	-.11*	-.05	.03	.32***	-

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



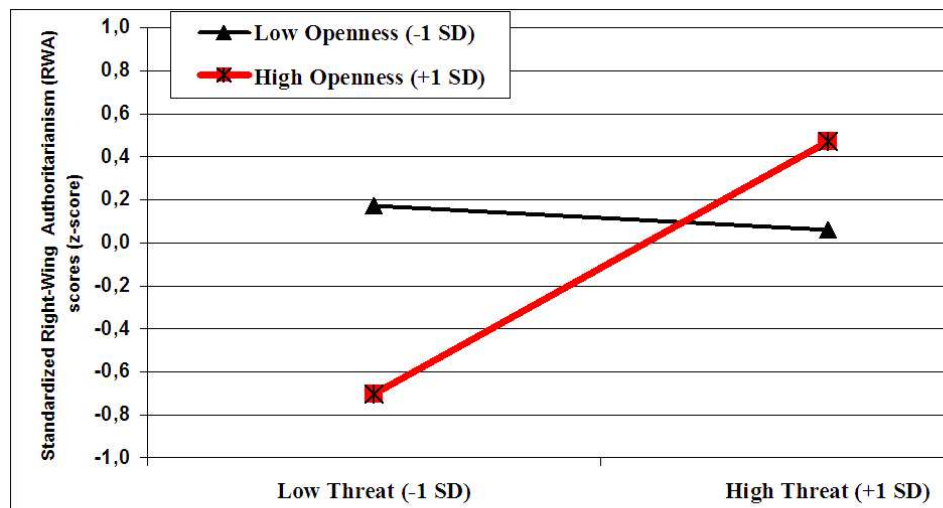


Figure 1. Moderating Effect of Openness on the Relation between Perception of Societal Threat to Safety and RWA.  
263x203mm (96 x 96 DPI)

Only

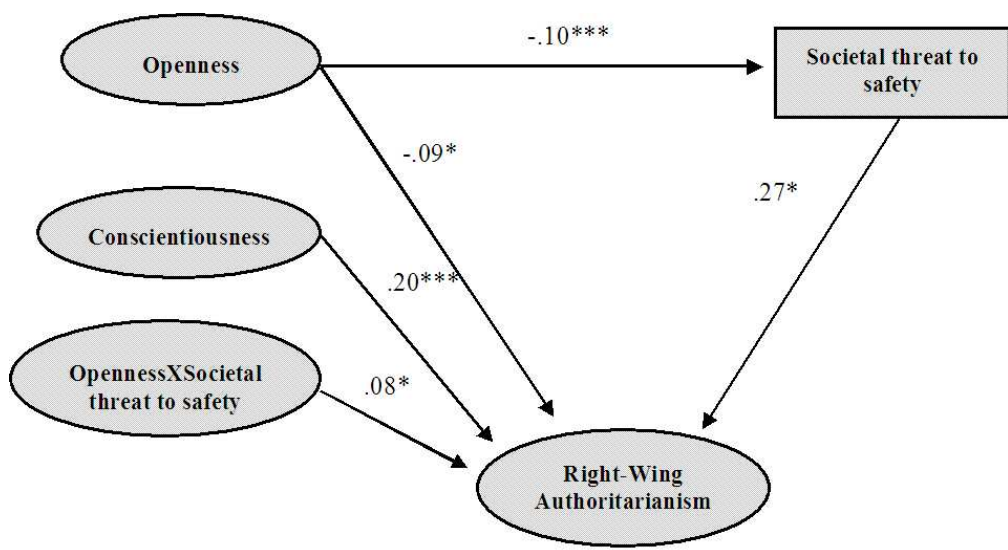


Figure 2. Additive, Multiplicative, and Mediated Model Predicting RWA as a Function of Personality and Perceived Threat to Safety. \*\*\*  $p < .001$ , \*\*  $p < .005$ , \*  $p < .05$ .  
252x203mm (96 x 96 DPI)

Only