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**Need for closure and perceived threat as bases of right-wing
authoritarianism: A longitudinal moderation approach**

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Abstract

Epistemic motives and threat have been considered important bases of Right-Wing Authoritarianism (RWA) for a long time. Yet, the interplay between these variables has hardly been investigated. The present study therefore examined how the interaction between dispositional Need for Closure (NFC) and perceived external threat, in addition to their main effects, shapes individuals' endorsement of RWA. In a representative sample collected in the Netherlands ($N = 588$), the results revealed cross-sectional as well as longitudinal interaction effects. In particular, higher levels of NFC were related to higher levels of RWA when individuals perceived relatively low levels of external threat. However, when the levels of perceived threat were relatively high, NFC was not significantly related to RWA. We discuss the importance of taking into account perceived contextual factors in theorizing on the motivated social cognitive basis of authoritarian ideology.

Why do people adopt right-wing authoritarian attitudes? Over the past decades, psychological literature has revealed a great interest in the quest to identify the forces that drive people to become “authoritarians”. Many researchers have considered *epistemic motives* (e.g. Adorno, Frenkel-Brunswik, Levinson and Sanford, 1950; Block & Block, 1951, Onraet, Van Hiel, Roets, & Cornelis, 2011) and *threat* (e.g. Onraet, Van Hiel, Dhont, & Pattyn, 2013; Sanford, 1966, Wilson, 1973) to play a crucial role in the genesis of right-wing authoritarian ideology. Surprisingly, the interplay between these variables has hardly been investigated. The present study addresses this gap in the research literature. We argue that considering the interaction between epistemic motives and threat may be crucial to attain a more complete understanding of the development of authoritarian attitudes. To this end, we used a longitudinal design to examine how the interaction between individuals’ level of Need for Closure and their perception of external threat affects the endorsement of Right-Wing Authoritarianism over time.

Right-Wing Authoritarianism

Right-Wing Authoritarianism (RWA) was defined by Altemeyer (1981) as the covariation of three core attitudinal clusters: (1) *authoritarian submission*, denoting the willingness to submit to authorities, (2) *conventionalism*, or a strong readiness to adhere to social norms and values and (3) *authoritarian aggression*, referring to a general aggressiveness toward those deviating from these social norms and values. Over the years, RWA has gained a prominent place in the literature as many empirical studies have demonstrated that it is positively related to a wide range of social phenomena, including conservatism, (e.g. Whitley & Lee, 2000; Crowson, Thoma, & Hestevold, 2005), negative attitudes toward culture mixing (De keersmaecker, Van Assche, & Roets, 2016) as well as

various forms of prejudice, such as racism (Duckitt, Wagner, du Plessis, & Birum, 2002; Van Hiel, Pandelaere, & Duriez, 2004), ethnocentrism (Meloan, Van der Linden, & De witte, 1996; Van Hiel & Mervielde 2005), sexism (Roets, Van Hiel, & Dhont, 2012; Sibley, Wilson, & Duckitt, 2007) and prejudice toward homosexuals (Brandt & Reyna, 2010; Meeusen & Dhont, 2015). On the other hand, however, recent studies have shown that higher (vs. lower) levels of RWA are associated with more positive attitudes towards (out)groups that reaffirm, rather than threaten, traditional values, such as anti-gay activists (Crawford, Mallinas, & Furman, 2015 see also Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014). Also, research by Roets, Au, and Van Hiel (2015) has demonstrated that in the specific context of Singapore, where a strong government has been endorsing and imposing a strict multicultural ideology for half a century, high levels of RWA were associated with more positive attitudes towards ethnic outgroups, in line with the univocal social norms (see also Oyamot, Fisher, Deason, & Borgida, 2012).

Whereas scholars have initially considered authoritarianism to be a stable personality trait (e.g. Adorno et al., 1950; Altemeyer, 1981), more recent accounts portray RWA as a cluster of socio-ideological attitudes that is more or less amenable to change (e.g., Duckitt, 2001; Jost, Glaser, Kruglanski, & Sulloway, 2003; Van Hiel, Cornelis, & Roets, 2007). Within this perspective, RWA can be considered as an intermediate process rather than a basic source of the social phenomena mentioned above. As such, the question about the underlying sources of RWA and the potential forces for change in RWA becomes highly relevant.

Need for Closure as a Motivational Source of Right-Wing Authoritarianism

The study of the link between epistemic variables and right-wing attitudes was initiated in Adorno et al.'s original work in 1950. They interviewed 40 participants scoring low on ethnocentrism and compared them with 40 high-scoring participants and coded these interviews in terms of Rigidity versus Flexibility and Intolerance versus Tolerance of Ambiguity. The results revealed that right-wing adherents were more rigid and less tolerant of ambiguity, thereby advancing the so-called 'rigidity-of-the-right hypothesis'. Since then, many studies have investigated the relationship between right-wing attitudes and epistemic variables as diverse as need for order, need for structure, cognitive rigidity, intolerance of ambiguity, cognitive complexity and uncertainty avoidance (for meta-analytic integrations of these studies, see Jost et al., 2003; Van Hiel, Onraet, & De Pauw, 2010). Notably, Proulx and Major (2013) demonstrated that situations that evokes uncertainty can lead to a heightened affirmation of one's ideology, irrespective of whether this ideology is left or right (see also Randles et al. 2015).

Recent studies that examined the association between epistemic (un)certainty and right-wing attitudes have typically focused on Need For Closure (e.g. Chirumbolo, 2002; Onraet et al., 2011; Kossowska & Van Hiel, 2003). The Need for (cognitive) Closure (NFC) is a motivational construct that was developed by Kruglanski and colleagues (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994) and is defined as the "desire for *an* answer on a given topic, *any* answer ... compared to confusion and ambiguity" (Kruglanski, 1990, p. 337). This general motivational tendency to obtain closure and avoid uncertainty, independent of its (social) content, captures the desire for epistemic security by instilling two tendencies: the inclination to 'seize' readily-available information to reach closure quickly, and to 'freeze' on judgments or decisions once they have been made, in order to preserve the obtained closure, even in the face of new, contradictory information. Although situational

factors such as noise, time pressure or fatigue can temporarily enhance NFC, it also represents a dimension of stable individual differences (Webster & Kruglanski 1994). As a dispositional variable, NFC is characterized by five aspects that also comprise the facets of the NFC scale: (1) preference for order, (2) preference for predictability, (3) need for decisiveness, (4) discomfort with ambiguity and (5) closed-mindedness (Webster & Kruglanski, 1994; Roets & Van Hiel, 2007).

Although originally introduced in the domain of lay epistemics, the NFC concept has been widely applied to the domain of social cognition and has been demonstrated to have a profound impact on how people view their social world (for a comprehensive overview see Roets, Kruglanski, Kossowska, Pierro, & Hong, 2015). Moreover, NFC is considered an important motivational-cognitive basis for authority- and tradition-based ideologies (see Jost et al., 2003; Roets & Van Hiel, 2011a). Many correlational studies have supported the notion that RWA is more strongly endorsed by persons high in dispositional NFC (Cornelis & Van Hiel, 2006; Dhont, Roets, & Van Hiel 2013; Onraet, et al., 2011; Roets & Van Hiel, 2006; Roets et al., 2012). Moreover, the claim that epistemic motives are indeed an important *source* of authoritarianism is supported by experimental research showing that situationally induced NFC evokes a wide range of typical expressions of authoritarianism such as the rejection of opinion deviates (Kruglanski & Webster, 1991), increased conformity (Kruglanski, Webster & Klem, 1993) and the development of an autocratic leadership structure in groups (Pierro, Mannetti, De Grada, Livi, & Kruglanski, 2003).

Threat Management as a Motive of Right-Wing Authoritarianism

In addition to motivational-cognitive approaches (sometimes referred to as cognitive styles), pioneers of the authoritarianism literature also envisioned affective variables, in

particular threat, as a root cause of authoritarianism (Adorno et al., 1950; Altemeyer, 1996; Fromm, 1941; Sanford, 1966; Rokeach, 1960; Wilson, 1973). In this regard, in his dual-process cognitive-motivational theory of ideology Duckitt (2001; Duckitt et al., 2002) stated that social conformity and a threatening social context fosters the perception of the world as a dangerous and threatening place, which is central to the development of RWA. A bulk of empirical studies have provided support for the idea that adopting authoritarian attitudes may be the result of experiencing threat, proposing that RWA constitutes a way of coping with an environment that is perceived as dangerous. For example, at the macro level, archival data demonstrated that contextual changes in societal threat are associated with a wide range of authoritarian behaviors in the general population (e.g. Doty, Peterson, & Winter, 1991; Sales 1973; McCann, 1999; Willer 2004). Furthermore, Onraet, Van Hiel, and Cornelis (2013) have shown that citizens of countries with a highly threatening climate tend to have higher levels of authoritarian attitudes compared to citizens of countries with less threatening climates. Also at the individual level, empirical studies provided ample support for the positive association between perceived threat and authoritarianism (e.g. see Jost et al., 2003 and Onraet, Van Hiel, Dhont et al., 2013 for meta-analyses). Moreover, support for the impact of threat on RWA has been provided by longitudinal studies (e.g. Onraet, Dhont, & Van Hiel, 2014; Sibley et al. 2007) as well as experimental research demonstrating that situationally induced threat provokes authoritarian tendencies (Asbrock & Fritsche, 2013; Duckitt & Fisher 2003; Jugert & Duckitt, 2009).

In political psychology literature, threat is defined broadly and throughout the last decades, a wide variety of different types of threat have been associated with right-wing attitudes (e.g. Jost et al. 2007). In order to obtain a better insight in the nature of this relationship, Onraet, Van Hiel, Dhont et al. (2013), analyzed the structure of these threat

measures, and empirically distinguished two clusters of threats, which they labeled “internal threats” and “external threats”. Internal threats refer to a wide range of anxieties that all emanate from the private life of the individual. These kinds of threats are only experienced by the individual and have no immediate societal relevance. Examples of internal threats are death anxiety, trait anxiety and test anxiety (Onraet, Van Hiel, Dhont et al. 2013). External threats, however, arise from or within the society and can pose a threat to both oneself and to society as a whole. Examples of external threats are dangerous worldview, terrorist threat and symbolic threat. The experience of external threats has its sources in the external environment, but people also differ in their predisposition to experience such threats (Onraet, Van Hiel, Dhont et al. 2013).

Importantly, in their subsequent meta-analysis of the research on threat and right-wing attitudes, Onraet, Van Hiel, Dhont et al. (2013) showed that internal and external threats have substantially different relationships with authoritarianism. In particular, the perception of internal threat only shows a relatively weak relationship ($r = .12$) with authoritarianism. In this regard, meta-analytic evidence provided by Burke, Kosloff and Landeau (2013) revealed that although mortality salience (cf. death anxiety) often increases the endorsement of right-wing attitudes, it seems to have rather “non-directional” effects and can increase affirmation of one’s political ideology (i.e., worldview defense), irrespective of whether this ideology is left or right. External threat on the other hand, showed significantly stronger relationships with authoritarianism ($r = .43$) in the meta-analysis of Onraet, Van Hiel, Dhont et al. (2013, see also Onraet et al., 2014). These authors identified eight different forms of perceived external threat in the literature: (1) dangerous worldview (e.g. Duckitt 2001) referring to the general perception of the world as a dangerous and chaotic place; (2) Symbolic threat (e.g. Stephan & Renfro, 2002) denoting perceived threats

posed by an outgroup to the ingroup's values and beliefs; (3) Realistic threat (e.g. Stephan & Renfro, 2002) denoting perceived threats posed by an outgroup to the ingroup's political and economic power; (4) Intergroup anxiety (e.g. Stephan & Stephan, 1985), referring to anxiety experienced during intergroup interactions; (5) Terroristic threat (e.g. Willer, 2004), denoting the perceived threat of terroristic attacks; (6) Economic threat (e.g. Feldman & Stenner, 1997), denoting the fear of an economic decline; (7) Political threat (e.g. McCann 1997), referring to threats experienced due to a dysfunctional government; and finally (8) threat to social cohesion (e.g. Feldman, 2003), operationalized as the perception of attrition of societal values and norms.

The Present study: Investigating the Interplay Between NFC and External Threat on RWA

In sum, throughout the literature, scholars have stressed the importance of epistemic motives as well as threat as antecedents of right-wing authoritarian attitudes. In their uncertainty-threat model, Jost and colleagues (2003) developed a motivated social-cognitive perspective that explicitly brought together the literature on epistemic motives and threat management motives as the fundamental influences in the development of right-wing and conservative attitudes. According to this perspective, individuals adopt ideologies in part to satisfy their underlying needs. The endorsement of RWA can satisfy the NFC because it embraces traditional norms and values. Indeed, maintaining what is familiar while rejecting new ideas safeguards against ambiguity and change, and fosters (societal) stability.

Furthermore, being authoritarian also holds the idea that all members of society should adhere to common social norms and values, which makes the social world a predictable and ordered place (Jost et al. 2007, Kossowska & Van Hiel, 2003; Roets et al. 2015). On the other hand, RWA also enables individuals to cope with the perception of societal threats (Henry,

2011; Feldman & Stenner, 1997, Stenner 2005). Indeed, under societal threat, individuals adopt RWA because it orients individuals to the group and authorities (Onraet et al. 2013), which enhances group coordination and cooperation and leads to feelings of control and security (Kessler & Cohrs, 2008).

Importantly, Jost et al. (2003) hypothesized that epistemic motives and threat management are interrelated but distinct motives and both contribute independently to the adoption of right-wing ideology. This hypothesis was put to the test in a series of studies by Jost et al. (2007), which confirmed the independent contribution of epistemic motives and threat management motives. Remarkably however, this study did not investigate the potential interplay between epistemic and threat motives. Even more surprising, more than a decade after the introduction of the uncertainty-threat model by Jost and colleagues, to the best of our knowledge, no study has tested this interesting possibility yet.

Based on recent research, it can be expected that perceived threat may attenuate, or even cancel out the influence of dispositional NFC on RWA. Indeed, studies have demonstrated that threat can weaken the association between a dispositional trait and attitudes that are related to authoritarian attitudes. For example, Nail, McGregor, Drinkwater, Steele, and Thompson (2009) demonstrated that when high levels of threat were experimentally induced, liberals endorsed in-group favoritism up to the same degree as their conservative counterparts. Along similar lines, in the face of threat, individuals' dispositional preference for consistency did not influence individuals' conviction of their attitudes toward capital punishment and abortion, whereas it had a significant relation in the low threat condition (Nail et al., 2009). Furthermore, building on the theoretical rationale that personality is a better predictor of behavior when situational factors do not constrain individual differences, Sibley, Osborne, and Duckitt (2012) developed a Threat-

Constraint Model (TCM) of political conservatism. The model states that the relationship between personality and political orientation is attenuated by situational threat. Meta-analytic evidence, provided by Sibley and colleagues (2012), indeed demonstrated that societal threat, indicated by homicide and unemployment rate, weakened the relationship between the personality trait Openness to Experience and political orientation.

In pursuing a more comprehensive picture of the development of right-wing authoritarian attitudes, we examined whether Sibley and colleagues' TCM is also applicable for the relationship between dispositional NFC and RWA. In other words, does perceived external threat weaken or even cancel out the effect of NFC on RWA? In order to answer this question, we conducted a two-wave longitudinal study in which we investigated the interaction of NFC and perceived external threat on RWA. We expected that, in general, people higher in dispositional NFC more strongly endorse RWA compared to people lower in NFC. Moreover, building on the work of Nail and Colleagues and Sibley and colleagues' TCM model, we expected that the relationship between NFC and RWA would be particularly pronounced among those experiencing lower levels of external threat, whereas a weaker or non-significant relationship was expected among those experiencing relatively higher levels of external threat. The longitudinal design allows for testing the effects of NFC and threat as well as their interaction on RWA over time, providing an indication of the causal direction of these effects.

Method

Participants. Data for this study were collected online through a survey company as part of a larger multi-wave panel study in a community sample from the Netherlands, stratified by age, gender, educational level, and province (see Onraet, Van Hiel, Dhont et al.,

2013; Onraet et al., 2014).¹ We used two datasets collected in October 2010 and in November 2011, henceforth referred to as time 1 (T1) and time 2 (T2), respectively. These two-wave datasets allow us to test the longitudinal interaction effect between NFC and perceived external threat at T1 on RWA at T2, with NFC being measured at T1, and perceived external threat and RWA measured at T1 as well as at T2. Respondents on T1 were 588 Dutch adults with a mean age of 50.73 years ($SD = 15.11$); with 47% women. Level of education was evenly distributed with 35% having a low level of education, 35% having a middle level of education, and 30% having a high level of education. Of these respondents, 463 respondents (79%) participated in the next wave (T2) of data-collection.

Measures. All measures were administered in Dutch on five point Likert scales (1 = strongly disagree; 5 = strongly agree), unless noted otherwise. For all measures, the mean, standard deviation, and Cronbach alpha are reported in Table 1.

NFC. We administered ten items of the short version (Roets & Van Hiel, 2011b) of the revised NFC scale (Webster & Kruglanski 1994, Roets & Van Hiel, 2007) at T1. The scale consisted of two items from each of the five NFC facets, which were selected as being most indicative for the global NFC concept within their facet, based on Roets and Van Hiel's (2011b) item-scale correlations. A sample item reads: "I don't like situations that are uncertain".

¹ Some data reported from this sample have been previously used by Onraet et al. (2014).

Perceived External Threat. Each of the eight specific external threats identified by Onraet, Van Hiel, Dhont et al. (2013), was measured with three items (see Onraet et al., 2014 for all items), both at T1 and T2. We administered 1) Dangerous worldview (based on Duckitt et al., 2002), e.g. “Every day as society becomes more lawless and bestial, a person’s chances of being robbed, assaulted, and even murdered go up and up”; 2) Symbolic threat (based on Stephan & Renfro, 2002), e.g. “I think that immigrants do not have the same mentality as native Dutch people”; 3) Realistic threat (based on Stephan & Renfro, 2002), e.g. “Nowadays, immigrants have too much political power and responsibility in our country”; 4) Intergroup anxiety (seven point Likert scale, 1 = not at all; 7 = very much; based on Stephan & Stephan, 1985), e.g. “To what extent do you feel anxious when interacting with immigrants?”; 5) Terroristic threat (Cohrs, Kielmann, Maes, & Moshner, 2005), e.g. “Personally, I feel very threatened by terrorism”; 6) Economic threat (based on Feldman & Stenner, 1997), e.g. “I worry that I myself or someone from my family will lose their job in the near future”; 7) Political threat (Onraet, Van Hiel, Dhont et al., 2013), e.g. “I worry that the government withholds important information from the population”; 8) Social Cohesion (based on Feldman, 2003), e.g. “There have been too many things changing in this country and it’s taking a toll on our basic values”. In addition to the eight specific threat scores, an aggregated external threat score was computed.

RWA. We administered six items of Altemeyer’s (1981) RWA scale at T1 and T2. The items were selected by Onraet, Van Hiel, Dhont et al. (2013) as being most indicative of the RWA construct, based on principal component analysis of full scales administered in earlier samples. A sample item reads: “Obedience and respect for authority are the most important virtues children should learn”.

Results

Preliminary Analyses. First we conducted multivariate analyses of variance to test whether T1 scores of NFC, RWA, and perceived external threat significantly differed between the respondents who also completed the survey at T2 and those who did not. We found no multivariate, $F < 1$, nor univariate, $F_s < 2.25$, $ps > .13$, differences between the groups. Therefore, all respondents who participated at T1 ($N = 588$) were included in the subsequent longitudinal analyses and we dealt with missing values using the full information maximum likelihood method (i.e., the default setting in Mplus; Version 7.1, Muthén & Muthén, 1998-2014).

Cross-sectional analyses. As shown in Table 1, NFC, perceived external threat, and RWA are strongly interrelated within and across measurement times. As a first test of our moderation hypothesis, we analyzed whether NFC and perceived external threat, in addition to their substantial main effects ($b = .30$, $SE = .05$, and $b = .28$, $SE = .04$, respectively both $p < .001$)², showed the hypothesized interaction effect at T1. Moderation analysis (Aiken & West, 1991) corroborated our hypothesis, yielding a significant interaction effect of NFC and perceived external threat on RWA: $b = -.25$, $SE = .05$, $p < .001$. Simple slope analyses showed a strong relationship between NFC and RWA when perceived external threat was generally

² Main effects for NFC and threat with inclusion of the interaction term were $b = .28$, $SE = .04$, and $b = .30$, $SE = .04$, respectively both $p < .001$

perceived as relatively low (-1 SD); $b = .47$, $SE = .05$, $p < .001$, whereas this relationship was trivial and non-significant when perceived external threat was perceived as high (+ 1 SD); $b = .09$, $SD = .06$, $p = .11$. Testing the interaction effect separately for each type of perceived external threat revealed a significant moderation effect with all threat indicators, $bs > -.09$, $ps < .002$, with the exception of political threat ($b = -.03$, $SD = .04$, $p = .42$).

Longitudinal Moderation Analysis. The cross-sectional analysis on T1 already provided evidence for an interaction effect of NFC and perceived external threat on RWA. Yet, to provide more direct evidence that NFC, perceived external threat and especially their interaction are predictors of RWA, longitudinal analyses were conducted. Therefore, we tested a model in which the centered T1 scores of NFC, perceived external threat, and RWA, as well as the interaction term between the T1 scores of NFC and perceived external threat predicted the T2 scores of RWA. By including the T1 scores of RWA, we controlled for the stability effect of RWA over time (i.e., including the autoregressive paths, $b = .68$, $SE = .04$, $p < .001$). The results revealed a longitudinal effect of perceived external threat on RWA, $b = .14$, $SE = .03$, $p < .001$, and a marginally significant longitudinal effect of NFC on RWA, $b = .07$, $SE = .04$, $p = .08$. Testing the effects of T1 scores on RWA and NFC on the T2 scores of perceived external threat, while controlling for perceived external threat at T1, showed that

RWA, but not NFC, also had a significant longitudinal effect on perceived external threat, $b = .13$, $SE = .03$, $p < .001$, and $b = .03$, $SE = .03$, $p = .36$, respectively³.

Most importantly and in line with our hypothesis, we found a significant interaction effect between NFC and perceived external threat at T1 on RWA at T2, $b = -.12$, $SE = .05$, $p = .01$, while controlling for RWA at T1⁴. Figure 1 shows the relationship between NFC at T1 and RWA at T2 under high and low levels of perceived external threat on T1 (i.e., one SD above and below the mean, respectively). Simple slope analyses revealed a significant positive longitudinal association between NFC at T1 and RWA at T2 when T1 perceived external threat levels were relatively low, $b = .16$, $SE = .06$, $p < .01$, but not when T1 perceived external threat levels were relatively high, $b = -.01$, $SE = .05$, $p = .83$. In line with our hypothesis, this result indicates that particularly under low levels of perceived external threat, individual differences in NFC matter in the prediction of RWA.

Finally, we tested whether each specific type of perceived external threat moderated the longitudinal relationship between NFC and RWA, running identical moderation models separately for each type of threat. The results of these analyses are presented in Table 2 and

³ Longitudinal main effects with inclusion of the interaction term were: perceived external threat on RWA, $b = .16$, $SE = .03$, $p < .001$, NFC on RWA, $b = .08$, $SE = .04$, $p = .07$. RWA and NFC effects on perceived external threat: $b = .13$, $SE = .04$, $p < .001$, and $b = .03$, $SE = .04$, $p = .44$, respectively.

⁴ The longitudinal NFC x Threat interaction on RWA remained significant, $b = -.12$, $SE = .05$, $p = .01$, after controlling for the demographic variables, age, gender, and educational level and can thus not be explained by shared variance with these demographic variables.

showed a consistent interaction pattern across six out of eight perceived external threat indicators. More specifically, higher NFC scores were significantly associated with higher RWA scores over time when perceived external threat was low but not when perceived external threat was high, as measured by dangerous worldview, symbolic and realistic outgroup threat, intergroup anxiety and threat to social cohesion. The moderation by terroristic threat showed a similar pattern, but it was only marginally significant. The longitudinal interaction between threat and NFC on RWA was non-significant when economic and political threat were included as moderators. Indeed, with these threat indicators, NFC showed significant (for economic threat) and marginally significant (for political threat) relations to RWA over time, but both under lower and under higher levels of threat.

Discussion

During the last decade, much of the work on authoritarianism has been inspired by the motivated social cognition perspective, which holds that ideological beliefs are (partially) endorsed in order to satisfy deeper psychological needs and motives (see Jost et al., 2003). The present study, conducted in a representative sample, built on this tradition and tried to provide a more complete understanding of the development of authoritarian attitudes by investigating the combined effects of the epistemic motive of NFC and perceptions of external threat on RWA.

In line with previous theorizing and empirical work (e.g. Chirumbolo, 2002; Onraet, Van Hiel, Dhont et al., 2013) the present study revealed that higher levels of NFC and perceived external threat are associated with higher levels of RWA at a given time. Moreover, both NFC and perceived external threat also showed longitudinal associations

with RWA over a one year time frame. In particular, higher levels of NFC and perceived external threat at T1 were associated with higher RWA levels at T2, although when tested simultaneously and including scores of RWA at T1, the longitudinal effect of NFC was only marginally significant, whereas the effect of threat remained significant. Hence, these results clearly demonstrate the role of epistemic needs and perceptions of external threat in the prediction of RWA over time. In light of the recent empirical findings by Proulx and Major (2013) and Randles et al. (2015), the present research therefore indicates that, although exposure to uncertainty can evoke 'bi-directional' worldview affirmation and extremity (i.e., for both the left and the right), the chronic aversion to uncertainty and disposition to avoid it (i.e. NFC) and external threats to both oneself and society, has a more 'one-directional' effect, namely an increase in RWA.

It is important to note that in line with previous research (e.g. Cohrs, Duckitt, Funke, & Petzel 2014; Sibley et al., 2007), we found that not only threat fosters the development of RWA, but RWA also makes individuals more prone to perceive threat. Indeed, people are motivated to perceive and interpret information that confirms their pre-existing social attitudes (e.g., Lord, Ross, & Lepper, 1979; Munro & Ditto, 1997). Applied to the relationship between RWA and perceived external threat, people higher in RWA tend to seek confirmation and justification for their beliefs and look for signs that their surrounding external world is indeed dangerous and threatening. Such a bidirectional path seems much less likely in the case of NFC, where there is a broad consensus that dispositional epistemic needs lie at the basis of socio-ideological attitudes such as RWA (see e.g., Dhont & Hodson, 2014; Jost et al, 2003; Roets & Van Hiel, 2011a; Roets et al., 2015). Exactly because of the lack of a theoretical rationale for the reverse path, we did not include a measure of NFC in

the second wave of data collection. Nevertheless, future research may want to employ a full cross-lagged design to explicitly investigate (and rule out) this possibility.

The main innovation of the present study is the examination of the interaction effect between epistemic motives and threat perception on RWA. In line with our expectations, people higher (versus lower) in dispositional NFC showed stronger RWA at a given time and also showed higher levels of RWA over time, but *only* when they perceived relatively low levels of external threat. In contrast, when the perception of external threat was relatively high, dispositional NFC was not significantly related to RWA over time, indicating that people lower in dispositional NFC showed levels of RWA similar to people higher in NFC. Stated otherwise, our findings revealed that individuals with higher epistemic security needs are inclined to adopt RWA irrespective of their experiences of external threat. In contrast, individuals lower in NFC are, in and of themselves, little motivated to adopt the security preserving ideology of RWA in perceived “safe settings”. However, when low NFC’s are more inclined to experience external threat, their endorsement of RWA raise to the same level as high NFC’s.

The interaction effect between NFC and perceived external threat on RWA over time was obtained for the general index of threat, and the same pattern also emerged for most of the specific types of threat individually. In particular, five out of eight threat indicators showed significant interactions, one indicator showed the same pattern of simple slopes but the interaction was marginally significant, and two indicators showed no significant interaction. Although the overall consistency of the interaction pattern attests to its robustness and generalizability across the different external threat types, future research may want to investigate the apparent differences in strength of the interaction effects. In particular, it may be possible that the weaker effects for especially political and economic

threat are mere measurement or statistical artefacts, or there may be more conceptual explanations. One might for example speculate that the interaction effects are especially prominent for threats that are somehow related to intergroup aspects, and less so for other threats. However, this would not explain why dangerous worldviews and social cohesion threat show equally strong interaction effects.

The current study is the first to show that higher levels of external threat curb the relationship between NFC and RWA and suggests that previous studies which investigated the driving mechanisms of RWA in isolation may have missed an important part of the bigger picture. Indeed, our findings extend the motivated social cognition perspective by demonstrating that the different motives that underlie RWA do not only contribute independently, but also interact in the development of RWA. The present results align well with the previous studies of Sibley et al. (2012) and Nail et al. (2009), showing that threat attenuates the relationship between a dispositional trait and the adoption of ideological attitudes. Moreover, our findings are also in line with Oesterreich's (2005) conceptualization of the authoritarian reaction as a flight into security, a basic reaction of *all* human beings and may point to potential consequences at the broader societal level. That is, in relatively safe circumstances, the variation in individual differences with regard to epistemic needs "guarantees" a balance between high and low right-wing authoritarians within a society. However, particular events (such as terrorist attacks) that heighten the experience of threat in all citizens may disturb this balance, overruling the tempering influence of lower NFC individuals, leading to increased support for authoritarian ideology and policy. Such processes may have played a role in, for example, the acceptance of the implementation of the "PATRIOT act" in the US in the aftermath of the 9/11 attacks.

Conclusion

The present study demonstrated that epistemic motives and the perception of external threat show an interaction effect on RWA and their evolution over time. In particular, dispositional levels of NFC were significantly related to higher levels of RWA when individuals experienced relatively low levels of perceived external threat. However, when individuals experienced relatively high levels of external threat, NFC was not significantly related to RWA. These findings point to the importance of considering perceived contextual factors, and hint to the importance of real differences in contextual factors, when considering the role of motivated social cognition in authoritarian ideology.

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Tables and Figures

Table 1. Descriptive statistics and correlations between all variables (T1: $N = 588$, T2: $N = 463$)

	α	M	SD	correlations				
				NFC T1	Threat T1	RWA T1	Threat T2	RWA T2
NFC T1	.85	3.35	.64	-	.44***	.40***	.41***	.40***
Threat T1	.93	3.14	.74		-	.42***	.83***	.46***
RWA T1	.71	3.31	.70			-	.46***	.75***
Threat T2	.93	3.16	.74				-	.49***
RWA T2	.75	3.27	.72					-

* $p < .05$; ** $p < .01$; *** $p < .001$

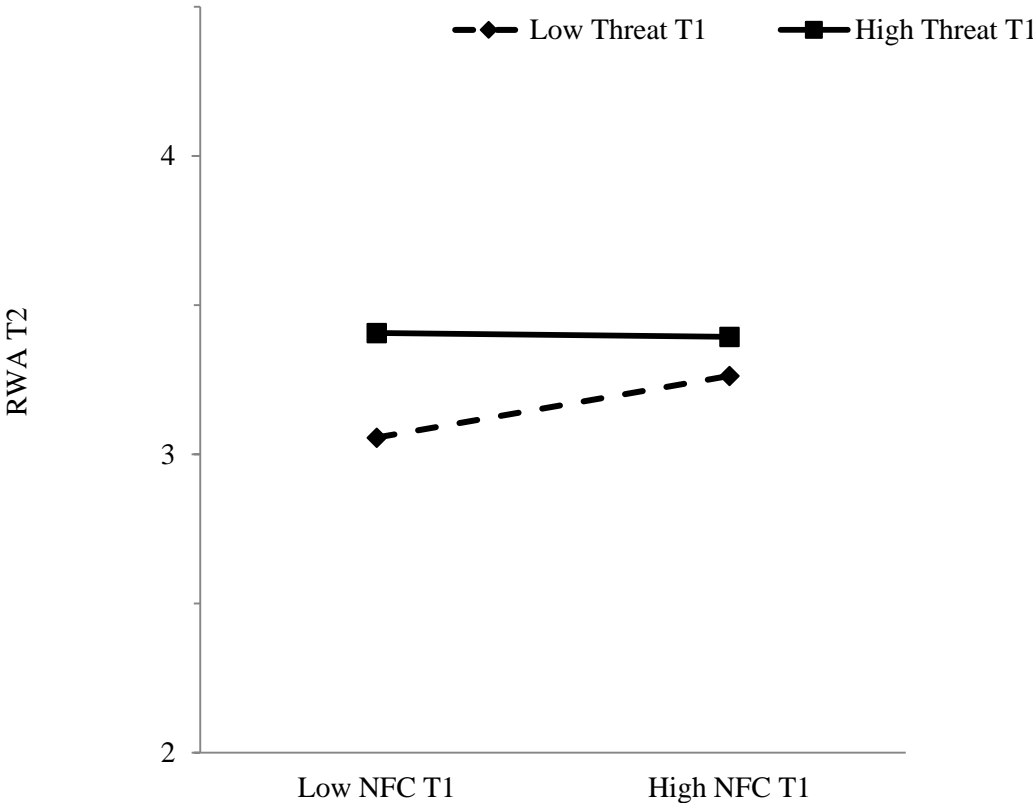
Table 2. Longitudinal interaction effects ($N = 588$) between NFC (T1) and specific types of threat (T1) on RWA (T2), controlling for RWA (T1)

Moderator	Interaction effect		Simple slope analyses	
	<i>b</i>	<i>SE</i>	High threat <i>b</i> (<i>SE</i>)	Low threat <i>b</i> (<i>SE</i>)
Dangerous worldview	-.11**	.03	-.00 (.05)	.21*** (.06)
Symbolic threat	-.08*	.04	.05 (.05)	.18*** (.06)
Realistic threat	-.11**	.03	-.02 (.05)	.21*** (.06)
Intergroup anxiety	-.09*	.04	.02 (.05)	.15** (.06)
Terroristic threat	-.07 ⁺	.04	.05 (.05)	.17** (.06)
Economic threat	-.01	.03	.10* (.05)	.13* (.06)
Political threat	-.01	.03	.10 ⁺ (.05)	.12* (.05)
Threat to social cohesion	-.09*	.04	.03 (.05)	.19*** (.06)

⁺ $p < .07$ * $p < .05$; ** $p < .01$; *** $p < .001$

Figure captions

Figure 1. Longitudinal Relationship ($N = 588$) between NFC (T1) and RWA (T2) under lower (-1 SD) and higher (+1SD) levels of Threat (T1), controlling for RWA (T1).



Supplemental material

Table 1: Correlations between threat variables on Time 1

	1	2	3	4	5	6	7
1. Dangerous worldview							
2. Symbolic threat	.43						
3. Realistic threat	.60	.59					
4. Intergroup anxiety	.48	.42	.63				
5. Terroristic threat	.46	.26	.48	.49			
6. Economic threat	.33	.27	.37	.33	.37		
7. Political threat	.45	.31	.34	.28	.32	.38	
8. Threat to social cohesion	.65	.48	.51	.38	.35	.31	.50

All Correlations are significant at the $p < .001$ level (2-tailed).

Table 2: Correlations between threat variables on Time 2

	1	2	3	4	5	6	7
1. Dangerous worldview							
2. Symbolic threat	.52						
3. Realistic threat	.64	.60					
4. Intergroup anxiety	.49	.42	.63				
5. Terroristic threat	.37	.24	.43	.49			
6. Economic threat	.33	.17	.26	.30	.35		
7. Political threat	.53	.35	.41	.27	.24	.40	
8. Threat to social cohesion	.63	.47	.55	.39	.26	.35	.58

All Correlations are significant at the $p < .001$ level (2-tailed).