

Out of control: How and why does perceived lack of control lead to ethnocentrism?

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Recent research on group-based control restoration shows that a low sense of control leads to ingroup bias (Fritsche et al., 2008). The present investigation is an attempt to shed light on the psychological mechanisms that mediate this effect when focusing on ethnocentrism and prejudice towards immigrants as dependent variables, which are varieties of ingroup bias. Based on Rothbaum et al.'s (1982) theorizing on secondary control, need for cognitive closure, right-wing authoritarianism, avoidance of empathy and prejudice towards immigrants were predicted to function as mediators of the effects of different facets of low perceived control on ethnocentrism. An internet study was performed to gauge 227 participants' perceived lack of control in political and economical domains. Furthermore, participants completed questionnaires concerning the aforementioned mediator variables. Path analysis performed revealed that 51% of the variance in ethnocentrism was explained. In addition, structural equation modelling replicated this pattern of results, additionally showing that prejudice towards immigrants was factorially different from ethnocentrism. Theoretical implications of the results are discussed in light of secondary control theory. Moreover, practical implications in the socio-political domain are presented.

Key words: ingroup bias, ethnocentrism, prejudice, secondary control, group-based control restoration

In the last election of the Austrian parliament in September 2008, two far-right parties together received nearly 30% of the votes. The New York Times commented on this: "Far-Right, Anti-Immigrant Parties Make Gains in Austrian Elections" (Kulish, 2008). What caused about one third of the Austrian electorate to vote for parties holding views that contain a form of ethnocentrism and xenophobia, which was thought to have left the Austrian political community forever about 60 years ago?

Recent social psychological examination of the socio-politically very important question of how ethnocentrism evolves, demonstrates that it often occurs after experiences of control deprivation, suggesting a compensatory function (e.g. Fritsche & Jonas, 2009; Fritsche, Jonas, & Fankhänel, 2008).

Consider the following three facts: In 2004, 63% of Austrian participants in a survey stated that they felt threatened by terrorist organizations (Schaller, 2004), in the year of 2010, 54% indicated the same regarding Islam (IMAS-International, 2010). Moreover, 50% admitted to fear losing their job because of the current economic crisis in 2009 (Schmidt, 2009). What do these three occurrences have in common? They represent human reactions to important

external threats like the threat to physical integrity or even life (terrorism), financial security (economic crisis) or the disintegration of one's own cultural group – something numerous Austrians seem to be afraid of when thinking about Islam (or rather islamization). Whether such threats are really fatal or rather exaggerated, they owe their dangerousness mainly to the fact that potential victims cannot do much to defang them, that is to say, the individual suffers from lacking control when facing powerful threats, and must do something to end this highly aversive state (e.g. Kay, Whinston, Gaucher, & Galinsky, 2009; Pittman, 1998).

The present enquiry aims at providing answers to the questions how and why low control perceptions frequently result in increased ethnocentrism by identifying psychological processes that mediate the effect of lacking control on ethnocentric attitudes.

Theoretical background. This research is based on the theoretical work of Rothbaum, Weisz, and Snyder (1982), who posited two ways of reacting to perceptions of low control. One way, called *primary control*, is realized by directly manipulating the environment to achieve personal goals. The other way – *secondary control* – includes several means of restoring a sense of being in control: one can try to predict future events to protect against disappointment (*predictive control*), to align oneself with chance in connection with magical thinking that includes rituals for good luck (*illusory control*), to identify with powerful others (e.g. a cultural group, political authorities, etc.), which permits the

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individual to join in and benefit from their power (*vicarious control*)¹ and to strive for understanding and derive meaning from otherwise uncontrollable events (*interpretive control*).

Central assumptions derived from this line of reasoning were empirically corroborated in many studies. For example, Greenaway and Louis (2009) showed that anti-immigrant attitudes are caused by an interaction between terrorist threat and low perceived control. Furthermore, Fritsche and Jonas (2009) demonstrated that induced lack of control produces ingroup bias, which is related to ethnocentrism, in the intergroup context of East and West Germans. In addition, there is evidence suggesting that the enormous mass of evidence (concerning ingroup bias among other subjects) generated within the framework of terror management theory might be due to control motivation (Fritsche et al., 2008).

Hence, it seems very likely that people compensate for low individual control by favouring ingroups over outgroups as well as derogating outgroups, thus exhibiting ingroup bias. By upholding the ingroup in this way individuals make up for their personal control loss on a vicarious or group level. But it is little known which psychological mechanisms mediate these compensatory dynamics. Taking Rothbaum et al.'s theorizing on secondary control as the point of departure, we expect motivational and ideological variables to function as mediators of this effect. More precisely, we examine the effects of domain-specific control perceptions through certain mediators on ethnocentrism.

The idea that control motivation is a decisive cause of the emergence of ethnocentrism was already tested implicitly, but never explicitly, as the central underlying psychological factor of ethnocentric attitudes. Duckitt, Wagner, du Plessis, and Birum (2002) viewed control and security motivation as the content of a motivational goal schema that underlies right-wing authoritarianism (RWA), which plays a major role in promoting negative intergroup attitudes. Having been activated by threat perceptions, "social control and security motivational goals and authoritarian ideological attitudes" engender intergroup hostility along with social dominance orientation (SDO) that is rather fueled by competitiveness (*ibid.*, p. 88).

Hence, our control-focused approach to the explanation of outgroup negativity is not completely new. However, it may be noteworthy that most models reflecting the development of hostile intergroup attitudes do not include perceived control as predictor (e.g. of RWA) or mediator. Only a few studies concentrated on the relationship between a low sense of control and negative attitudes towards minorities and found a positive connection (Duckitt, 1984; Halperin, Canetti-Nisim, & Pedahzur, 2007; Heaven & Furnham, 1987; Sayed, 1998). But the integration of control percepti-

ons in a bigger framework of determining factors of ethnocentrism still awaits proper investigation.

There are further empirical arguments to ascribe such a central role to low perceived control in the occurrence of intergroup hostility. It was found that a compulsive-dependent personality predicts prejudice through RWA (Schlachter & Duckitt, 2002). Van Hiel, Mervielde, and De Fruyt (2004) discovered in similar vein compulsiveness to be connected positively to right-wing ideology. As is known from research on compulsiveness, this pathology may be rooted in a fundamental control deficiency (e.g. DeSarbo & Edwards, 1996; Hirschman, 1992; Moulding & Kyrios, 2006). Van Hiel et al. (2004) only refer to the psychoanalytical concept of the anal character to explain the link between compulsiveness and conservativeness. Since there is no conclusive evidence for this psychoanalytical approach, as far as we know, we see cogent reasons for the investigation of this subject. Our approach states a crucial role of control motivation in this regard.

The assumed model is based on existing models of hostile intergroup attitudes (regarding prejudice, racism, etc.) proposing a specific hierarchical causal structure (e.g. Bäckström & Björklund, 2007; Duckitt et al., 2002; Duriez & Soenens, 2006; Ekehammar, Akrami, Gylje, & Zakrisson, 2004; Hodson, Hogg, & MacInnis, 2009; Van Hiel, Pandelaere, & Duriez, 2004). All these models share the suggestion of a dual-route mediation of the effects of dispositional personality traits (e.g. Big Five) on intergroup attitudes by right-wing authoritarianism (RWA) and social dominance orientation (SDO), which are conceptualized as ideological attitudes (Duckitt et al., 2002). Our model is similarly structured, but has also some differences. We distinguish two levels of personality traits, one (low control perceptions) predicting the other (need for cognitive closure and avoidance of empathy). Furthermore, our model explores a single route to ethnocentrism, as SDO is not examined in this work, since it is associated with competitiveness rather than perceived threat and (social) control motivation, contrary to RWA (Cohrs, Moschner, Maes, & Kielmann, 2005; Duckitt, 2006). As we will explain below, the following variables are supposed to mediate: need for cognitive closure (NFCC), avoidance of empathy, right-wing authoritarianism (RWA) and prejudice towards immigrants. In a nutshell, we expect the effects of personality traits (lack of control, NFCC, and avoidance of empathy) on intergroup attitudes (prejudice towards immigrants and ethnocentrism) to be fully mediated by the ideological attitude RWA in accordance with the aforementioned models (Figure 1; e.g. Ekehammar et al., 2004). The conceptualization of our central dependent variable is borrowed from Bizumic, Duckitt, Popadic, Dru, and Krauss (2009), who define ethnocentrism as "ethnic group self-centeredness, with four intergroup expressions of ingroup preference, superiority, purity, and exploitativeness [of outgroups], and two intragroup expressions of group cohesion and devotion" (*ibid.*, p. 871).

¹ Fritsche et al. (2008) call this form of secondary control *group-based control restoration* as long as it is a social group that is identified with (the minor differences between both concepts can be neglected here).

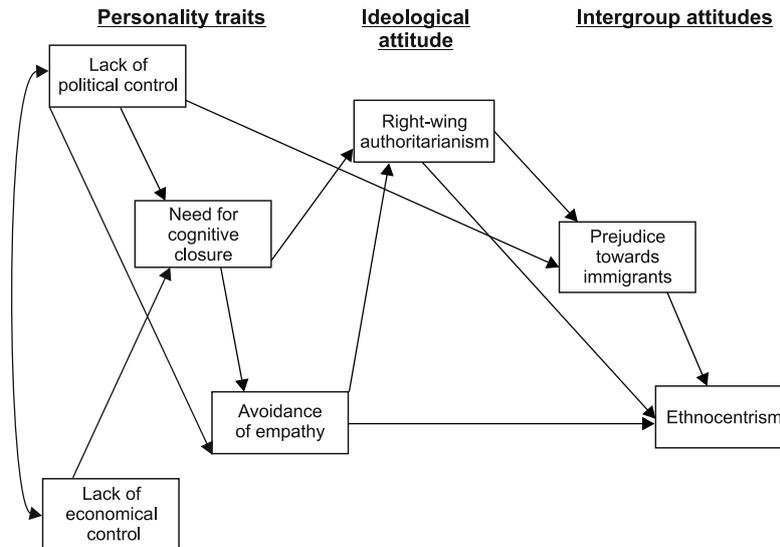


Figure 1. Conceptual path model of predictors, mediators and the central criterion

Personality traits. Dispositional low sense of control in the political and economical domain should increase the need for cognitive closure, i.e. epistemic striving for certainty, predictability and comprehension, which corresponds to attempted enhancement of interpretive control (cf. Pittman, 1998; Rothbaum et al., 1982; Webster & Kruglanski, 1994). For example, persons who had thought about a situation, in which they did not have control, subsequently showed a greater need to “structure the world into a simplified, more manageable form” as measured by the personal need for structure scale (Neuberg & Newsom, 1993, p. 113) than persons who had thought about being in control (Whitson & Galinsky, 2008). As PNS and NFCC are usually highly correlated ($r = .79$; Neuberg, West, Judice, & Thompson, 1997) and both constructs express equal needs – need for order and predictability – NFCC is likely to be increased by lack of control.

Need for cognitive closure could lead to heightened avoidance of empathy, i.e. lowered empathy motivation, since empathy requires an openness to others’ emotions and cognitions that interferes with the “desire for predictability, preference for order and structure, discomfort with ambiguity, decisiveness, and closed-mindedness” (Webster & Kruglanski, 1994, p. 1049); these constitutive facets of NFCC should hardly be compatible with the complexity of human mental functioning, which is the empathizer’s point of reference.

Moreover, NFCC should heighten RWA because powerful leaders provide people with guidance in the sense of vicarious control. Thus, persons high in NFCC are supplied with the eagerly awaited opportunity to get rid of all weaknesses and uncertainties by identifying with and clinging to a charismatic leader (Chirumbolo, 2002; Jugert, Cohrs,

& Duckitt, 2009; Rothbaum et al., 1982; Van Hiel et al., 2004).

Empathy is known to be negatively related to RWA (Bäckström & Björklund, 2007). This may be not surprising, as empathy seems to include personal attributes like nonconformity in the sense of openness to variety and change (Johnson, Cheek, & Smither, 1983) that very conventional, narrow-minded authoritarians are not supposed to have (Altemeyer, 2006).

Ideological attitude. RWA is likely to augment prejudice towards immigrants in terms of anti-immigrant attitudes because of the authoritarians’ “threat-driven control and security motivation” (Duckitt et al., 2002, p. 88) that motivates them to view everything alien as aversive, threatening sources of control loss. This loss of control could occur on an interpretative/predictive level, as immigrants often come from unfamiliar cultures, hence seeming strange and unpredictable to locals. Likewise, it might take place on a vicarious/identificatory level, since immigrants could be perceived as threatening ingroup cohesion and entitativity. Furthermore, they could be assumed to lack devotion to the culture and values of the host society. The link between RWA and generalized prejudice is very well documented (Sibley & Duckitt, 2008).

Intergroup attitudes. Finally, enlarged RWA and prejudice towards immigrants should result in amplified ethnocentrism because it implies identifying with and supporting the ingroup, thus participating in and benefiting from its power. So, it represents an effective means of coping with a sense of lowered personal control by providing vicarious control (Fritsche et al., 2008; Rothbaum et al., 1982).

Prejudice towards immigrants should partially mediate the effect of RWA on ethnocentrism because many people,

who basically are not xenophobic, could gradually develop resentment against immigrants due to their interpretive, predictive and vicarious control motivations (see above). This resentment should prompt cognitive dissonance for lack of ideological integration (especially in liberal-democratic societies like Austria and Germany where xenophobia is principally tabooed), and therefore demand rationalization, which could be manifested in ethnocentric striving for high ingroup cohesion and devotion to its cultural values (Festinger, 1957; see also Pratto & Glasford, 2008).² Thereby, ethnocentrism would represent a kind of an ideological refuge for anti-immigrant locals suffering from worldview inconsistency.

Summing up, we assume the intergroup attitudes prejudice towards immigrants and ethnocentrism to be explained by personality traits (lack of control, NFCC, and avoidance of empathy) as well as the ideological attitude RWA, with RWA mediating trait effects on intergroup attitudes. However, not all personality variables are localized on the same hierarchical level in our model. As was stated before, there is evidence suggesting that motivational variables like NFCC and avoidance of empathy are not completely enduring aspects of personality, but could vary as a function of being in respectively lacking control. Hence, control perceptions are surmised to influence RWA through NFCC and avoidance of empathy.

METHODS

Participants

139 female and 88 male students completed a set of questionnaires that were placed on unipark.de. 161 participants studied at the University of Salzburg, 66 studied at the University of the Federal Armed Forces Munich. 155 probands had German, and 66 had Austrian nationality (five held another nationality and one did not answer this question). Participants' mean age was 23 ($SD = 5.58$). Most of them were studying psychology, the rest were distributed evenly across other degree courses.

Materials and procedure

Each questionnaire was presented on a separate page. The instruments' order of presentation was randomized as well as the presentation order of the items composing the respective scales.³ The scales that constitute the set of questionnaires are documented below with example items and internal consistencies.

2 These rationalizations could read as follows: "The immigrants undermine our cohesion" or "their culture is very different from ours, they lack devotion to our values, so they really have no place in our country".

Perceived lack of control scales. Most items for the domain-specific low control perceptions scales were taken out of the subscale "Socio-Political Control" of the "Spheres of Control Scale" (Paulhus & Van Selst, 1990), but some of them were slightly altered to be in better line with the political landscape in Austria and Germany. Perceived lack of political control was measured with four items, having satisfactory internal consistency ($\alpha = .79$). Example items are "The average citizen cannot have an influence on government decisions" and "In the long run we, the voters, are not responsible for bad government, since our leverage is too little".

Perceived lack of economical control was gauged with five items, demonstrating sufficient internal consistency ($\alpha = .71$). Two items were taken from the Socio-Political Control scale (ibid.), and three were self-created to comprise the current financial crisis. Exploratory and confirmatory factor analyses revealed that the scales were localized on two different dimensions, contrary to Paulhus and Van Selst (1990), who preferred a single-factor model.⁴ Example items are "The current economic crisis befell us like an uncontrollable thunderstorm" and "It is impossible to have any real influence over what big businesses do".

In general, these two scales reflect the degree of how much control over political and economical developments individuals ascribe to themselves and/or to certain societal groups they belong to, e.g. the voters or "average citizens", with high values indicating low control attributions. These variables are conceptualized as relatively enduring personality traits.

Need for cognitive closure (NFCC). NFCC was measured with the 16-item scale of Schlink and Walther (2007) that is usually used in German-speaking countries. It is well validated (ibid.) and possessed satisfactory internal consistency in our sample ($\alpha = .85$). It is based on the classic NFCC scale of Webster and Kruglanski (1994) and mirrors the desire for "an answer on a given topic, any answer, ... compared to confusion and ambiguity" (ibid., p. 1049). Example items are "I don't like unpredictable situations" and "I don't like ambiguous statements" (translated by the author). NFCC is conceived as a rather stable trait, but can also vary as a function of situational influences, e.g. time pressure.

3 Some other data were also collected on this occasion. They were included in the randomized sequence of instruments, but as they are not relevant to the present study, they will not be mentioned further.

4 The model fit of the two-factor solution was very good ($\chi^2 = 34.15$, $df = 26$, $p = .13$, $\chi^2/df = 1.31$, Comparative Fit Index (CFI) = .99, Root Mean Square Error of Approximation (RMSEA) = .041, Akaike's Information Criterion (AIC) = 73.73, Expected Cross-Validation Index (ECVI) = 0.33) in our sample. The model fit of the one-factor solution turned out to be far worse ($\chi^2 = 87.55$, $df = 27$, $p = .00$, $\chi^2/df = 3.24$, CFI = .90, RMSEA = .12, AIC = 149.66, ECVI = 0.67).

Avoidance of empathy. This personality variable was measured with a 6-item scale constructed by Ade and Hamann (2008). The scale showed satisfactory internal consistency ($\alpha = .78$). It reflects a generalized low motivation to empathize with other people. Individuals with high values on this scale are likely to perceive empathy as aversive and unnecessary. Example items are “I only empathize with others when there is a significant benefit to get” and “I sometimes think: why should I care about what goes on in others’ minds”. Avoidance of empathy is designed as a fairly enduring trait.

Right-wing authoritarianism (RWA). RWA was gauged with a self-composed 10-item scale that comprises items from Altemeyer (2006) and Maes (n.d.), exhibiting good internal consistency ($\alpha = .88$).⁵ In addition, one item was created to capture preference for politicians offering simple and clear-cut solutions (cf. McConochie, 2008). The scale measures the need for submission to a powerful leader, aggression against transgressors and conventionalism. Example items are “Each group needs a strong person who makes decisions and leads” and “The «old-fashioned ways» and the «old-fashioned values» still show the best way to live”. RWA is conceptualized as a relatively stable ideological attitude.

Prejudice towards immigrants. The scale for prejudice towards immigrants consists of three items, displaying good internal consistency ($\alpha = .83$). Two of them were taken from Greenaway and Louis (2009) (in slightly modified wording), and one additional item was developed to tap economy-related fears that are inherent in many anti-immigrant prejudices. This scale reflects immigrant-hostile attitudes in a generalized sense. Example items are “The economy of my home country should be protected from mass immigration” and “I think the government of my home country should make the immigration of foreigners more difficult”. Prejudice towards immigrants is conceived as a quite enduring intergroup attitude.

Ethnocentrism. Ethnocentrism was gauged with five items, each of which was taken out of each subscale of Bizumic et al.’s (2009) ethnocentrism scale in order to create a short version of the original scale that consists of 60 items. Criteria for the item selection were items’ factor loadings in confirmatory factor analysis as well as the items’

appropriateness for the political landscape in Austria and Germany. The six facets of ethnocentrism, on which the selected items are based, according to Bizumic et al. are preference, superiority, purity, exploitativeness (of outgroups), group cohesion, and devotion. The item measuring superiority had to be omitted because it loaded on the prejudice factor. So, our ethnocentrism scale does not include superiority assumptions. Its internal consistency is sufficient ($\alpha = .75$). Example items are “We, as a cultural group, should be more integrated and cohesive, even if it reduces our individual freedoms” (group cohesion) and “No matter what happens, I will ALWAYS support my cultural or ethnic group and never let it down” (devotion). Ethnocentrism is conceptualized as a fairly stable intergroup attitude.

Participants responded to all items of all questionnaires on a 10-point Likert scale from 1 = *totally disagree* to 10 = *totally agree*.

RESULTS

Path analysis was performed using the maximum likelihood method based on the correlation matrix (Table 1). All possible paths were tested (i.e., $df = 0$) to estimate total, direct, and indirect effects and their p -values. Non-significant paths ($p > .05$) have been dropped from the figure for clarity. The model examined (Figure 2) fitted, of course, the data perfectly ($\chi^2 = 0.00$, $df = 0$, $p = 1.00$, $\chi^2/df = 0.00$, CFI = 1.00, RMSEA = .00; R^2 of ethnocentrism = .51). In line with the hypotheses, many significant indirect effects were found (Tables 2 and 3). Overall, the model is consistent with the assumptions.

Structural equation modelling (SEM) disclosed prejudice and ethnocentrism as being operationalized discriminati-

Table 1

Intercorrelations of the scales that were used for the path analysis

Measure	1	2	3	4	5	6	7
1. Lack of political control	1						
2. Lack of economical control	.52***	1					
3. Need for cognitive closure	.36***	.44***	1				
4. Avoidance of empathy	.18**	.06	.26***	1			
5. Right-wing authoritarianism	.15*	.14*	.33***	.26***	1		
6. Prejudice towards immigrants	.33***	.17*	.32***	.21**	.44***	1	
7. Ethnocentrism	.28***	.17*	.33***	.34***	.54***	.63***	1

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

5 In previous studies many classic RWA-items of Altemeyer (2006) turned out be unsuitable for students in Austria and Germany because their radical wording was perceived as strange and irritating by the students (Agroskin, 2008). This may be not surprising, since some items imply political and religious statements that are not very popular in modern secular Central Europe, e.g. “there are many radical, immoral people in our country today, who are trying to ruin it for their own godless purposes, whom the authorities should put out of action”. Therefore, a more apt scale was created by selecting several appropriate items from Altemeyer and amending them by using more moderately worded items from Maes (n.d.).

Table 2

Indirect effects of the exogenous variables lack of political control and lack of economical control on the endogenous variables avoidance of empathy, RWA, prejudice, and ethnocentrism

Endogenous variables	Exogenous variables	
	Lack of political control	Lack of economical control
Need for cognitive closure	-	-
Avoidance of empathy	.05*	.09**
Right-wing authoritarianism	.09**	.09*
Prejudice towards immigrants	.07	.08
Ethnocentrism	.22***	.03

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

Table 3

Indirect effects of the endogenous variables NFCC, avoidance of empathy, and RWA on the endogenous variables RWA, prejudice, and ethnocentrism

Endogenous variables	Endogenous variables				
	1	2	3	4	5
1. Need for cognitive closure	-	-	-	-	-
2. Avoidance of empathy	-	-	-	-	-
3. Right-wing authoritarianism	.05*	-	-	-	-
4. Prejudice towards immigrants	.13***	.07*	-	-	-
5. Ethnocentrism	.25***	.10*	.16***	-	-

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

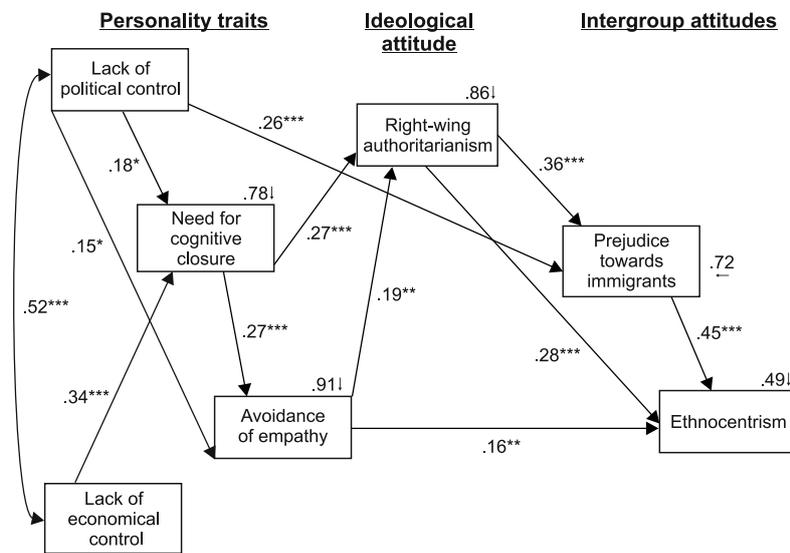


Figure 2. Path model of predictors, mediators and the central criterion including path coefficients (β) and error variances
 Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

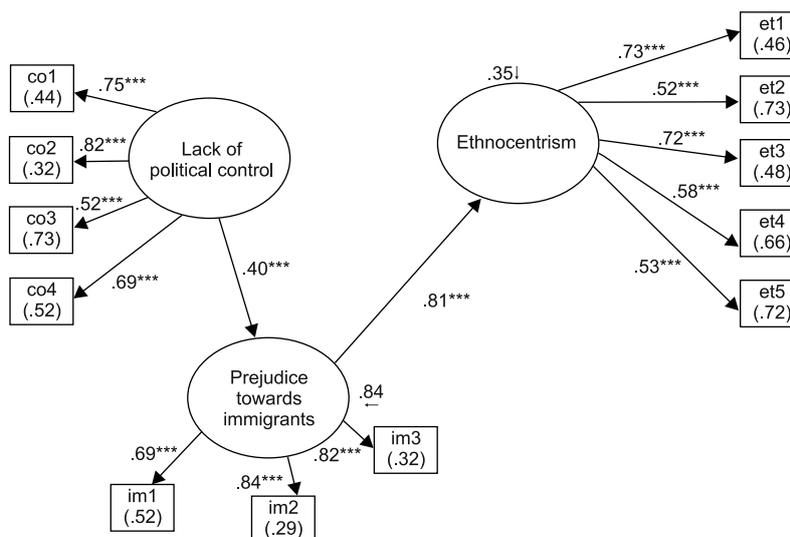


Figure 3. Path model of the latent variables and their respective indicator variables including factor loadings, path coefficients (β) and measurement errors (measurement errors of indicator variables are putted in parentheses)
 Note. *** $p < .001$.

vely by modelling perceived lack of political control, prejudice and ethnocentrism as latent variables. The theoretical model (Figure 3) revealed a very good fit to the data ($\chi^2 = 64.89$, $df = 52$, $p = .11$, $\chi^2/df = 1.25$, $CFI = .99$, $RMSEA = .035$; R^2 of ethnocentrism = .65). Lacking control in the political domain significantly increased ethnocentrism through prejudice ($\beta = .32$, $p < .001$). The results show that prejudice is conceptually distinguishable from ethnocentrism.

DISCUSSION

All in all, the findings are consistent with the hypotheses and paint a clearly interpretable picture of the development of ethnocentric attitudes. It became evident that intergroup attitudes (prejudice towards immigrants, ethnocentrism) are influenced by personality traits (lack of control, NFCC, avoidance of empathy) and ideological attitudes (RWA), whereby trait effects on intergroup attitudes were (partially) mediated by ideology. Thus, the occurrence of ethnocentrism turned out to be ascribable to control restoration-related processes to a large extent. The control restorative dynamics were shaped as follows: Firstly, persons lacking political and economical control aimed at re-establishing a sense of control on the interpretive level by attaining cognitive closure, which corresponds to understanding and deriving meaning from otherwise uncontrollable and threatening events. Then, control restoration in terms of vicarious leader-centred control followed by clinging to a charismatic leader capable of providing guidance and pointing the right way, thereby disburdening control-deprived individuals from their weaknesses and uncertainties. Finally, control reconstitution manifested in the identification with and endorsement of an ingroup, thus promoting an overwhelming feeling of togetherness and collective power, hence making people with a low sense of personal control forget most of their individual shortcomings. This is the case of group-based control restoration – another form of vicarious control – that found expression in anti-immigrant attitudes and ethnocentrism in our model, which was strongly supported by featuring perfect fit to the data. Moreover, the assumed mediation structure turned out to be mainly as hypothesized. The effects of domain-specific low control perceptions on RWA were mediated by NFCC and avoidance of empathy, which both might be seen as indicators of heightened control motivation on an interpretive level. In addition, RWA augmented ethnocentrism partially through prejudice ($\beta = .16$). Hence, 0.36 of RWA's total effect on ethnocentrism ($\beta = .44$) is allotted to prejudice towards immigrants. This may apply to individuals who initially had not been xenophobic, but gradually evolved ethnocentric attitudes for want of rationalization in a dissonance theoretical sense as well as ideological integration of their newly acquired prejudice that developed due to fundamental control deficiency.

SEM supported the findings of the path analysis. It replicated its path structure, additionally confirming that the ope-

rationizations of prejudice and ethnocentrism differ from each other because there were neither correlated measurement errors between indicator variables of both constructs, nor inappropriate factor loadings of indicator variables of one latent variable on the other latent variable. This reasoning is corroborated by the good fit of the model.

All this means that our control-focused approach to the emergence of ethnocentrism is supported by conclusive empirical evidence. It discloses the psychological dynamics that lie beneath the extensively documented contributions of certain personality traits and ideological attitudes to the intergroup attitudes examined. Thereby, our findings perfectly fit into the growing body of evidence that suggests a decisive role of control motivation for many different domains of human mental functioning (e.g. Fritsche et al., 2008; Kay, Gaucher, Napier, Callan, & Laurin, 2008). So, after the discovery of the importance of the control motive for the evolution of ethnocentrism, it is now also known how and why lacking control leads to ingroup bias. The question of how ingroup bias appears as a function of control loss is uncovered by the identification of multiple mediators of this effect as well as the examination of its mediation structure, and the question of why it emerges is answered by the theoretically based analysis of secondary control manifestations in the process of ethnocentric/group-based control restoration.

However, not all hypotheses were supported by the results. Regarding the path analysis, two paths were not as expected. There appeared an unexpected direct link between low political control and prejudice ($\beta = .26$). In addition, avoidance of empathy directly influenced ethnocentrism ($\beta = .16$) instead of increasing it through ideology. These direct effects implicate that RWA did not act as the crucial mediator of trait effects on intergroup attitudes as was expected. Additional effect decomposition substantiated this reasoning. It emerged that 0.77 of the entire indirect effect ($\beta = .22$) of lack of political control on ethnocentrism was mediated by prejudice ($\beta = .17$), i.e. only 0.23 of this indirect effect went to ethnocentrism through RWA and avoidance of empathy circumventing prejudice. Obviously, prejudice towards immigrants took RWA's place as central mediator of trait and ideology effects on ethnocentrism, especially if the partial mediation of RWA's effect on ethnocentrism by prejudice is considered, too. Further research should investigate the underlying factors of these connections in more detail.

Besides, perceived lack of control in the political domain was more predictive of ethnocentrism than low control perceptions in the economical domain. Although we did not formulate specific hypotheses concerning the proportion of the effects of these domain-specific control perceptions, it is noteworthy that only the indirect effect of low political control reached significance (Table 2). Hence, control-related political concerns seem to be more important for the formation of ethnocentrism than control-related economical ones. Notwithstanding these unexpected results, the findings ove-

rall allow valuable insights into the psychological dynamics that takes place between personal control loss and group-based compensation of this highly aversive deprivation.

Theoretical implications. Hence, the occurrence of ethnocentrism can be explained with an integrative control theory, which captures different levels and manifestations of control (primary and secondary; epistemic, vicarious/identificatory, etc.) like Rothbaum et al.'s one. Admittedly, there are many possibilities of relating the various manifestations of secondary control to each other hierarchically – the one suggested in this work does not have to be the best, although the very good fits of the models may be seen as indications of this conclusion. Much further theoretical work will be necessary to have this processual issue resolved.⁶

Furthermore, our methodical approach is purely correlational, thus not addressing the question whether the relationships found are causal. This is still to be investigated, but several connections turned out to be causal in previous experiments as outlined above (see *Theoretical background*). It is also worth mentioning that our model does not tell the whole story about the evolution of ethnocentrism, since there could be several other personality variables shaping ethnocentrism, which are not included in this model. Our model represents an attempt to illuminate the specific part of ethnocentrism factors that appear to be control-related. Hence, we did not include SDO for example, as this variable is known to be determined by competitiveness rather than control motivation (Cohrs et al., 2005; Duckitt, 2006). However, there is still a need for a combination of our findings concerning the RWA route and other findings regarding the SDO route. The final aim would be an integrated model, which takes account of all existing insights into the well-established dual-process development of intergroup enmity. Advantageously, experimental research would complement the large body of correlational evidence to provide elucidation about causality in this project.

With this in mind, the question arises as to how our results can be related to existing models of the emergence of outgroup negativity. Generally, it appears appropriate to include variables gauging control perceptions in these models, as the most prominent of them lack explicit control-related measures. Yet, these variables would probably only be relevant to the control motivation-based route through

RWA referring to Duckitt et al.'s work. It should be stressed that Duckitt et al.'s hypothesis concerning the underlying control-related dynamics of the RWA route is corroborated by our results. This is essential for their dual-process model, since the suggested relevance of the control motive was never demonstrated empirically, treating control motivation as an explicit part of the model, but it was only conjectured theoretically. However, the assumed role of RWA as crucial mediator might be exaggerated, as it could not be replicated in our study. Therefore, ideological attitudes like RWA perhaps act as partial rather than total mediators of trait effects on intergroup attitudes.

Another remarkable finding is the mediating role of prejudice towards immigrants when examining ethnocentrism as a dependent variable. In previous research, prejudice was treated as a criterion to be explained. Our results suggest that it may be promising to consider prejudice not only as an effect of certain factors but also as a source of more fundamental negative intergroup attitudes such as ethnocentrism.

Dissonance-reduction effects are possibly of vital importance to the interplay of prejudice and ethnocentrism. From this dissonance-related perspective, ethnocentrism would act as a dissonance-mitigating by-product of the occurrence of prejudice towards immigrants in a liberal-democratic society where xenophobia is principally tabooed as it is in Austria and Germany. Of course, ethnocentrism cannot be reduced to this function, but it seems quite likely that dissonance reduction plays a prejudice rationalization-related role in the shaping process of ethnocentric bias. Admittedly, this dissonance-related interpretation of the results is fairly speculative and ought to be investigated in an experimental way, e.g. by testing if the formation of anti-immigrant attitudes in liberal-democratic societies is associated with aversive dissonance-based arousal, which should be necessary for the development of ethnocentrism in this case.

In addition, it may be auspicious to give more attention to the question of whether different levels of personality traits, where one predicts the other, can be distinguished in models explaining intergroup enmity. Many of these models only include one trait level (e.g. Big Five) leading to ideology, which provokes outgroup hostility (e.g. Ekehammar et al., 2004). Our findings demonstrate that certain traits, which are conceptualized as fairly stable and enduring, may in fact vary as a function of other traits, as is the case with NFCC and avoidance of empathy. Since these traits mirror interpretive control motivation, they are subject to situational influences, especially to those threatening personal control (e.g. Whitson & Galinsky, 2008).

Moreover, an extension of the well-established RWA construct may be reasonable, as it only contains the three facets, submissiveness, aggression, and conventionalism, disregarding the fact that one of the most appealing aspects of a leader's guidance in a political context is the epistemic gain of security and certainty, which is offered by many RWA leaders by providing simple and clear-cut solutions.

⁶ The main question in this context is, whether there is a certain temporal sequence of processes that link perceived lack of control to group-based control restoration. For example, epistemic (e.g. NFCC) ones could come first, then different forms of vicarious control could follow. Probably, leader-centred (e.g. RWA) may precede group-based vicarious control because it provides more consistent guidance due to the often heterogeneous values of big social groups. The fact that only homogenous or rather entitative groups offer compensatory control was already demonstrated by Fritsche et al. (2008). It may even be that groups are only clung to as a last resort, i.e. when all other attempts to re-establish a sense of control have failed, e.g. for lack of charismatic leaders.

The need for leaders with such solutions should be encompassed by creating corresponding items (cf. McConochie, 2008). Our RWA measure comprised one item of this type, thus suggesting that the control-deprived persons in our study were not only attracted by RWA because of its vicarious control-related feature, but also due to its interpretive control-related quality.

Besides, control-based compulsiveness explanations (e.g. Moulding & Kyrios, 2006) are fortified by our results, since compulsiveness affects RWA and prejudice in a similar way to perceived lack of control (cf. Schlachter & Duckitt, 2002; Van Hiel et al., 2004). Maybe the comparable effects of compulsiveness and low control perceptions point to similar sources of these psychological phenomena, implicating that control-focused approaches to the formation of compulsiveness should gain in credibility.

Practical implications. The findings are also relevant to practical matters in the socio-political domain. They could be harnessed to explain why ethnocentrism has recently mounted in Austria – an alarming development that resulted in the success of two right-wing parties in the last parliamentary elections. Given that ethnocentrism increases in consequence of lacking control over important aspects of one's life such as physical integrity, parties with ethnocentric agendas might benefit from global problems that entail control deprivation like international terrorism and the current economic crisis. These parties often succeed in offering people clear-cut and undemanding solutions, thus holding out the prospect of control restoration on the secondary level. For example, they present plain scapegoats for complex socio-political problems like high unemployment making bogeymen out of immigrants who allegedly take jobs from locals (Gratzer, 1998). The contention that greedy Jews – a classic anti-Semitic stereotype – were responsible for the economic crisis follows the same pattern. 43% of Austrian respondents blamed Jews for the recent financial breakdown in a survey in 2009 (Anti-Defamation League, 2009). These examples strikingly reflect the appeal that simple explanations for complex problems have to control-deprived people eagerly longing for interpretive control. Our model provides a differentiated step-by-step analysis of which compensatory efforts take place after having been exposed to external threats that make people feel powerless and disrupt their understanding of the world. Accordingly, control-deprived individuals might experience an urgent need to comprehend the threats they face by searching unambiguous and secure knowledge (interpretive and predictive control). This corresponds to the rise of NFCC and avoidance of empathy in our model. At this point, the cognitive predisposition for right-wing messages would be established. A vivid example of a catchy right-wing message is “real representatives instead of EU [European Union] traitors”.⁷ This message pre-

sents plain scapegoats (politicians who betrayed Austria to the EU) and offers comprehensible solutions (real representatives, i.e. politicians who are really committed to Austria's own best interests). Alluring and memorable messages like this are predestined for the mindset of an individual highly in need for cognitive closure. Note that the person would not be right-wing authoritarian yet, but exceedingly susceptible to right-wing ideology. Now, ideological attitudes that meet this need by offering security through guidance from charismatic leaders⁸ (vicarious control) and simple explanations of the world (interpretive control) could increase in value. This is the case of RWA referring to our model. At this moment, right-wing messages can burn themselves into one's mind and affect one's whole political outlook. Finally, negative intergroup attitudes like prejudice towards immigrants and ethnocentrism may appear due to their ability to promote a sense of identity by delimiting from outgroups, strengthening bonds to the ingroup, and scapegoating outgroup members to regain a sense of control on vicarious and interpretive control levels. That is where right-wing ideology virulently shapes individuals' socio-political attitudes, consequently provoking xenophobia and corresponding voting behaviour. A concrete example of an identity-establishing, outgroup-delimiting message would be “Home instead of Islam”.⁹ It fits perfectly into the picture that fear of Islam was primarily found among right-wing voters in the initially cited survey (IMAS-International, 2010). In liberal-democratic societies, where dislike of foreigners is tabooed, prejudice towards immigrants might precede ethnocentrism, which may arise as a set of dissonance-reducing justifications for the newly acquired prejudice.

Once prejudice and ethnocentrism have spread, social interventions are often implemented to reduce xenophobia. Many of these communal programs could become more effective if they considered the described control-based complex of problems. For example, it might be advantageo-

tion campaign of the Austrian Freedom Party (FPÖ) for the parliamentary elections in 2008. This party was one of the two initially mentioned right-wing parties that succeeded in the election. FPÖ received 17.5% of the votes (Bundesministerium für Inneres, 2008).

8 This guidance is best provided by very charismatic leaders like Jörg Haider – the late leader of the other right-wing party, Alliance for the Future of Austria (BZÖ), which succeeded in the parliamentary elections by gaining 10.7% of the votes (Bundesministerium für Inneres, 2008). At the time of the data collection he was still alive; his tremendous popularity manifested in glorifying commemoration after his death. Remarkably, Haider's accidental death led to conspiracy theories that claimed Israel's intelligence agency Mossad was behind Haider's car crash, in which Haider was under the influence of alcohol (Morris, 2008). Note that conspiracy theories emerge as a consequence of lacking (interpretive) control (Whitson & Galinsky, 2008).

9 The original quote is “Daham statt Islam” (Freiheitliche Partei Österreichs, 2006). This statement was part of FPÖ's election campaign for the parliamentary elections in 2006 (ibid.). Note that “Daham” is worded according to the Austrian dialect to reinforce Austrian identity; in correct German this term would read “Daheim”.

7 The original quote is „Volksvertreter statt EU-Verräter“ (translated by the author; WIEN-konkret, 2008). This statement was part of the elec-

us to decrease control-related fears by highlighting common needs (e.g. safety needs). This would facilitate mutual identification and allow for group-based control restoration when control is lacking. As long as this is not the case, electoral successes of far-right, anti-immigrant parties will not be surprising.

CONCLUSION

The present work sheds light on the questions how and why perceived lack of control leads to ethnocentrism. It illuminates the control loss-induced compensatory dynamics that are aimed at restoring a sense of being in control, whether in terms of interpretive, predictive or vicarious control, thus answering the why-question. Furthermore, it shows which psychological manifestations of the control motive – epistemic-motivational and ideological variables – link hostile intergroup attitudes to low control perceptions, hence answering the how-question. Moreover, it demonstrates that these findings are applicable to the socio-political domain, explaining the recent electoral successes of two Austrian right-wing parties. With this in mind, it may be no accident that the main slogan of the far-right BZÖ is “Fairness. Control. Trust.” (euronews, 2008).

REFERENCES

- Ade, F., & Haumann, C. (2008). *Entwicklung eines Mes-sinstrumentes zur Persönlichkeitsstörung Narzissmus [Development of a measure of narcissistic personality disorder]*. Unpublished manuscript, University of the Federal Armed Forces Munich, Munich, Germany.
- Agroskin, D. (2008). *Muslime, Katholiken und Russisch Orthodoxe in Deutschland [Muslims, Catholics and Russian Orthodox people in Germany]*. Unpublished manuscript, University of Salzburg, Salzburg, Austria.
- Altemeyer, B. (2006). *The Authoritarians*. Retrieved from <http://members.shaw.ca/jeanaltemeyer/drbob/TheAuthoritarians.pdf>.
- Anti-Defamation League. (2009). *Attitudes Toward Jews in Seven European Countries*. New York, NY: Anti-Defamation League (ADL). Retrieved from http://www.adl.org/Public%20ADL%20Anti-Semitism%20Presentation%20February%202009%20_3_.pdf.
- Bäckström, M., & Björklund, F. (2007). Structural modeling of generalized prejudice: The role of social dominance, authoritarianism, and empathy. *Journal of Individual Differences*, 28, 10-17.
- Bizumic, B., Duckitt, J., Popadic, D., Dru, V., & Krauss, S. (2009). A cross-cultural investigation into a reconceptualization of ethnocentrism. *European Journal of Social Psychology*, 39, 871-899.
- Bundesministerium für Inneres. (2008). Nationalratswahlen 2008 [Election of the National Council 2008]. *B.M.I Bundesministerium für Inneres*. Retrieved from <http://wahl08.bmi.gv.at/>.
- Chirumbolo, A. (2002). The relationship between need for cognitive closure and political orientation: The mediating role of authoritarianism. *Personality and Individual Differences*, 32, 603-610.
- Cohrs, J. C., Moschner, B., Maes, J., & Kielmann, S. (2005). The motivational bases of right-wing authoritarianism and social dominance orientation: Relations to values and attitudes in the aftermath of September 11, 2001. *Personality and Social Psychology Bulletin*, 31, 1425-1434.
- DeSarbo, W. S., & Edwards, E. A. (1996). Typologies of compulsive buying behavior: A constrained clusterwise regression approach. *Journal of Consumer Psychology*, 5, 231-262.
- Duckitt, J. (1984). Locus of control and racial prejudice. *Psychological Reports*, 54, 462-462.
- Duckitt, J. (2006). Differential effects of right wing authoritarianism and social dominance orientation on outgroup attitudes and their mediation by threat from and competitiveness to outgroups. *Personality and Social Psychology Bulletin*, 32, 684-696.
- Duckitt, J., Wagner, C., du Plessis, I., & Birum, I. (2002). The psychological bases of ideology and prejudice: Testing a dual process model. *Journal of Personality and Social Psychology*, 83, 75-93.
- Duriez, B., & Soenens, B. (2006). Personality, identity styles and authoritarianism: an integrative study among late adolescents. *European Journal of Personality*, 20, 397-417.
- Ekehammar, B., Akrami, N., Gylje, M., & Zakrisson, I. (2004). What matters most to prejudice: Big five personality, social dominance orientation, or right-wing authoritarianism? *European Journal of Personality*, 18, 463-482.
- Euronews. (2008, September 21). euronews - interview - Jörg Haider. *YouTube*. Retrieved from http://www.youtube.com/watch?v=vmXXJnLaTbU&feature=youtuube_gdata
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Freiheitliche Partei Österreichs [Austrian Freedom Party]. (2006). In *Wikipedia*. Retrieved from <http://de.wikipedia.org/wiki/Fp%C3%B6>.
- Fritsche, I., & Jonas, E. (2009). *The Value of “We” When “I” Fail: Evidence for Group-Based Control Restoration*. Manuscript submitted for publication.
- Fritsche, I., Jonas, E., & Fankhänel, T. (2008). The role of control motivation in mortality salience effects on in-

- group support and defense. *Journal of Personality and Social Psychology*, 95, 524-541.
- Gratzer, C. (Ed.). (1998). *Der Schoss ist fruchtbar noch. NSDAP (1920-1933) - FPÖ (1986-1998) [The womb is still fertile. NSDAP (1920-1933) - FPÖ (1986-1998)]*. Vienna: Grünalternative Jugend.
- Greenaway, K. H., & Louis, W. (2009, July). *The moderating effect of perceived control on prejudice following economic and terrorist threats*. Paper presented at the annual meeting of the ISPP 32nd Annual Scientific Meeting, Trinity College, Dublin, Ireland, retrieved from http://www.allacademic.com/meta/p314473_index.html.
- Halperin, E., Canetti-Nisim, D., & Pedahzur, A. (2007). Threatened by the uncontrollable: Psychological and socio-economic antecedents of social distance towards labor migrants in Israel. *International Journal of Intercultural Relations*, 31, 459-478.
- Heaven, P. C. L., & Furnham, A. (1987). Race prejudice and economic beliefs. *The Journal of social psychology*, 127, 483-489.
- Hirschman, E. C. (1992). The consciousness of addiction: toward a general theory of compulsive consumption. *The Journal of Consumer Research*, 19, 155-179.
- Hodson, G., Hogg, S. M., & MacInnis, C. C. (2009). The role of "dark personalities" (narcissism, Machiavellianism, psychopathy), Big Five personality factors, and ideology in explaining prejudice. *Journal of Research in Personality*, 43, 686-690.
- IMAS-International. (2010). *Der Islam in den Augen der Bevölkerung [Islam in the eyes of the population]*. Linz: IMAS-International – Institut für Markt- und Sozialanalysen GmbH. Retrieved from <http://files.kurier.at/dl.php/16737C3125E55B1BF123DF045D317A46/aGhUTzRJMk16Y3pOakptWTB3M015SVRN>.
- Johnson, J. A., Cheek, J. M., & Smither, R. (1983). The structure of empathy. *Journal of Personality and Social Psychology*, 45, 1299-1312.
- Jugert, P., Cohrs, J. C., & Duckitt, J. (2009). Inter- and intrapersonal processes underlying authoritarianism: The role of social conformity and personal need for structure. *European Journal of Personality*, 23, 607-621.
- Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. *Journal of Personality and Social Psychology*, 95, 18-35.
- Kay, A. C., Whitson, J. A., Gaucher, D., & Galinsky, A. D. (2009). Compensatory control: Achieving order through the mind, our institutions, and the heavens. *Current Directions in Psychological Science*, 18, 264-268.
- Kulich, N. (2008, September 29). Far-Right, Anti-Immigrant Parties Make Gains in Austrian Elections. *The New York Times*. Retrieved from http://www.nytimes.com/2008/09/29/world/europe/29austria.html?_r=3&scp=2&sq=austria&st=nyt&oref=slogin.
- Maes, J. (n.d.). *Autoritarismus-Skala [authoritarianism scale]*. Unpublished manuscript, University of Trier, Trier, Germany.
- McConochie, W. (2008, July). *A New 30-Item Measure of Authoritarianism Endorsement as a Trait of Political Leaders*. Paper presented at the annual meeting of the ISPP 31st Annual Scientific Meeting, Sciences Po, Paris, France, retrieved from http://www.allacademic.com/meta/p_mla_apa_research_citation/2/4/4/4/3/p244430_index.html.
- Morris, J. (2008, October 13). Jörg Haider death conspiracy. *Austrian Times*. Retrieved from <http://www.austrian-times.at/index.php?id=9073>.
- Moulding, R., & Kyrios, M. (2006). Anxiety disorders and control related beliefs: the exemplar of obsessive-compulsive disorder (OCD). *Clinical Psychology Review*, 26, 573-583.
- Neuberg, S. L., & Newsom, J. T. (1993). Personal need for structure: Individual differences in the desire for simple structure. *Journal of Personality and Social Psychology*, 65, 113-131.
- Neuberg, S. L., West, S. G., Jucice, T. N., & Thompson, M. M. (1997). On dimensionality, discriminant validity, and the role of psychometric analyses in personality theory and measurement: Reply to Kruglanski et al.'s (1997) defense of the Need for Closure Scale. *Journal of Personality and Social Psychology*, 73, 1017-1029.
- Paulhus, D. L., & Van Selst, M. (1990). The Spheres of Control scale: Ten years of research. *Personality and Individual Differences*, 11, 1029-1036.
- Pitman, T. S. (1998). Motivation. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4. ed., pp. 549-590). Boston: McGraw-Hill.
- Pratto, F., & Glasford, D. E. (2008). Ethnocentrism and the Value of a Human Life. *Journal of Personality and Social Psychology*, 95, 1411-1428.
- Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology*, 42, 5-37.
- Sayed, A. (1998). Prejudice trait and its relations to type A behavior and locus of control. *Deraset Nafseyah*, 8(2), 245-295.
- Schaller, S. (2004). *Bundesheer – Auslandseinsätze – internationaler Terrorismus [Federal Armed Forces - deployments abroad - international terrorism]*. Vienna: Österreichische Gesellschaft für Europapolitik. Retrieved from http://cms.euro-info.net/received/_2317_Studie.pdf.

- Schlachter, A., & Duckitt, J. (2002). Psychopathology, authoritarian attitudes, and prejudice. *South African Journal of Psychology*, 32, 1-8.
- Schlink, S., & Walther, E. (2007). Kurz und gut: Eine deutsche Kurzsкала zur Erfassung des Bedürfnisses nach kognitiver Geschlossenheit [Short and good: A German short scale for the measurement of the need for cognitive closure]. *Zeitschrift für Sozialpsychologie*, 38, 153-161.
- Schmidt, P. (2009). *ÖGfE-Umfrage zeigt: Ein Viertel der ÖsterreicherInnen fühlt sich von der Wirtschafts- und Finanzkrise direkt betroffen [ÖGFE-survey shows: A quarter of Austrians feel personally affected by the economic and financial crisis]*. Vienna: Österreichische Gesellschaft für Europapolitik. Retrieved from http://cms.euro-info.net/received/_6278_Finanzkrise.pdf.
- Sibley, C. G., & Duckitt, J. (2008). Personality and Prejudice: A Meta-Analysis and Theoretical Review. *Personality and Social Psychology Review*, 12, 248-279.
- Van Hiel, A., Mervielde, I., & De Fruyt, F. (2004). The relationship between maladaptive personality and right wing ideology. *Personality and Individual Differences*, 36, 405-417.
- Van Hiel, A., Pandelaere, M., & Duriez, B. (2004). The impact of need for closure on conservative beliefs and racism: Differential mediation by authoritarian submission and authoritarian dominance. *Personality and Social Psychology Bulletin*, 30, 824-837.
- Webster, D. M., & Kruglanski, A. W. (1994). Individual differences in need for cognitive closure. *Journal of Personality and Social Psychology*, 67, 1049-1062.
- Whitson, J. A., & Galinsky, A. D. (2008). Lacking control increases illusory pattern perception. *Science*, 322, 115-117.
- WIEN-konkret. (2008, September 4). Wahlwerbung Wahlplakate [campaign advertising election posters]. *WIEN-konkret*. Retrieved from <http://www.wien-konkret.at/politik/nationalratswahl2008/wahlwerbung/>.