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Research article

Unwilling, but not unaffected—Imagined contact effects for authoritarians and social dominators

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Abstract

According to a dual process model perspective, intergroup contact should be particularly effective for people high in right-wing authoritarianism (RWA), but not for those high in social dominance orientation (SDO), because of different underlying motivational goals. In the present studies, we tested the hypothesis that imagined contact, that is, the mental representation of a positive intergroup encounter, improves intergroup relations for high RWAs. In two experimental studies, we showed that high RWAs, compared with low RWAs, show less negative emotions toward Turks (Study 1; N = 120) and more willingness to engage in future contact with Romani people (Study 2; N = 85) after imagined contact. As expected, people high in SDO did not benefit from imagined contact. Instead, people low in SDO showed less negative emotions after imagined contact in Study 1, but this effect was not replicated in the second study. Theoretical implications and the role of imagined contact as a possible intervention for highly biased individuals will be discussed. Copyright © 2013 John Wiley & Sons, Ltd.

Ever since the seminal work by Allport (1954), it has been shown that intergroup contact is among the most effective ways to improve intergroup attitudes (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006). Unexpectedly, this seems to be especially true for people high in right-wing authoritarianism (RWA; Altemeyer, 1981): Even though high RWAs are reluctant to engage in intergroup contact (Asbrock, Christ, Duckitt, & Sibley, 2012; Hodson, Costello, & MacInnis, 2013; Pettigrew & Tropp, 2011), once they experience positive contact, they show an especially strong prejudice reduction compared with low RWAs (Asbrock et al., 2012; Dhont & Van Hiel, 2009; Hodson, 2011; Hodson, Harry, & Mitchell, 2009). In the present studies, we aim at testing whether this intriguing effect for authoritarian people is also true for experiencing imagined contact, that is, the mental representation of positive contact with an outgroup member (Crisp & Turner, 2009). Crisp and colleagues demonstrated that imagining positive intergroup contact can reduce intergroup bias and also enhance the willingness to engage in future contact (see Crisp, Husnu, Meleady, Stathi, & Turner, 2010, for a review). To the best of our knowledge, no study so far has tested whether imagined contact is especially effective in reducing the unwillingness of people high in RWA to engage in intergroup contact.

In two experimental studies, we tested the hypothesis that people high in RWA show less negative emotions as well as more willingness to engage in future intergroup contact after imagined contact experiences compared with high RWAs without imagined contact. On the basis of Duckitt's (2001) dual process model (DPM), we also hypothesized that this is not true for *all* kinds of biased people: We did not expect improved intergroup attitudes for people high in social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994), because of different underlying motivational concepts for RWA and SDO (Asbrock et al., 2012).

INTERGROUP CONTACT AND INDIVIDUAL DIFFERENCES

Research has repeatedly shown that contact between members of different groups improves intergroup relations (Brown & Hewstone, 2005; Pettigrew & Tropp, 2011). In a comprehensive meta-analysis that summarized more than 500 studies, Pettigrew and Tropp (2006) demonstrated that contact experiences with an outgroup member correlates with more positive attitudes toward the outgroup as a whole.

Developments of intergroup contact theory are manifold (Hodson & Hewstone, 2013; Pettigrew & Tropp, 2011), but only recently have researchers analyzed the influence of individual differences on intergroup contact effects. Here, we focus on RWA and SDO (Hodson et al., 2013) as individual difference variables. Both RWA and SDO are strong and complementary predictors of prejudice (e.g., Altemeyer, 1998; Duriez & Van Hiel, 2002). Research also indicates that people high in RWA or SDO are reluctant to engage in intergroup contact (e.g., Asbrock et al., 2012; Pettigrew & Tropp,

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2011). Regarding the moderating effects of RWA for intergroup contact, research shows a clear picture: If high RWAs experience positive contact with an outgroup, they will show a stronger reduction of intergroup bias than low RWAs (Asbrock et al., 2012; Dhont & Van Hiel, 2009; Hodson et al., 2009). Results are mixed concerning SDO: Whereas Hodson (2008) found intergroup contact to be especially effective for people high in SDO in a sample of prison inmates, others found mixed effects (Dhont & Van Hiel, 2009) or did not find intergroup contact to be especially effective for high compared with low SDOs (Asbrock et al., 2012; Schmid, Hewstone, Küpper, Zick, & Wagner, 2012).

According to Duckitt's (2001) DPM, RWA and SDO express different motivational goals and therefore predict intergroup bias for different reasons (Duckitt, 2001). RWA is a construct derived from earlier work on the authoritarian personality (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950). It represents a threat-driven motivation for collective security and ingroup cohesion, based on a perception of the world as a dangerous place. People high in RWA are particularly prejudiced toward groups perceived as disrupting social order, cohesion, stability, and security (cf. Kessler & Cohrs, 2008). These social threats include not only realistic threats derived from outgroup violence or high crime rates but also symbolic threats to collective values, norms, and culture (cf. Stephan & Renfro, 2003). According to this DPM perspective, people high in RWA should experience less prejudice after intergroup contact, because contact reduces the perception of the outgroup as socially threatening. Contact experiences should generalize over and above an outgroup member to the outgroup as a whole, because contact reduces perceived social threat (e.g., Asbrock et al., 2012).

In contrast, SDO is based on the perception of the world as a competitive jungle and reflects a competitive-driven motivation for group-based dominance, power, and hierarchy versus egalitarian relations between social groups (Duckitt, 2001; Pratto et al., 1994). For high SDOs, prejudice functions as a means to maintain dominance and hierarchical intergroup relations. Prejudice is used strategically to enforce hierarchy (Navarrete, McDonald, Molina, & Sidanius, 2010; Sidanius & Pratto, 1999). Accordingly, SDO reflects a normative expectation about hierarchical intergroup relations, which should not necessarily be affected by positive intergroup contact experiences with a single outgroup member; it should at least not be as easily affected as the threat-driven motivation expressed in RWA.

Previous research supported these assumptions about the differentiated effects of intergroup contact for RWA and SDO. Hodson et al. (2009) showed that people high in RWA express less prejudice after intergroup contact with homosexuals, a group that represents a threat to authoritarian values (e.g., Altemeyer, 1996; Haddock, Zanna, & Esses, 1993). In addition, Asbrock et al. (2012) showed in a longitudinal study over 1 year in a sample representative of the German adult population that high RWAs were less prejudiced toward immigrants after intergroup contact. In a subsequent study, they also showed that this effect was mediated by reduced threat (cf. Hodson et al., 2009). In sum, these results support the notion that intergroup contact can reduce prejudice for people high in RWA, because they perceive the outgroup as less threatening.

Regarding SDO, Asbrock et al. (2012) as well as Schmid et al. (2012) found no contact effects for people high in SDO. Contrary to these findings, Hodson (2008) and Dhont and Van Hiel (2009; Study 2) reported a reduction in prejudice even for high SDOs. Asbrock et al. (2012) suggested a possible explanation for these differing findings: Although high SDOs might not generally respond to positive contact by reducing prejudice, there may be certain contexts in which they do. Such a context might be one in which intergroup power differentials are highly salient. This might explain why Hodson (2008), in a study of White prison inmates' attitudes toward Black inmates, showed improved attitudes for high-SDO Whites but little effect for low-SDO Whites. Hodson described the prison context as "characterized by social dominance and group-based hierarchies, where inmates live in close and confined quarters and jockey for power and control between groups" (p. 326). Such a context should affect especially people high in SDO, whereas threat-related contexts should rather affect people high in RWA (cf. Duckitt & Sibley, 2010). This context-of-contact dependency and the differentiation of threat-related and power-related contexts might indeed explain previous diverging findings regarding intergroup contact effects for high SDOs.

In sum, a growing body of research indicates that people high in RWA seem to benefit from intergroup contact experiences, even though they avoid them. However, there has been no study so far that has tested this hypothesis experimentally.

IMAGINED CONTACT

Recently, a new approach to intergroup contact research has gained much attention: imagined intergroup contact (Crisp & Turner, 2009, 2012). Imagined contact consists of "the mental simulation of a social interaction with a member or members of an outgroup category" (Crisp & Turner, 2009, p. 234). It is an application of a more general approach concerning the impact of mental simulation on social behavior (e.g., Armitage & Reidy, 2008; Garcia, Weaver, Moskowitz, & Darley, 2002). An impressive body of research has shown that imagined contact improves explicit (Turner, Crisp, & Lambert, 2007) and implicit outgroup attitudes (Turner & Crisp, 2010), improves cognitive and affective attitude components (Husnu & Crisp, 2010a), reduces intergroup anxiety (Turner et al., 2007), and also improves contact intentions (Crisp et al., 2010) and behavior (Turner & West, 2012). Imagined contact has been found to reduce prejudice toward various outgroups, for example, senior citizens and gay men (Turner et al., 2007), Muslims (Turner & Crisp, 2010), immigrants (Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011; Lemmer & Wagner, 2012), and people with mental health disorders (K. West, Holmes & Hewstone, 2011).

Even though the empirical evidence for the effectiveness of imagined contact is impressive, the paradigm is not expected to have the same effects as direct intergroup contact (Husnu & Crisp, 2010a). Direct experiences provide stronger effects on attitude formation than indirect experiences (Fazio, Powell, & Herr, 1983). However, imagined contact might act as a facilitating component enhancing intergroup contact intentions (Crisp et al., 2010). This facilitating quality makes imagined

contact especially interesting for our present research because it might be able to reduce authoritarians' unwillingness to engage in intergroup contact (e.g., Pettigrew & Tropp, 2011).

Recent research has drawn attention to various moderators of the imagined contact effect. For example, imagined contact has proven to be more effective for people who highly identify with their ingroup (Stathi & Crisp, 2008), when the mental representation of the contact situation was more elaborated (Husnu & Crisp, 2010a), when the imagined contact instructions were easy to read (K. West & Bruckmüller, 2013), when the instructions were person focused rather than group focused, and when the partner in the imagined interaction was typical for the outgroup rather than atypical (Stathi, Crisp, & Hogg, 2011). To the best of our knowledge, there has been no study so far that has tested the moderating effects of RWA and SDO, on imagined contact. According to various researchers (e.g., Asbrock et al., 2012; Dhont & Van Hiel, 2009; Hodson, 2011), highly biased people, even though reluctant to engage in intergroup contact, show especially strong improvement of intergroup attitudes after positive intergroup contact.

THE PRESENT STUDIES

The main purpose of the present studies is to test the moderating effect of RWA and SDO on imagined contact effects. According to the DPM, people with high scores in RWA show less intergroup bias after experiencing contact compared with highly biased individuals without contact experiences (Asbrock et al., 2012). Here, we hypothesized that people high in RWA would show less intergroup bias toward an outgroup when they imagine positive intergroup contact compared with a control group without imagined contact. As outlined earlier, we did not expect this effect for people high in SDO, because we did not make a power-related context salient in the present studies.

We tested our hypothesis in two experimental studies. To enhance external validity, we used different target outgroups in the two studies. In Study 1, a web-based experiment, we focused on Turks living in Germany as the target outgroup, which constitute the largest and most salient ethnic minority in Germany (Asbrock, Lemmer, Wagner, Becker, & Koller, 2009). In Study 2, we aimed at replicating the findings from Study 1 in a laboratory experiment with Romani people as the target outgroup, a very small ethnic minority in Germany.

STUDY 1

In the first study, we tested the effect of imagined contact on group-based emotions subject to participants' levels of RWA and SDO. Emotions toward an outgroup have repeatedly been shown to be affected by intergroup contact (e.g., Tam et al., 2007; Turner & West, 2012).

Method

Participants and Design

Data were collected from 123 self-identified Germans in a web-based experiment. Participants were invited by e-mail or via postings in social networks, randomly assigned to one of the two experimental conditions (imagined contact vs. control) and completed the experiment on their computers at home. Three individuals were deleted because they were identified as multivariate outliers through Cook's distances, leaving a remaining sample of $N = 120$ (50 male, 69 female, 1 unidentified; $M_{age} = 31.81$, $SD_{age} = 10.74$).

Procedure

On the first page of the online survey, participants learned that the study was about social attitudes and the perception of intergroup relations in Germany. First, participants provided demographic information and completed RWA and SDO scales. Then, they were randomly assigned to one of the two experimental conditions. The instructions for both conditions were adapted from Husnu and Crisp (2010a). The instruction in the experimental condition read as follows: "For a minute, please think of a situation, in which you meet a Turkish person in Germany for the first time. Imagine yourself talking to this person. Imagine that the interaction is very pleasant and you find out some interesting details about this person."[1] In the control condition, participants were instructed to think of taking a nice and relaxing walk in a forest during spring. In each condition, the submit button appeared after 1 minute to make sure that the participants took their time to imagine the situation. Subsequently, participants were asked to write down some details about the situation as a further reinforcement of the imagery task. After describing the situation, participants completed the dependent measure, were thanked, and were debriefed.

Measures

Right-Wing Authoritarianism Right-wing authoritarianism (RWA) was assessed with the 12-item RWA^{3}D scale by Funke (2005, based on Altemeyer, 1996). A sample item reads as follows: "The real keys to the 'good life' are obedience, discipline, and virtue." The items showed satisfying internal consistency ($\alpha = .80$, $M = 2.53$, $SD = 0.87$). Responses to this and to all following measures were submitted on scales ranging from 1 (*don't agree at all*) to 7 (*agree completely*).

Social Dominance Orientation Social dominance orientation was measured with a German 12-item SDO scale by Cohrs and Asbrock (2009; based on Cohrs, Moschner, Maes, & Kielmann, 2005, and Pratto et al., 1994). The scale is balanced with regard to direction of wording. A sample item reads as follows: "Inferior groups should stay in their place." The internal consistency was $\alpha = .80$ ($M = 2.27$, $SD = 0.84$).[2]

Negative Emotions We measured anger (three items: "The Turks in Germany make me angry/irritate me/upset me."), fear (two items: "The Turks in Germany scare me/I am afraid of the Turks in Germany."), and resentment toward Turks in Germany (two items: "The Turks in Germany have more than they deserve/I feel resentment toward the Turks in Germany.").

[1]German wording of all instructions and items is available from the first author upon request.
[2]The items of the 12-item version of the SDO scale are available from the first author upon request.

A principal axis factor analysis indicated that all items loaded on one factor (Eigenvalue 4.19, all other Eigenvalues <1; explained variance 59.79%, all factors loadings >.46). Consequently, the seven items were averaged to a scale for negative emotions toward Turks ($\alpha = .88$, $M = 1.71$, $SD = 0.93$).

Results

Preliminary analyses revealed that education level, age, and gender did not interact with the experimental manipulation or the moderator variables, so they were dropped from further analyses. The correlation between RWA and SDO was $r = .56$, $p < .001$.

We tested our hypotheses in hierarchical moderated regression analyses with mean-centered variables for RWA and SDO (Aiken & West, 1991) and negative emotions as the dependent variable. In the first step, we entered the dummy-coded experimental condition (1—*contact*, 0—*control*), RWA, and SDO. This step revealed a marginally significant effect for imagined contact ($b = -.29$, $SE = 0.15$, $\beta = -.16$, $p = .06$), as well as a significant main effect for RWA ($b = .49$, $SE = 0.11$, $\beta = .46$, $p < .001$), $R^2 = .21$, $F(3, 116) = 10.12$, $p < .001$. SDO was not significant ($b = -.07$, $SE = 0.11$, $\beta = -.06$, $p = .53$). In the second step, we entered the two-way interactions of RWA and SDO with condition, which significantly improved the regression model ($\Delta R^2 = .08$), $F(2, 114) = 5.99$, $p = .003$. As hypothesized, the RWA × contact interaction had a significant negative effect on negative emotions ($b = -.69$, $SE = 0.21$, $\beta = -59$, $p = .001$). Unexpectedly, the interaction of SDO and contact was also significant but showed an effect in the opposite direction ($b = .59$, $SE = 0.22$, $\beta = .50$, $p = .007$). Table 1 shows all effects of both models.

The simple slope analysis for RWA (controlling for SDO) revealed that imagined contact decreased negative emotions toward Turks for participants high in RWA (+1 *SD*, $b = -.88$, $SE = 0.23$, $t = -3.75$, $p < .001$) but not for those low in RWA (−1 *SD;* $b = .31$, $SE = 0.23$, $t = 1.34$, $p = .18$; see Figure 1a). For SDO (controlling for RWA), the simple slope analysis indicated that imagined contact led to a decrease in negative emotions for participants low in SDO (−1 *SD;* $b = -.78$, $SE = 0.23$, $t = -3.37$, $p = .001$) but not for those high in SDO (+1 *SD;* $b = .22$, $SE = 0.25$, $t < 1$; see Figure 1b).

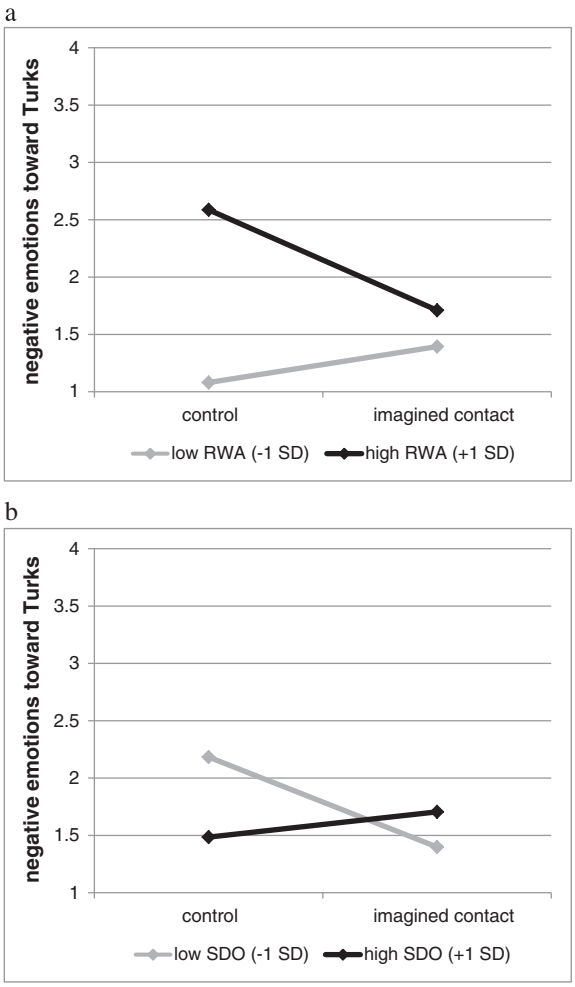

Figure 1. (a) Interaction between right-wing authoritarianism (RWA) and imagined contact predicting negative emotions toward Turks (controlling for social dominance orientation (SDO); Study 1). (b) Interaction between SDO and imagined contact predicting negative emotions toward Turks (controlling for RWA; Study 1)

Discussion

Our first study provides first empirical evidence for the claim that imagined intergroup contact is especially effective for people with high RWA scores. After the mental imagination of a positive interaction with a Turkish person, high RWAs indicated less negative emotions toward Turks in Germany compared with high RWAs in the control condition. This is an important prerequisite for the reduction of prejudice and the enhancement in willingness to engage in future contact. RWA predicts the avoidance of intergroup contact (Asbrock et al., 2012; Pettigrew & Tropp, 2011), so our finding strengthens the claim that imagined contact might facilitate improved intergroup relations for people who generally avoid intergroup encounters.

Table 1. Regression coefficients of the hierarchical moderated regression analyses in Study 1

	Step 1			Step 2		
	b	*SE*	β	*b*	*SE*	β
Imagined contact	−.29	0.15	−.16†	−.28	0.15	−.15†
RWA	.49	0.11	.46***	.87	0.15	.81***
SDO	−.07	0.11	−.06	−.41	0.16	−.37*
RWA × imagined contact				−.69	0.21	−.46**
SDO × imagined contact				.59	0.22	.40**

Dependent variable = negative emotions. RWA = right-wing authoritarianism; SDO = social dominance orientation.
†$p = .06$. *$p < .05$. **$p < .01$. ***$p < .001$.

For SDO, the simple slope analysis indicated that people low in SDO, not those high in SDO, benefit from imagined contact. Even though this finding replicates a marginal effect from Asbrock et al. (2012; Study 1) and the results of Schmid et al. (2012), we advise caution regarding the interpretation of this effect. A closer look at Figure 1b reveals an unusual pattern for high and low SDOs in the control group, with low SDOs showing more negative emotions. Before drawing any further conclusions about the effect for low SDOs, we aim at replicating the findings of Study 1. In this replication, we consider it important to analyze an alternative dependent variable. In the present study, the mean for negative emotions was very low ($M = 1.71$, $SD = 0.93$), indicating that participants did not feel strong negative emotions toward Turks in general. The simple slope analyses showed that imagined contact effectively reduced these negative emotions, for high RWAs, as expected from the DPM, but we consider it important to verify this finding for another relevant outcome, that is, the willingness to engage in future contact with the outgroup.

STUDY 2

In our second study, we aimed at replicating and extending our findings in a laboratory setting. First, we analyzed the willingness to engage in future contact (i.e., contact intentions) as a dependent variable. As shown in Study 1, imagined contact can reduce negative emotions, which are an obstacle to intergroup contact (Esses & Dovidio, 2002). Imagined contact has previously been shown to effectively improve future contact intentions (Crisp et al., 2010). Following our line of argumentation, we will test whether high RWAs, but not high SDOs, show stronger intentions to engage in future contact after imagined contact.

In addition to the replacement of the dependent variable, we also changed the target outgroup in order to test whether our hypotheses can also be confirmed with members of a smaller and less salient outgroup than Turks. Therefore, we used Romani people (Gypsies) as the target outgroup, a very small (approx. 100 000 people Strauß, 2011), but nevertheless rejected (Heitmeyer, 2012), ethnic minority in Germany.

In this experiment, we also included an additional control group. Previous studies have used various control settings for imagined contact, such as the mental representation of a pleasant outdoor scene (Turner & Crisp, 2010), of the outgroup (Turner et al., 2007), or of contact with an unspecified stranger (Stathi & Crisp, 2008). Here, we aimed at testing whether imagined intergroup contact is also more effective than an imagined positive encounter between two outgroup members (which is identical to the imagined contact situation, except for the intergroup setting). This additional experimental condition controls whether it is a general positive perception of outgroup members in a contact situation and not the *intergroup contact* that affects the results.

Method

Participants and Design

Participants were 86 self-identified German university students, mostly majoring in psychology. They were recruited from a participant pool and randomly assigned to one of the three experimental conditions. As compensation, they received either 5 Euros or course credit. One participant was identified as a multivariate outlier through Cook's distances and was deleted, leaving a remaining sample of $N = 85$ (15 male, 70 female; $M_{age} = 23.04$, $SD_{age} = 4.14$).

Procedure

Right-wing authoritarianism and SDO were measured 6 months prior to the experiment in a mass testing in the setting of an introductory lecture. Data were connected to the experimental results by an anonymous code. For the experiment, participants arrived in groups of up to four persons at the laboratory and were welcomed by the experimenter. They were told that they would participate in two unrelated studies. Each participant was randomly assigned to one of four desks with computers and a booklet in front of them. The booklet contained the alleged first study about creativity. After a brief introduction, the experimenter asked the participants to start working on the booklet. First, participants were asked to enter an anonymous code, which was used to match this data with previously collected RWA and SDO scores. Then, participants were instructed to imagine three situations for 1 minute each and to issue a handwritten description of the situation within 2 minutes after each imagination. The experimenter kept the time for each task. The first two situations were identical for all participants (a personal mishap at a party and an encounter between two people at a farmers' market). The third task was the experimental manipulation. In the imagined contact condition, the instruction read as follows: "The next situation deals with Gypsies. Please take a minute and think of a situation in which you meet a Gypsy for the first time. Imagine that the interaction is positive, relaxed, and pleasant." This instruction was adapted from Crisp, Stathi, Turner, and Husnu (2008). The instruction for the outgroup encounter condition read as follows: "The next situation deals with Gypsies. Please take a minute and think of a situation in which two Gypsies meet for the first time. Imagine that the interaction between them is positive, relaxed, and pleasant." The standard control condition was similar to that of Study 1: Participants were asked to imagine a nice walk in a forest during spring.

After the experimental manipulation, participants were asked to put the booklet aside and move on to a computer-based survey about ethnic diversity and minorities in Germany. The survey was designed as an official cooperation between the psychology department and the department of cultural studies. Participants provided demographic information and completed the dependent variables. Finally, they were thanked and debriefed.

Measures

Right-Wing Authoritarianism and Social Dominance Orientation Right-wing authoritarianism and SDO were assessed with the same items as in Study 1. Responses to these and to the following measures were submitted on scales ranging from 1 (*don't agree at all*) to 7 (*agree completely*). Both measures showed satisfying internal consistency (RWA: $\alpha = .74$, $M = 2.75$, $SD = 0.70$; SDO: $\alpha = .84$, $M = 2.88$, $SD = 0.86$). The correlation between RWA and SDO was $r = .48$, $p < .001$.

Table 2. Regression coefficients of the hierarchical moderated regression analyses in Study 2

	Step 1			Step 2		
	b	*SE*	β	*b*	*SE*	β
Imagined contact (vs. outgroup encounter and control group)	.12	0.09	.14	.12	0.09	.15
Outgroup encounter (vs. control group)	−.01	0.16	−.004	−.01	0.15	−.01
RWA	−.50	0.20	−.30*	−.54	0.20	−.32**
SDO	.02	0.16	.01	−.001	0.16	.00
RWA × imagined contact				.26	0.14	.19†
SDO × imagined contact				−.02	0.12	−.01

Dependent variable = contact intentions. RWA = right-wing authoritarianism; SDO = social dominance orientation.
†$p = .06$. *$p < .05$. **$p < .01$.

Contact Intentions Contact intentions or the willingness to engage in future contact with Romani people was measured by four items adapted from Wolf and Van Dick (2008): *If the opportunity arises, I would probably start a conversation with a Romani person here in Germany; I would like to have a conversation with a Romani person in Germany; In the future, I will deliberately approach Romani people to get in touch; I would like to have more contact with Romani people*. The items formed a reliable scale ($\alpha = .82$, $M = 4.20$, $SD = 1.19$).

Results

Preliminary analyses revealed that age and gender did not interact with the experimental manipulation or the moderator variables, so they were dropped from further analyses.

First, we tested the effectiveness of imagined contact compared with the two control conditions. We contrasted the imagined contact condition with the two other conditions (2 −1 −1) and subsequently analyzed the orthogonal contrast for the encounter between two outgroup members and the standard control group (0 1 −1). As expected, imagined contact marginally enhanced contact intentions ($M = 4.47$, $SD = 0.78$) in contrast to the outgroup encounter ($M = 4.06$, $SD = 1.30$) and the control condition ($M = 4.06$, $SD = 1.39$), $F(1, 82) = 2.36$, $p = .06$ (one-tailed), $d = .32$. The orthogonal contrast was not significant, $F < 1$.

We tested the hypothesis concerning the effectiveness of imagined contact for RWA and SDO on contact intentions compared with the two control groups in hierarchical moderated regression analyses similar to Study 1. As suggested by S. G. West, Aiken and Krull (1996), we applied contrast coding for the categorical contact manipulation variable to test our hypotheses. In the first step, we entered contrast-coded variables for imagined contact versus the two control conditions (2—*imagined contact*, −1—*outgroup encounter*, −1—*standard control*) and outgroup encounter versus standard control (0—*imagined contact*, 1—*outgroup encounter*, −1—*standard control*), as well as RWA and SDO. This step revealed a significant effect for RWA ($b = -.50$, $SE = 0.20$, $\beta = -.30$, $p = .01$), whereas the effects for SDO ($b = .02$, $SE = 0.16$, $\beta = .01$, $p = .91$) and imagined contact were non-significant ($b = .12$, $SE = 0.09$, $\beta = .14$, $p = .19$), $R^2 = .12$, $F(4, 80) = 2.61$, $p = .04$. In the second step, we entered the two-way interactions of RWA and SDO with the imagined contact-contrast, which marginally improved the model ($\Delta R^2 = .05$), $F(2, 78) = 2.29$, $p = .108$. As hypothesized, the RWA × imagined contact interaction indicated a (marginal) effect ($b = .26$, $SE = 0.14$, $\beta = .19$, $p = .06$), thus replicating findings from Study 1. The interaction of SDO and imagined contact had no effect ($b = -.02$, $SE = 0.12$, $\beta = -.01$, $p = .90$). Table 2 shows all effects of both models.[3]

The simple slope analysis for the significant interaction of RWA and imagined contact (controlling for SDO) revealed that imagined contact increased contact intentions toward Romani people for participants high in RWA (+1 *SD*, $b = .31$, $SE = 0.13$, $t = 2.34$, $p = .02$) but not for those low in RWA (−1 *SD;* $b = -.06$, $SE = 0.13$, $t = -0.47$, $p = .64$; see Figure 2).[4]

Discussion

Study 2 replicated findings from Study 1 under more controlled conditions, with a distinct but related dependent variable, in another sample, and with a different target group: People high in RWA, but not those high in SDO, reported more contact intentions with Romani people after imagined contact experiences. SDO did not moderate the imagined contact effects, indicating that high SDOs, unlike high RWAs, do not particularly benefit from the mental representation of a positive encounter with an outgroup member. This underlines that the interaction effect for SDO revealed in Study 1 should be interpreted with caution. We will come back to this issue in the general discussion. Study 2 also revealed that the imagination of a positive encounter between two outgroup members does *not* improve intergroup relations. The latter finding provides further support for the imagined contact paradigm, which has been tested against various other control scenarios (cf. Crisp et al., 2010). Even if participants are instructed to imagine a *positive* encounter between two outgroup members, this does not elicit the same effects as imagined intergroup contact. It is the *intergroup* contact imagination that drives the positive effect.

[3]In order to test possible interaction effects between RWA, SDO, and the contrast between the two control conditions, we entered the interactions of RWA and SDO with the contrast for outgroup encounter versus standard control in an additional step, which did not improve the model ($\Delta R^2 = .002$), $F < 1$. As expected, the contrast between the outgroup encounter and standard control conditions did not interact with RWA ($b = -.04$, $SE = 0.26$, $\beta = -.04$, $p = .89$) or SDO ($b = .11$, $SE = 0.24$, $\beta = .11$, $p = .65$).

[4]In the end of the survey, participants were also asked for direct contact experiences with Romani people (*How often do or did you have personal contact with Gypsies in your job or at university/in your neighborhood?)*. Items were adapted from Wagner, van Dick, Pettigrew, and Christ (2003). On scales ranging from 1 (*never*) to 7 (*very often*), 73% of all participants indicated that they had no contact to Romani people at all, and 20% indicated that they had only very few contact experiences. This indicates that there was only very little direct contact experience in the sample.

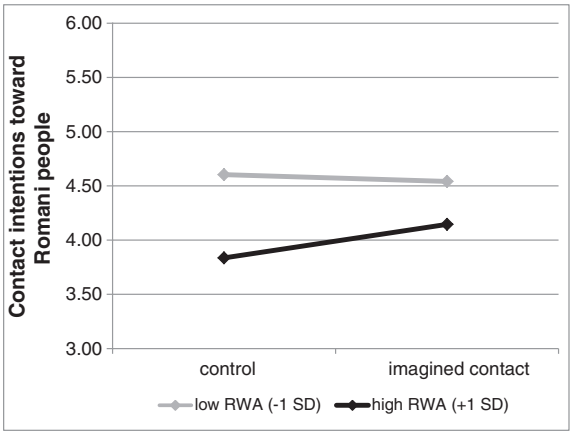

Figure 2. Interaction between right-wing authoritarianism (RWA) and imagined contact predicting contact intentions toward Romani people (controlling for social dominance orientation (SDO); Study 2)

GENERAL DISCUSSION

Recent research has shown that especially people high in RWA, but not those high in SDO, benefit from direct intergroup contact experiences (Asbrock et al., 2012), as proposed by the DPM (Duckitt, 2001) as well as SDT (Sidanius & Pratto, 1999). In two experimental studies, we tested the moderation effects of RWA and SDO on imagined contact, that is, the mental imagination of a positive intergroup encounter (Crisp & Turner, 2009). As expected, with increasing RWA, people showed less negative emotions (toward Turks; Study 1) and stronger contact intentions (toward Romani people; Study 2) after imagined contact with an outgroup member. Moreover, in Study 2, we were able to show that the imagined contact manipulation enhanced the willingness to engage in future intergroup contact for people higher in RWA compared with the standard control condition (a walk in the outdoors) and an additional control condition with an imagined positive encounter between two outgroup members. In both studies, however, people high in SDO did not benefit from imagined contact.

Results support the hypothesis derived from the DPM that intergroup contact has different effects on people high in RWA or SDO because of different underlying motivational bases, which points to the theoretical difference between RWA and SDO. RWA represents a threat-driven motivation for collective security and ingroup cohesion. Previous research has indicated that intergroup contact reduces perceived threat perceptions and subsequently prejudice toward the outgroup for people high in RWA (Asbrock et al., 2012; Dhont & Van Hiel, 2009; Hodson et al., 2009). People high in RWA are motivated to instrumentally use prejudice to avoid social threats (Kessler & Cohrs, 2008). If they experience or imagine pleasant, interesting contact with an outgroup member, this should decrease the perception of the outgroup as threatening and subsequently decrease negative emotions toward this outgroup. SDO, on the other hand, reflects a competitive-driven motivation for group-based dominance and hierarchy. From a functional perspective, high SDOs use prejudice strategically in order to enforce social hierarchy (Navarrete et al., 2010). Contact experience does not seem to generally reduce the normative expectations about hierarchical intergroup relations held by high SDOs. Consequently, imagined contact should not reduce intergroup bias in high SDOs (cf. Asbrock et al., 2012; Schmid et al., 2012).

Our empirical data revealed, however, a moderation effect for SDO in Study 1, indicating that *low* SDOs benefit from imagined contact. We were unable to replicate this finding in our second study. We also pointed to the fact that the data pattern regarding SDO and negative emotions in the control group in Study 1 was a little puzzling, with low SDOs showing more negative emotions toward Turks than high SDOs. This data pattern indicates that the unusual difference between high and low SDOs drives the interaction effect, so that we are very cautious with interpreting the finding regarding a decrease of negative emotions for low SDOs after imagined contact. Even though some previous studies also found similar contact effects for low SDOs (Asbrock et al., 2012; Schmid et al., 2012), there has not been a sound theoretical explanation for these effects so far. In the introduction, we suggested a possible context-of-contact dependency of the moderation effects of SDO (and possibly also RWA). Previous research has shown the context dependency of RWA and SDO effects (e.g., Dru, 2007; Thomsen, Green, & Sidanius, 2008). We therefore consider systematic context-of-contact variation an important direction for future research in order to explain inconsistencies regarding SDO in previous findings and to integrate previous research in the context of the DPM into intergroup contact theory. These variations might be easy to integrate into the imagined contact paradigm or in cross-group friendship procedures (e.g., Page-Gould, Mendoza-Denton, & Tropp, 2008).

In addition to the theoretical perspective discussed earlier, our findings also provide insights from an applied point of view. It has successfully been shown that the imagined contact paradigm affects intergroup contact intentions (Crisp et al., 2010) as well as intergroup behavior (Turner & West, 2012), even in intractable conflict regions (Husnu & Crisp, 2010b). Consequently, imagined contact has been suggested as an intervention strategy to improve intergroup relations (Crisp & Turner, 2009; Vezzali, Capozza, Giovannini, & Stathi, 2012). Various forms of intergroup contact interventions have been shown to be effective (Lemmer & Wagner, 2012). Imagined contact might be an important addition if direct contact is not possible or not desired. This is especially relevant to authoritarians, who are usually reluctant to engage in intergroup contact (Pettigrew & Tropp, 2011). As our present research shows, imagined contact is able to effectively enhance authoritarians' willingness to engage in future contact. Therefore, the imagined contact paradigm might be a first facilitating step in intervention programs, especially for high RWAs. However, one important question for the application of imagined contact as an intervention strategy still remains unanswered: How can authoritarians be motivated to imagine a positive intergroup contact situation? If they are not motivated to *engage* in intergroup contact, why should they be motivated to *imagine* contact? Future research needs to address this point.

Limitations

We would like to point out three caveats in our present research. First, the interaction effect for RWA and imagined contact in Study 2 only approached statistical significance.

This might be due to the small number of participants ($N = 85$ in three conditions). Nevertheless, the results are in line with our hypothesis and replicate findings from Study 1. Moreover, RWA and SDO were measured about 6 months before the experimental manipulation, which affects the reliability of the bias scores. Future research is needed to replicate and refine our findings.

A second limitation of our present findings is the relatively low mean level of RWA and SDO in our samples. This means that "high RWAs and high SDOs" are not really "high" in absolute terms. This is a limitation in many social psychological studies, which are often based on student or academic samples. However, previous research has shown similar moderation effects for RWA with direct contact in student samples (Hodson et al., 2009), adult population samples (Dhont & Van Hiel, 2009), and representative national samples (Asbrock et al., 2012): In all studies, more intergroup contact was correlated with less prejudice for people high-*er* in RWA. We see these results as additional support for our claim that high RWAs benefit from (imagined) contact. From an applied perspective, however, there is an urgent need for the examination of more biased participants and extreme samples in order to test the effectiveness of imagined contact for highly biased, dogmatic, and rigid people. If the imagined contact paradigm should be considered an intervention strategy for really *high* RWAs, we need to know whether it works for them as it does in our samples.

A third limitation is that we did not test the mediation of the imagined contact effect, as suggested in the DPM. Previous research showed that people high in RWA are less prejudiced after direct and indirect contact experience, which was mediated by reduced social threats (Asbrock et al., 2012; Hodson et al., 2009). We hit new ground by showing effects of *imagined* contact for authoritarians on negative emotions as well as contact intentions, but our studies did not allow for a mediation analysis. We consider this as another important next step for future research.

Conclusions

Our findings suggest that authoritarians' reluctance to engage in intergroup contact can be effectively reduced by imagined contact. This replicates previous research on direct contact and supports the DPM. It should also urge researchers to consider the practical implications of imagined contact and its implementation as a facilitating element into contact interventions.

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