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Perceived Conflict and Leader Dominance:

Individual and Contextual Factors Behind

Preferences for Dominant Leaders

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Abstract:

Recent research finds that political candidates and leaders with dominant, masculine physical features are more preferred under conditions of conflict than of cooperation. Importantly, however, methodological limitations of past research have hindered the identification of whether this effect reflects that voters intuitively view (1) dominant leaders as more competent in solving problems of conflict, (2) non-dominant leaders as more competent in solving problems of cooperation or (3) both. In this paper, we utilize recent advances in evolutionary psychology to form precise predictions on the nature of the underlying psychology and employ an unprecedented array of data types—including highly controlled experiments, natural experiments and behavioral measures—to investigate the validity of these predictions. Using a large approximately nationally representative survey of 2,009 Poles and Ukrainians fielded during the Crimea crisis in 2014, we find that preferences for leader dominance are exclusively driven by the intuition that dominant leaders are better able to facilitate aggressive responses during social conflict and that these preferences are regulated by contextual conditions and individual predispositions related to such responses.

Introduction

The fate of countries and societies has often been sealed by the rise of strong, dominant leaders. The popular rise of Hitler and the subsequent fall of Germany during the Second World War is the most extreme example within the last century, but other extreme examples—both positive and negative—abound. For example, whereas Hitler's reign of terror left Germany in ruins, Winston Churchill earned a legacy as the "British Bulldog" who safely steered Britain through World War II. More recently, politicians characterized by a dominant leadership style such as Russia's Vladimir Putin, Italy's Silvio Berlusconi or Donald Trump in the United States have garnered electoral success. One important observation across all these cases is that the emergence of a strong leader happened against the background of public support: a large segment of the respective populations preferred the stronger, more dominant leadership style to the alternative. Hence, understanding when and for whom preferences for dominant leadership emerge is of key importance in the context of both historical and contemporary politics.

Research from both psychology and political science has provided clear evidence that preferences for dominant leaders vary as a function of two systematic components: contextual differences and individual differences. As a way to subtly elicit preferences for dominant leadership, a number of these recent studies focus on physical features of potential leaders such as vocal or facial features. This research shows that contextual factors related to threat and conflict are important factors for preferences for dominant leadership; hence, candidates' provision of strong leadership as well as dominant (i.e. masculine) candidate faces are more preferred under contexts of threat and inter-group conflict than under contexts of peace and cooperation (e.g. Merolla & Zechmeister, 2009a; Little, Burriss, Jones & Roberts, 2007; Spisak, Homan, Grabo & Van Vugt, 2012a). In terms of individual factors, this research shows that

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political ideology is similarly important: Conservatives have stronger preferences for dominant and tough leaders than do liberals, both in terms of leadership style and leaders' physical appearance (Hibbing, Smith & Alford, 2013; Barker, Lawrence & Tavits, 2006; Laustsen & Petersen, 2015).

In this article, we (1) address the underlying cause of these contextual and individual factors and (2) ask whether these causes operate outside the confines of laboratory experiments, hence increasing both the internal and external validity of the study of preferences for dominant leaders. Drawing on recent advances in psychological models of followership, we argue that preferences for dominant leaders arise specifically from preferences for aggressive responses to social conflict and that this underlies the effects of both individual differences in ideology and contextual differences between war and peace. Utilizing a rich dataset based on online interviews with large and approximately representative samples of Polish and Ukrainian subjects during the Crimea crisis of 2014, this prediction finds support utilizing randomized experiments, psychological scales, behavioral measures and natural experiments related to aggression and social conflict. The findings deepen existing knowledge about the political psychology underlying preferences for dominant styles of leadership and provide two new insights somewhat at odds with common intuitions. First, followers do not enhance their preferences for non-dominant leaders under a cooperation context compared to a neutral (control) context. Second, in accordance with prior studies, we find that preferences for dominant leaders intensify under contexts of inter-group conflict; but, importantly, our results suggest that dominant leaders are *not* called upon for protection but rather for aggressively overpowering other groups.

Theory, prior research and predictions

Converging lines of research show that differences in perceptions of conflict—either experimentally induced or emerging from individual predispositions—surrounding an election lead voters to weigh dominance-related character traits differently and to hold different preferences for dominant styles of leadership. In one set of studies, for example, voters put a greater value on candidates' provision of strong leadership under a condition of terror attack compared to a good times condition (Merolla & Zechmeister, 2009a, 2009b). In another line of research, voters' preferences for certain subtle physical features in candidates—such as their facial and vocal appearances—have been shown to follow a similar pattern, with dominant and masculine faces and lower-pitched voices being more preferred in contexts of war and inter-group conflict than in contexts of peace and inter-group cooperation (Little et al., 2007; Hall, Goren, Chaiken & Todorov, 2009; Little, Roberts, Jones & DeBruine, 2012; Little & Roberts, 2012; Spisak et al., 2012a, Spisak, Dekker, Krüger & Van Vugt, 2012b; Laustsen & Petersen, 2015, 2016; Tigue, Borak, O'Connor, Schandl & Feinberg, 2012).[1]

A third line of research shows that individual predispositions linked to perceptions of society as competitive rather than egalitarian also predict preferences for dominant leaders. For example, based on real-world electoral data as well as survey experiments, it has been shown that conservatives more than liberals prefer dominant candidate faces (Laustsen & Petersen, 2015, 2016). Similarly, preferences for lower-pitched—and, thus, more masculine and dominant—male candidate voices are found to be more pronounced among Republican and

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[1] Another potentially relevant cue is physical strength (see Sell, Tooby & Cosmides, 2009; Petersen, Sell, Cosmides & Tooby, 2013) and recent work suggests that physical strength assessed from full body photos might be an indicator of leader capability rather than dominance (Lukaszewski, Simmons, Anderson & Roney, 2016). Future research should look more into how different cues (faces and bodies) to physical strength influence personality ascriptions to potential leaders.

conservative subjects than among Democratic and liberal subjects (Laustsen, Petersen & Klofstad, 2015). Finally, further analyses in these studies reveal that the primary driver of preferences for dominant candidate faces and voices is differences in Social Dominance Orientation and Competitive Jungle world views—two measures related to experiencing and valuing society as a place of group-based competition rather than equality (Laustsen & Petersen, 2015; Laustsen et al., 2015).

In sum, existing research suggests that both contextual differences surrounding leader and candidate evaluations and individual differences among voters and followers in perceptions of society as conflict-ridden shape preferences for dominant leadership. Table 1 summarizes existing research by highlighting 1) the contextual variations applied in the studies; 2) the dispositional effects on preferences for dominant leadership; and 3) the similarity of the results regardless of these being based on general trait evaluations of candidates or on candidates' and leaders' facial and vocal appearances. This latter point suggests that preferences for and evaluations of leaders and candidates are informed by the same underlying psychology of followership. Moreover, this psychology seems to take in a wide range of cues—direct trait information, visual cues and vocal cues—to estimate a certain individual's overall dominance score, which then is evaluated positively or negatively on the basis of contextual and predispositional factors; in turn, generating contextual and individual differences in preferences for dominant leadership.

Table 1 about here

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These lines of research converge to some extent on the underlying theoretical argument for these effects. It is commonly argued that the effects of conflict perceptions on preferences for dominant leaders reflect the operations of an evolved psychological system of followership that over human evolutionary history has helped followers to align themselves with the leader best capable of solving different problems facing their group (Spisak et al., 2012b; van Vugt & Grabo, 2015; Laustsen & Petersen, 2015; Bøggild & Laustsen, 2016). At the same time, however, this argument faces important issues relating to its internal and external validity.

With regard to external validity, most previous tests have been performed within the group of countries that have been nicknamed WEIRD (i.e., Western, educated, industrialized, rich and democratic; cf. Henrich, Heine & Norenzayan, 2010) such as the United States, the Netherlands and Denmark. Yet, there is increasing recognition of the importance of testing theories about the psychological origins of political behavior cross-culturally using also none-WEIRD samples (see for instance Tybur et al., 2016). In particular, if the causes of preferences for leader dominance are based on evolved psychological systems, they should also operate in similar ways outside the group of WEIRD countries. In addition, all published studies of the effect of contextual factors have been based on experimental studies using artificial stimuli such as vignettes. Hence, we do not know whether the experimental findings travel outside of the confines of the laboratory experiment.

With regard to internal validity, there is currently no clear consensus on how people intuitively represent the problem-solving capabilities of dominant and non-dominant leaders and, thus, what specifically drives preferences for leader dominance. Do people intuitively view (a) dominant leaders as more competent in solving problems of conflict (e.g., Little et al., 2007; Laustsen & Petersen, 2015, 2016; Spisak et al., 2012a, 2012b; Von Rueden & Van Vugt, 2015),

(b) non-dominant leaders as more competent in solving problems of cooperation (e.g., Little et al., 2007; Little et al. 2012; Spisak et al., 2012a, 2012b; Van Vugt & Grabo, 2015) or (c) both?

To understand the motivations underlying preferences for leader dominance, we follow Laustsen & Petersen (2015), who argue that past research has to some extent been blinded by the juxtaposition of conflict and cooperation. The problem is that conflict is a form of cooperation—in fact, one of the most extreme forms. On this basis, Laustsen & Petersen (2015) argue that enhanced preferences for dominant styles of leadership under conditions of conflict reflect a need for cooperation: specifically, a greater need for punitively enforced collective aggression against competing groups (Laustsen & Petersen, 2015; see also Von Rueden, Gurven, Kaplan & Stieglitz, 2014). This argument has important observable implications and, in particular, suggests that the underlying driver of preferences for dominant leaders is perceptions of conflict specifically. First, for the study of contextual effects on preferences for dominant individuals, this entails that people should not intuitively view the non-dominant leader as more competent in actively solving problems of cooperation—under conditions of peace the virtue of the non-dominant leader might simply be that s/he does not interfere in the everyday business of followers (Boehm, 1999; Von Rueden et al. 2014). Second, for the study of individual differences, this implies that the effects of differences in political ideology on preferences for dominant individuals should be specifically driven by differences in perceptions of levels of social conflict.

Due to a number of methodological challenges, previous research has not been able to differentiate between these possibilities. First, existing research on contextual effects has compared leader preferences under Conflict (war) and Cooperation (peace) contexts, respectively, but failed to include a neutral "no-context" control condition. This is problematic

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because it therefore has been impossible to determine whether voters and followers do in fact favor a more non-dominant candidate to lead in situations of peace, or whether the effects of previous studies are entirely driven by a preference for dominant leaders in war-like situations. As a consequence, we employ a neutral contextual condition to the experiment such that is consists of three different conditions. Second, while existing research on individual differences has tried to unpack why political ideology correlates with preferences for dominant leaders, past research hinges on the validity of assumptions about the causal ordering of different psychological constructs. Hence, a number of studies find that the effects of political ideology emerge due to the correlation between individual differences in ideology and individual differences in Social Dominance Orientation (SDO)—a psychological construct measuring the degree to which one perceives and values group-based conflict and dominance in society (Sidanius & Pratto, 2001; Ho, Kteily, Pratto, Foels, Sidanius, Sheehy-Skeffington, Henkel, & Stewart, 2016): Individuals with high SDO are both more conservative and hold stronger preferences for dominant leader faces and voices than do individuals with low SDO (Laustsen & Petersen, 2016; Laustsen et al., 2015). While this does suggest that perceptions of conflict are integral to preferences for dominant leaders, this conclusion relies on assumptions about SDO having causal primacy over ideology (see Duckitt & Sibley, 2010). While this assumption is realistic (Duckitt & Sibley, 2010), tests that do not rest on such assumptions are preferable.

In this paper, we address these methodological shortcomings in order to perform more internally valid tests of the prediction that preferences for dominant leaders are generated by perceptions of conflict specifically. In addition, we increase the external validity of the literature by (1) deploying these tests in countries that are less WEIRD than previously examined cultures

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and, more importantly, (2) investigating the impact of eruptions of actual real-world conflict on preferences for leader dominance.

Overview of Data and Tests: Eastern European Data and the Crimea Crisis

Our predictions were tested in an online survey consisting of 2,009 Eastern European respondents. The survey was conducted in Poland (N = 1,005) and Ukraine (N = 1,004) during the spring of 2014. Both samples were recruited through the YouGov survey agency from standing panels of participants. Using quota-sampling, the samples were designed to constitute nationally representative samples of Poles and Ukrainians, respectively, with respect to age (18 to 65 years), gender, ethnicity and geographic region (see Supplementary Material S.1 for more detailed information on the sample). However, because subjects were interviewed online and because of the low internet penetration rate in Ukraine (slightly under 50 percent) the samples can only be expected to approximate national representativeness.[2] In the surveys, we included vignettes from Laustsen & Petersen (2016) to test the effects of experimental primes of conflict on preferences for leader dominance but added a neutral control group to these vignettes. In line with many previous studies, these vignettes use preferences for dominant-looking individuals in a leader position as a measure of preferences for dominant leaders. In addition, we employed a number of psychological constructs designed to measure different kinds of individual differences in preferences for and perceptions of society as conflict-ridden in order to test their respective correlations with preferences for leader dominance in these vignettes.

This Eastern European sample provides a number of advantages for increasing the external and internal validity of conclusions about preferences for leader dominance. First, in contrast to

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[2] For information about internet penetration in Ukraine: https://freedomhouse.org/report/freedom-net/2015/ukraine.

previously studied countries, Poland and Ukraine represent former communist countries that more recently underwent democratic transitions. By extending previous research on context-sensitive preferences for leader faces to former communist countries, we explore the universality of previous findings and whether these replicate in countries with very different political and historical legacies.

Second, the Eastern European dataset allows us to disentangle the effect of political ideology on preferences for dominant leadership from the effects of underlying individual differences related to conflict perceptions. Among Western countries, left-leaning orientations relate to universalism and benevolence—values associated with preferences *against* hierarchy and group dominance—whereas right-leaning orientations are associated with tradition and conformity—two values associated with preferences *for* hierarchy and group dominance (Piurko & Schwartz, 2011). In the post-communist countries these associations are much weaker (Piurko & Schwartz, 2011). Instead, traditionalism and preservation of the social order can be linked to both nationalistic trends and to protection of the former communist rule (Duriez, van Hiel & Kossowska, 2005; Thorisdottir, Jost, Liviatan & Shrout, 2007). Consequently, labels such as "left" and "right" are associated with different values and preferences in Eastern Europe relative to Western countries (Piurko & Schwartz, 2011). However, research finds that Social Dominance Orientation (SDO) can validly be measured in former communist countries and that its relationships with sociopolitical attitudes parallel results obtained in Western Europe (Duriez et al., 2005; Thorisdottir et al., 2007). Because labels related to political ideology (such as "left" and "right") have not historically been linked to SDO in the same way in post-communist countries as in Western European societies, we can use the post-communist setting to disentangle the effect of SDO from the effect of political ideology. That is, if deep-seated psychological

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predispositions in SDO rather than differences in political ideology are driving preferences for dominant leadership styles, we should only see an effect of SDO in our Polish and Ukrainian sample. Finally, to gain extra leverage in testing our argument that preferences for and dispositions towards group-based competition and dominance constitute a primary driver of dominant leadership preferences, we also include a measure of incentivized economic behavior—the Hawk-Dove game—in our survey.

Third, the dataset employed in this article was compiled during the height of the Crimea crisis. Specifically, data was gathered between March 18 and 23, 2014, which directly coincided with Crimea's secession referendum (March 16) and President Putin's signing of the bill to absorb Crimea into the Russian Federation (March 18). In the days that followed, US President Obama urged Russia to lower tensions and withdraw its troops from the Ukrainian territories (March 28). Underlining the tensions leading up to the referendum, pro-Russian gunmen had seized important buildings in the Crimean capital, Simferopol, and uniformed gunmen appeared around Crimea's airports (Wilson, 2014).[3] The tense atmosphere in the Crimean peninsula and southern parts of Ukraine before, during and after our data gathering took place is of key importance for our present purpose as it permits testing of whether Ukrainians living *in* the conflict regions hold different leader preferences than Ukrainians living outside these regions. Hence, this sample increases the external validity of previous studies significantly by exploring how living in a real-world context of social conflict affects follower preferences for dominant leadership.

In total, we utilize our Eastern European sample to conduct three tests with combined high levels of internal and external validity. First, we test the effects of experimentally induced

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[3] For a more complete timeline of the Crimea crisis see http://www.bbc.com/news/world-middle-east-26248275.

conflict perceptions on preferences for leader dominance with a neutral control condition

included. Second, we test the effects of individual differences in conflict perceptions within the

Eastern European sample, allowing for the disentangling of measures of conflict perceptions and

political ideology. Third, we test the effects of eruptions of real-world conflict in the form of the

Crimea crisis on preferences for leader dominance.

Test 1: Experimental Contexts of Conflict and Preferences for Dominant Leaders

The first test of our argument closely builds on prior studies as it investigates whether

respondents in our Eastern European sample also exhibit stronger preferences for a dominant-

looking leader when assigned to a Conflict condition than when assigned to a No-Conflict

condition. Moreover, we add a neutral Control condition to the traditional set-up of two

experimental conditions. This permits us to test whether the Conflict and No-Conflict conditions

move preferences for leader dominance in opposite directions or whether—in line with our

expectations—only the Conflict condition enhances preferences for leader dominance.

Materials and Methods

The Eastern European survey included the same experiment used in Laustsen & Petersen (2016)

and added a neutral Control condition. In this experiment subjects were asked to imagine

themselves living in a small-scale tribal society in the jungle. Subjects were then randomly

assigned to one of three conditions, presented as vignettes. One third of the subjects were

assigned to a Control condition that did not provide any information about the situation in the

imagined tribal society. Another third of the sample was assigned to a No-Conflict condition

where a non-conflict-related need for cooperation was emphasized. This vignette described the

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tribe's camp site as being threatened by flooding and that everybody needed to help create a dam to prevent this from happening. The last third of the subjects was assigned to a Conflict condition where the need for a leader that could lead the tribe to victory against an enemy group was emphasized. This vignette described how a neighboring tribe, because of disputes over access to hunting grounds, was about to attack. In this way the level of threat was held constant across the No-Conflict and the Conflict conditions (flooding versus war), while the level of group-based conflict differs. As opposed to prior research, the inclusion of a neutral Control condition permits testing whether the No-Conflict and the Conflict conditions move preferences for leader facial dominance in opposite directions or if only one of the conditions differs from the Control. After reading the vignettes, subjects chose their favored leader from among digital images of two male faces varying only with respect to facial dominance (see Supplementary Materials S.2 for full vignettes and more information on face materials). Faces were coded "0" and "1" for the non-dominant and the dominant face, respectively, and are shown in Figure 1:

[Figure 1 about here]

Results

To test the effects of the experimental conditions on preferences for a dominant leader, we compared the proportions of respondents favoring the dominant face over the non-dominant face under the different contextual conditions. We report t-statistics and corresponding p-values (two-sided) for the relevant tests.

First, we sought to replicate existing results and test whether preferences for the dominant leader face were stronger in the Conflict context compared to the No-Conflict context. We found

that a significantly larger proportion of the respondents choose the dominant leader face in the Conflict condition compared to the No-Conflict condition ($t=5.93$, $p<0.001$). Next, we tested whether the Conflict and the No-Conflict conditions moved preferences for leader dominance in opposite directions in comparison to the Control condition. Results show that a significantly larger number of respondents choose the dominant face in the Conflict condition than in the neutral Control condition ($t=7.07$, $p<0.001$), but that no significant difference was found between the No-Conflict condition and the Control condition ($t=1.12$, $p=0.263$). Figure 2 illustrates these findings.

[Figure 2 about here]

Figure 2 shows that 43 percent of the subjects assigned to the Conflict condition chose the dominant leader face. For subjects assigned to the No-Conflict and the Control condition 28 and 25 percent, respectively, chose the dominant face.[4] Both in terms of statistical significance and substantial size subjects are more likely to favor the dominant leader face when assigned to the Conflict condition. Neither a significant nor a substantial difference is found between the proportions of the respondents favoring the dominant face in the No-Conflict and the neutral Control conditions. This provides a first step in shedding light on the underlying psychology of preferences for dominant leadership in showing that only increased levels of societal and inter-group conflict move followers' preferences for dominant leadership.

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[4] The contextual effect does not differ between the Polish and Ukrainian subjects (context X country interaction: $\chi^2=0.57$, $p=0.751$).

Test 2: Individual Differences and Preferences for Dominant Leaders

To deepen our understanding of the underlying psychology of preferences for dominant leadership and the contextual effects established under Test 1, we investigated whether individuals with different motivations and preferences for group dominance would vary accordingly in preferences for dominant leadership. Specifically, we argue that the dominant leader is favored by followers when they are motivated to prevail in inter-group contests. Hence, individuals who *by default* are more motivated to perceive the social world as an ongoing competition between groups should also *across experimental conditions* hold stronger preferences for dominant leadership. We measure such predispositions in two ways. First we use the well-established construct of Social Dominance Orientation (e.g. Sidanius & Pratto, 2001; Ho et al. 2016). Second, we tap respondents' dispositions for aggressive behavior directly through a version of the Hawk-Dove game embedded in our online survey (Maynard Smith & Parker, 1976). The Hawk-Dove game comprises a simple economic game in which participants can either follow an aggressive *Hawkish* strategy or a submissive *Dovish* strategy (see description below). In line with our general prediction, respondents high in SDO and respondents following the aggressive *Hawkish* strategy are expected to hold stronger preferences for dominant leader faces.

Two alternative explanations and their corresponding constructs should also be taken into account and tested for when mapping the underlying psychology of preferences for dominant leadership. First, prior research conducted in the United States and Denmark finds that conservative individuals tend to favor dominant-looking leaders more than do liberals and, moreover, analyses suggest that this tendency could be driven by differences in Social Dominance Orientation (Laustsen & Petersen 2015, 2016). However, one might argue that other

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differences between liberals and conservatives could also account for the variation in preferences for dominant leadership. In this respect, our Eastern European sample holds the potential to rule out these alternatives since—in contrast to Western societies—SDO and like constructs are not and have not historically been knitted to political ideology following the traditional pattern of conservatives being higher in SDO (for a more thorough account of this argument see section "Overview of Data and Tests: Eastern European Data and the Crimea Crisis" above). Therefore, we expect that SDO and not ideology will constitute a significant and positive predictor of preferences for dominant leader faces in the present sample.

Second, followers could also favor the dominant leader more under inter-group conflict because he provides protection against the enemy outgroup threat. That is, dominant leaders might not *only* be preferred because of their capabilities in offensive and dominance-oriented respects, but also because of their defensive qualities linked to group protection. Recent work on the psychological foundations of political ideology shows how conservative positions originate in two different world views characterized by "seeing the world as a competitive jungle" or "as an inherently dangerous place", respectively (Duckitt, Wagner, du Plessis & Birum, 2002; Duckitt & Sibley, 2010). The "competitive jungle world view" is characterized by seeing the social world "as a ruthlessly amoral, Darwinian struggle for resources and power" (Duckitt et al., 2002: p.77). This world view provides the motivational basis for an individual's Social Dominance Orientation and supports the rationale for our prediction on the effects of SDO. In contrast, the "dangerous and threatening world view" is characterized by perceiving the social world as inherently unsafe and dangerous and provides the motivational basis for the psychological construct of Rightwing Authoritarianism (RWA). This construct reflects tendencies to value social control, security and protective means such as homogeneity,

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conformity and conventionalism (Altemeyer, 1981). To explore the rival prediction that

dominant leaders are preferred more under conflict contexts because of defensive and protective

concerns, we included a measure of RWA.

Materials and Methods

SDO, political ideology, and RWA were measured using existing and well-validated scales.

Political ideology was measured on a standard 11-point scale from 0 (most left-wing) to 10 (most

right-wing) (van der Eijk, Schmitt & Binder, 2005). The variable is recoded to a 0-1 scale with

"0" and "1" representing the most left-wing and right-wing positions, respectively (M=0.514;

SD=0.214). SDO was measured using the short eight-item version of the SDO-7 scale following

Ho et al. (2016). The eight items form a reliable SDO scale, which we recode to a 0-1 scale with

"0" and "1" reflecting minimum and maximum SDO, respectively (α=0.721, M=0.351,

SD=0.172). RWA was measured with a balanced set of eight items adopted from Zakrisson

(2005) forming a somewhat reliable scale which we recode to 0-1 with "0" and "1" reflecting

minimal and maximum RWA, respectively (α=0.522, M=0.551, SD=0.130) (see Supplementary

Materials S.3 for exact question wordings).[5]

Finally, to move beyond self-reported measures of predispositions, we also measured

respondents' behavioral motivation for dominance and aggression directly using a version of the

Hawk-Dove game modified to fit the online character of our survey (Maynard Smith & Parker,

1976). In this game, respondents received 300 Polish Zloty or 900 Ukrainian Hryvnia and were

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[5] Due to the somewhat low reliability of the RWA scale, we conducted a robustness test based on a RWA scale

consisting of seven out of the eight items since dropping one item improves reliability (α=0.582). However,

conclusions remain unchanged (see Supplementary Materials S.8).

told that this amount formed the basis for what they could later win in a lottery draft.[6] Exactly

how much respondents could win depended on their behavior in the game. Specifically,

respondents were told that they would play together with an unknown fellow participant in the

study, and that their potential payment would differ according to the choices they made and the

choices of the co-player. Both players could choose between claiming (the Hawkish strategy)

and not claiming (the Dovish strategy) the other player's money. If the Hawkish strategy were

followed, the respondent's payout would either be doubled (the co-player plays Dove) or zeroed

(the co-player also plays Hawk). On the other hand, if the Dovish strategy were followed, the

payout would either be untouched (the co-player also plays Dove) or halved (the co-player plays

Hawk). That is, the Hawkish strategy constitutes an aggressive high-risk and high-gain strategy

(coded "1"), while the Dovish strategy represents a more submissive low-risk and (at best) no-

gain strategy (coded "0") (M=0.161, SD=0.368) (See Supplementary Materials S.4 for the full

game instructions).

Results

To test the effects of predispositions, we employ logit regression to predict choice of leader face.

First, we estimate the effects of SDO, ideology, and RWA while controlling for the assigned

experimental condition and respondents' gender, age, education and geographic region. Next, we

estimate the effect of respondents' behavior in the Hawk-Dove game controlling for the same

variables. We report regression coefficients with corresponding p-values (two-sided) and odds

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[6] The amounts correspond to approximately $50 and $80 for the Ukrainian and Polish respondents, respectively. At

the end of the game, in line with the instructions, two Polish and two Ukrainian respondents were randomly drawn

to receive payment in accordance with their behavior in the game. Hence no deception was used in the experiment.

ratios for SDO, ideology, RWA and Hawk-Dove game and show predicted probabilities for

choosing the dominant leader face across the range of observed values on significant measures.

Based on our general prediction, we expect that SDO—but not ideology and RWA—

constitutes a positive predictor of preferences for dominant leader faces.[7] This is exactly what we

find: SDO positively and significantly predicted preferences for the dominant leader face

(b=1.275, odds ratio=3.578, p=0.001). No similar effects of political ideology (b=-0.244, odds

ratio=0.783, p=0.309) or RWA were found (b=0.389, odds ratio=1.476, p=0.348) (see

Supplementary Materials S.6 for full model).[8] We conducted a series of alternative specifications

to test the robustness of the null findings for ideology and RWA, which all supported that only

SDO positively and significantly predicts preferences for dominant leader faces (see

Supplementary Materials S.7 (ideology) and S.8 (RWA)).[9] Figure 3 displays predicted

probabilities for choosing the dominant leader face across levels of SDO.

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[7] Descriptive statistics and intercorrelations of variables are reported in Supplementary Materials S.5. Note, that

SDO and RWA are negatively correlated—although only slightly so (r=-0.068, p=0.002). This correlation is in line

with prior work based on Eastern European samples (Duriez et al., 2005). Furthermore, Duckitt et al. (2002) theorize

that the tendency for SDO and RWA to be more highly correlated in Western countries is caused by a clearer left-

right division.

[8] Results do not differ between Polish and Ukrainian subjects (SDO: χ^2=1.03, p=0.309; Political ideology: χ^2=0.10,

p=0.753; RWA: χ^2=1.50, p=0.220).

[9] These robustness checks address two potential concerns. First, subjects in this Eastern European sample might be

unfamiliar with and ambivalent about the ideology measure and could therefore be prone to place themselves in the

middle category of the scale (since there was no "Don't know" option; see for instance Alvarez & Franklin, 1994).

Second, with respect to RWA, one could imagine that the insignificant relationship is caused by the simultaneous

inclusion of both SDO and RWA in the model. Supplementary Materials S.7 (ideology) and S.8 (RWA) shows full

models from analyses that take these concerns into account.

[Figure 3 about here]

Figure 3 shows that the probability of choosing the dominant leader face increases with SDO. To take into account that distributions of SDO are often skewed with only a few subjects at the high end of the scale, we compare the predicted probability for choosing the dominant face for subjects placed at the 5th and the 95th percentile of the observed SDO distribution, respectively (marked by the vertical grey lines in Figure 3). This yields a difference of roughly 14 percentage points (predicted probabilities are 24.6 pct. and 38.3 pct. for the 5th and the 95th percentiles, respectively), which matches the experimental effect of being assigned to the Conflict condition (cf. Test 1). Finally, we replicated prior findings showing that the effect of SDO does not differ across the assigned experimental conditions (χ^2=0.64, p=0.726; see also Laustsen & Petersen, 2016). In other words, regardless of the contextual condition, SDO positively predicts preferences for dominant leader faces.

To further test the role of dominance and aggression oriented predispositions we move beyond self-reported measures and employ subjects' behavioral strategy in the Hawk-Dove game as predictor of preference for the dominant leader face. Subjects following the Hawkish strategy were expected to exhibit the strongest preference for the dominant leader face. In support of this, we find a positive and significant effect of having followed the Hawkish over the Dovish strategy (b=0.342, odds ratio=1.408, p=0.009) (see Supplementary Materials S.6 for full model). Figure 4 displays predicted probabilities for choosing the dominant leader face for "Hawkish" and "Dovish" subjects, respectively.

Figure 4 shows that 31 percent of the "Dovish" subjects preferred the dominant over the non-dominant leader face, whereas this proportion rises to 38 percent among the "Hawkish" subjects.

In sum, the results from Test 1 and Test 2 support our prediction as they show that external (contextual conditions) as well as internal (predispositions such as SDO and Hawkish strategies) forces related to perceptions of social conflict simultaneously affect preferences for dominant leadership.

Test 3: The Crimea Crisis of 2014 and Preferences for Dominant Leaders

The third and final test of our prediction investigates how the Crimea crisis activates followership decisions about whether to prefer dominant or non-dominant leaders. Specifically, we investigate how followers' leadership preferences are colored by regional belonging characterized by different degrees of social and inter-group conflict.

Materials and Methods

Based on background information about respondents' regional residences we divided respondents into different geographic categories marked by the intensity of the Crimea crisis and the social conflict it caused. Aside from its relations to great power politics and to Russian geopolitics, the Crimea crisis was locally anchored in the Crimean peninsula and the Southern and Eastern parts of Ukraine (Wilson, 2014). Because of the *intra-Ukrainian* character of the Crimea crisis, we focused exclusively on the Ukrainian part of our data and left out the Polish

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respondents in Test 3.[10] For our present purpose, the key geographic distinction relates to

whether a respondent lives in the conflict-ridden or the less conflict-ridden parts of Ukraine.

Ukrainian respondents were registered by YouGov as inhabitants of one out of five broader

Ukrainian regions: Kiev, Central and Northern Ukraine, Western Ukraine, Eastern Ukraine, and

Southern Ukraine and Crimea. Based on reports, news coverage and the general perception of the

conflict in Crimea (Wilson, 2014), we collapse the three categories of Kiev, Central and

Northern Ukraine, and Western Ukraine into a No-Conflict region (coded "0"). Likewise,

Eastern Ukraine and Southern Ukraine and Crimea together comprise the Conflict region (coded

"1").

The real-world social conflict imposed by the Crimea crisis is of course markedly different

from our experimental manipulations of social conflict. In the experiment, all subjects assigned

to the Conflict condition know which side they are on in the dispute with the neighboring tribe.

In the Crimea crisis the situation is more complicated. Depending on which side of the conflict

Ukrainian citizens find themselves, they can—unlike in the experiment—feel either threatened

by the conflict or see it as an opportunity for their group to prosper through successful inter-

group maneuvering. To measure individual orientations towards the conflict we asked

respondents about their emotional state over the last week. Specifically, respondents indicated

how often they had felt anger, hatred, anxiety, and fear on separate seven-point scales from

"Never" (coded "1") to "Very often" (coded "7"). Based on existing work on categorizations of

negative emotional reactions we created two separate variables for respondents' emotional

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[10] Focusing exclusively on Ukrainian subjects constitutes a cleaner test of the effect of real-world social conflict on

preference for dominant leadership. Although Polish citizens were most likely concerned about the developments in

Ukraine, their perceptions of the conflict differed substantially from what Ukrainians experienced (among other

things because of Poland's memberships of NATO and the EU).

reports (Skitka, Bauman, Aramovich & Morgan, 2006; Huddy, Feldman & Cassese, 2007).

Based on average scores for anger and hatred we created an offensively oriented Fight measure recoded to a 0-1 scale with "0" and "1" reflecting minimal and maximal Fight emotions, respectively (r=0.618; M=0.481; SD=0.315). Next, based on average scores for anxiety and fear we created a defensively oriented Flight measure which was also recoded to a 0-1 scale with "0" and "1" reflecting minimal and maximal Flight emotions, respectively (r=0.580; M=0.615; SD=0.285). We predicted that Fight emotions should positively predict preferences for the dominant leader face and, moreover, this effect would be driven by subjects residing in the Conflict region, for whom the conflict potentially poses an opportunity to improve their group's status vis-à-vis other groups.

Finally, another way to measure respondents' orientation towards the Crimea crisis is through their identifications as either Ukrainians or Russians. Therefore, respondents answered distinct sets of three identification questions (following Thomsen, Green & Sidanius, 2008) about their Ukrainian and Russian identification, respectively (Ukrainian identification: α=0.918, M=0.803, SD=0.276; Russian identification: α=0.923; M=0.449; SD=0.352).[11] In the supplementary analyses, we control for the rival explanation that rather than Fight- and Flight-related emotions, respondents' identification with either Russia or Ukraine drives their preferences for dominant leadership in the Conflict region.

Results

Following the procedure from Test 2, we employed logit regression in Test 3 when predicting choice of leader face from region and Fight- and Flight-related emotions controlling for assigned

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[11] See Supplementary Materials S. 9 for concrete question wordings for identification items.

experimental condition, respondents' age, gender and education. All reported p-values are from two-sided tests of significance.

We initially explored whether aggregate preferences for the dominant leader face differed between the Conflict and the No-Conflict regions of Ukraine. We found no significant main effect of respondents' regional residence in the Conflict or the No-Conflict region (b=-0.152, odds ratio=0.859, p=0.287). Next, we further added respondents' Fight- and Flight-related emotions to the model and their respective interactions with the regional variable (Conflict region versus No-Conflict region). We found a significant two-way interaction between respondents' reported levels of Fight-related emotions and region (χ^2=4.31, p=0.038). No similar interaction was revealed for respondents' Flight-related emotions and region (χ^2=0.37, p=0.545). Figure 5 shows the marginal effects of Fight- and Flight-related emotions on choice of the dominant leader face in the Conflict and the No-Conflict regions, respectively.

[Figure 5 about here]

Fight-related emotions do not affect the choice between the dominant and the non-dominant leader face in the No-Conflict region (b=-0.035, odds ratio=0.859, p=0.923). Yet, fully in line with our central argument, the more respondents in the Conflict region have felt Fight-related emotions, the more likely they are to choose the dominant leader face (b=1.014, odds ratio=2.756, p=0.005). That is, the effect of Fight-related emotions on preferences for dominant leadership requires a situational trigger, and the conflict imposed by the Crimea crisis provides such a trigger for individuals living in the conflict-ridden parts of Ukraine. Figure 5 also shows that Flight-related emotions relate negatively to preferences for the dominant leader face in the

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Conflict region (b=-1.096, odds ratio=0.334, p = 0.005) and in the No-Conflict region (although only marginally so: b=-0.759, odds ratio=0.468, p=0.065). This suggests that—in contrast to the situational trigger of Fight-related emotions—no such trigger is needed for Flight-related emotions to affect preferences for dominant leadership. Moreover, this result also shows that the more respondents report to have felt defensive Flight-related emotions, the *less* likely they are to choose the dominant leader face. This important finding provides an explanation for why we do not find any simple main effect on preferences for dominant leadership of being located in a real-world conflict. Only if people respond to the conflict with anger and hatred do such preferences emerge. If they respond with fear or anxiety, in contrast, they become less likely to prefer a dominant leader (see Supplementary Materials S.10 for full models).

These findings hold when further controlling for the individual difference measures employed in Test 2 (SDO, RWA, political ideology, and Hawk-Dove game behavior) and identification with Russia or Ukraine and their respective interactions with the regional variable (Conflict versus No-Conflict region). This demonstrates that the effects of Fight- and Flight-related emotions and the interaction between Fight-related emotions and respondents' regional belonging are not confounded by differences in individual predispositions or identification (see Supplementary Materials S.11 for full models).

Taken as a whole, our results demonstrate that preferences for dominant leaders are to a substantial degree driven by situations of social and inter-group conflict and by preferences for aggressive responses to such conflicts. In this way our results contrast existing results and theories claiming that preferences for dominant styles of leadership are primarily a function of followers' perceptions and feelings of threat and insecurity (see Jost, Glaser, Kruglanski, & Sulloway, 2003; Hibbing et al., 2013). Rather, we find that followers look to dominant leaders

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when situational contexts, predispositions and emotional states related to social conflict lead

them to believe that they and their group might benefit from escalating and prevailing in the

conflict. In contrast, if followers feel a need to avoid or deescalate conflicts, they shun dominant,

aggressive leaders. In this perspective, then, preferences for dominant leaders can be viewed as a

signal of commitment to conflict among the followers.

Discussion and Conclusion

The popular rise of strong and dominant leaders is a fundamental part of modern political

history. Yet knowledge about the psychological processes leading followers to flock to such

leaders remains sparse. This article addresses that deficit. Specifically, following recent

developments in the psychological sciences, we use digitally manipulated pictures of potential

leaders to subtly elicit preferences and investigate the individual and contextual predictors of

followers' preferences for dominant leaders.

A growing line of research finds that followers' preferences for dominant leadership are

driven by external contextual forces and by internal individual predispositions. Contextually,

experimental conditions of inter-group conflict and war enhance preferences for dominant

leaders compared to contexts of cooperation and peace (e.g., Little et al., 2007; Merolla &

Zechmeister, 2009a; Spisak et al., 2012a; Laustsen & Petersen, 2016). This effect is paralleled at

the level of internal predispositional processes, with conservatives and individuals high in Social

Dominance Orientation holding stronger preferences for dominant leaders (Barker et al., 2006;

Laustsen & Petersen, 2016; Laustsen et al., 2015). In this article, we have deepened and clarified

the underlying psychology behind this set of findings and shown that followers' preferences for

dominant leaders arise specifically from preferences for aggressive responses to social conflict stemming from external contextual forces and internal predispositional drivers.

First, in our experimental manipulations of context (Test 1) we extend prior research by adding a neutral Control condition to the traditional two-condition set-up consisting of a Conflict and a No-Conflict condition. Comparing subject preferences for the dominant leader across these three contexts, we find that subjects hold stronger preferences for a dominant leader only in the Conflict condition compared to the two other conditions. Importantly, in contrast to theoretical speculations in existing work (e.g., Little et al., 2007; Spisak et al., 2012b; Van Vugt & Grabo, 2015), subjects assigned to the cooperatively oriented No-Conflict condition were no more likely to choose the non-dominant leader face than subjects assigned to the neutral Control condition. That is, according to the present data, follower preferences for leader dominance are *only* moved by inter-group conflict and not by primes of cooperation. This finding resonates with the notion from evolutionarily informed leadership research that humans by default prefer non-dominant and non-exploitative leaders but that contextual needs for collective action enforced by a leader (e.g. war and inter-group conflict) can lead followers to change these preferences. Specifically, followers are found to trade the potential exploitative costs of having a dominant leader with the benefits gained by having that leader punitively enforcing the much-needed collective action against the outgroup enemy (see Boehm, 1999; Von Rueden et al. 2014; Laustsen & Petersen, 2015). However, more research is needed in order to investigate fully whether other cooperative contexts might potentially move follower preferences further in the direction of non-dominance in leaders (for more thorough discussions of external validity see Supplementary Materials S.12).

Second, in our analyses, we clarify the effects of internal drivers of preferences for dominant leadership (Test 2). Specifically, we show that individuals predisposed to behave

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aggressively are the ones who *across contexts* prefer dominant leadership the most. This is supported in multiple ways. Initially, we show that Social Dominance Orientation positively predicts preferences for dominant leadership across experimental conditions. Utilizing the nature of our Eastern European sample, we further disentangle the effect of SDO from the rival predictor variables of political ideology and Rightwing Authoritarianism (RWA). Additionally, we move beyond traditional self-reported measures of predispositions and employ a behavioral measure of aggressive and dominant predispositions, the Hawk-Dove game, and show that—in parallel to the SDO-effect—subjects who are behaviorally predisposed to follow dominant and "Hawkish" strategies hold significantly stronger preferences for dominant leaders than do subjects predisposed to more submissive and "Dovish" strategies. Together, these findings challenge existing ideas in the literature that the primary reason for followers to favor a dominant leader is based in defensive reasoning about a leader's ability to protect the group. If this was the case, RWA should have outperformed SDO as predictor of preferences for dominant leadership and "Dovish" subjects should have exhibited stronger preferences for dominant leaders than "Hawkish" subjects. Our results revealed the opposite pattern. Consequently, based on the data presented here, the main predispositional drivers of preferences for dominant leadership are tendencies to value group-based conflict and dominance in society and impulses to follow aggressive and offensive strategies in conflict situations.

Third, in this article we sought to increase the external validity of previous findings in different ways. By testing well-established effects found in Western countries such as the United Kingdom, the Netherlands, the United States and Denmark in less WEIRD societies such as Poland and Ukraine, we have significantly expanded the scope of knowledge on the effect of conflict and predispositions on preferences for dominant leader faces. Moreover, in Test 3 we

expanded the scope of these findings in a qualitatively different way by embedding our survey experiment in a real-world setting of inter-group conflict in Ukraine. Through comparisons of Ukrainians residing in and outside the conflict-ridden regions of the country during the height of the Crimea crisis, we were able to explore how a naturally induced inter-group conflict maps onto subjects' answers in our survey and, hence, their subtle preferences for leader dominance. In support of our argument, our analyses revealed that *only* subjects who exhibit an offensive and Fight-related response to the Crimea crisis display stronger preferences for the dominant leader face in the survey. Importantly, this relationship between Fight-related response and leader preferences is not present among subjects living outside the conflict regions of Ukraine.

In short, results across the three tests show that preferences for dominant styles of leadership are primarily a product of (1) contexts characterized by inter-group conflict and (2) predispositions for valuing group-based conflict and dominance in society and following aggressive and offensive strategies rather than submissive and defensive strategies. The rise of dominant leaders, it seems, is a signal of widespread, popular commitment to social conflict. We encourage future research to pursue how these insights about the psychological underpinnings of follower preferences for leader dominance map onto larger historical and contextual patterns.

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Tables

TABLE 1.   Existing studies on contextual and dispositional effects on preferences for dominance-related traits in leaders and political candidates

	Contextual effect	**Dispositional effects**
General trait evaluations	Terrorist attack vs. good times[1,2] Degree of societal threat[3,4]	Partisanship (US)[5]
Facial appearance	War vs. Peace[6,7,8,9,10, 11, 12] Inter-group Competition vs. Cooperation[13,14] Conflict vs. No-Conflict[12, 15, 16]	Ideology[12, 15, 16, 17] Partisanship (US)[18, 19] SDO[17]
Vocal appearance	Wartime vs. general national election[20]	Partisanship (US)[21] Ideology[21] SDO[21] Competitive Jungle World View[21]

[1]Merolla & Zechmeister (2009a); [2]Merolla & Zechmeister (2009b); [3]McCann (1997); [4]McCann (1991); [5]Barker, Lawrence & Tavits (2006); [6]Little, Burriss, Jones & Roberts (2007); [7]Little & Roberts (2012); [8]Little, Roberts, Jones & DeBruine (2012); [9]Little (2014); [10]Hall, Goren, Chaiken & Todorov (2009); [11]Re, DeBruine, Jones & Perrett (2013); [12]Berinsky, Chatfield & Lenz (2015); [13]Spisak et al. (2012a); [14]Spisak et al. (2012b); [15]Laustsen & Petersen (2015); [16]Laustsen & Petersen (2016); [17]Samochowiec, Wänke & Fiedler (2012); [18]Carpinella, Hehman, Freeman & Johnson (2015); [19]Olivola, Sussman, Tsetsos, Kang & Todorov (2012); [20]Tigue, Borak, O'Connor, Schandl & Feinberg (2012); [21]Laustsen, Petersen & Klofstad (2015)

Figures

FIGURE 1   *Facial stimuli used for leader choice in the Eastern European sample*

Non-dominant face   **Dominant face**
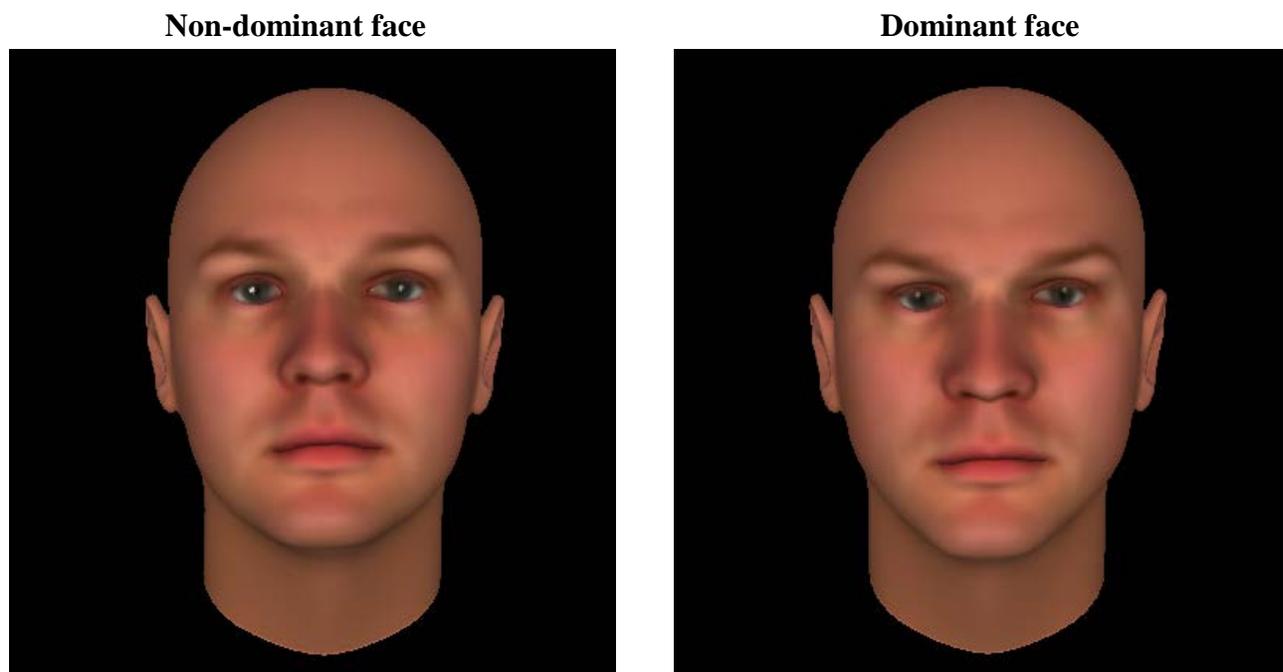
Note: Faces reused from Laustsen & Petersen (2016) and originally taken from the open access face database created by Oosterhof and Todorov (2008).

FIGURE 2   *Proportions of respondents choosing the dominant leader face across the three contextual conditions. Bars show proportions for the neutral Control condition (to the left), the No-Conflict condition (in the middle) and the Conflict condition (to the right). P-values from t-tests and dashed lines are 95% CIs.*
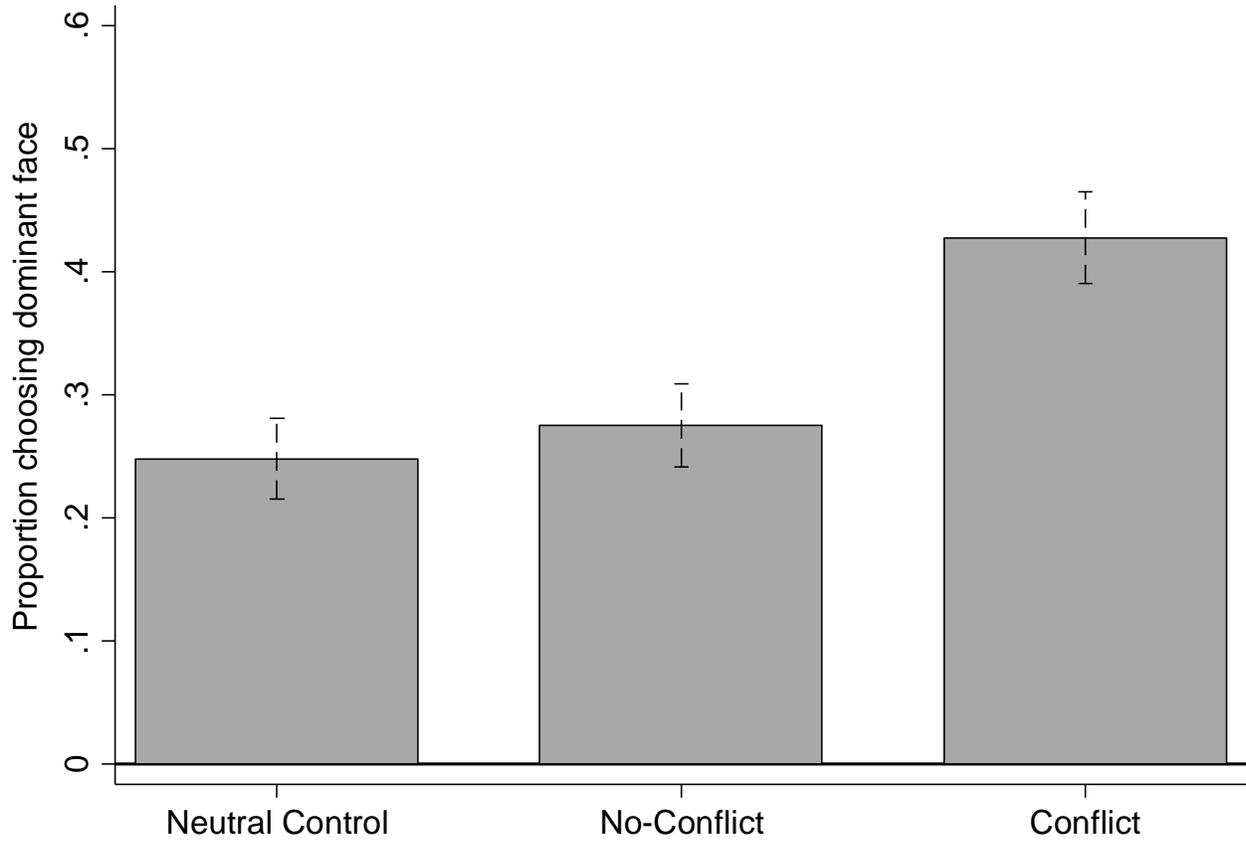
Note: Subjects per condition: $N_{Control} = 669$; $N_{No-Conflict} = 669$; $N_{Conflict} = 671$.

FIGURE 3   *Predicted probability for choice of the dominant leader face across levels of Social Dominance Orientation. Solid black line is the estimated probability, dashed lines indicate 95% CIs, and vertical grey lines mark the 5th and 95th percentiles.*
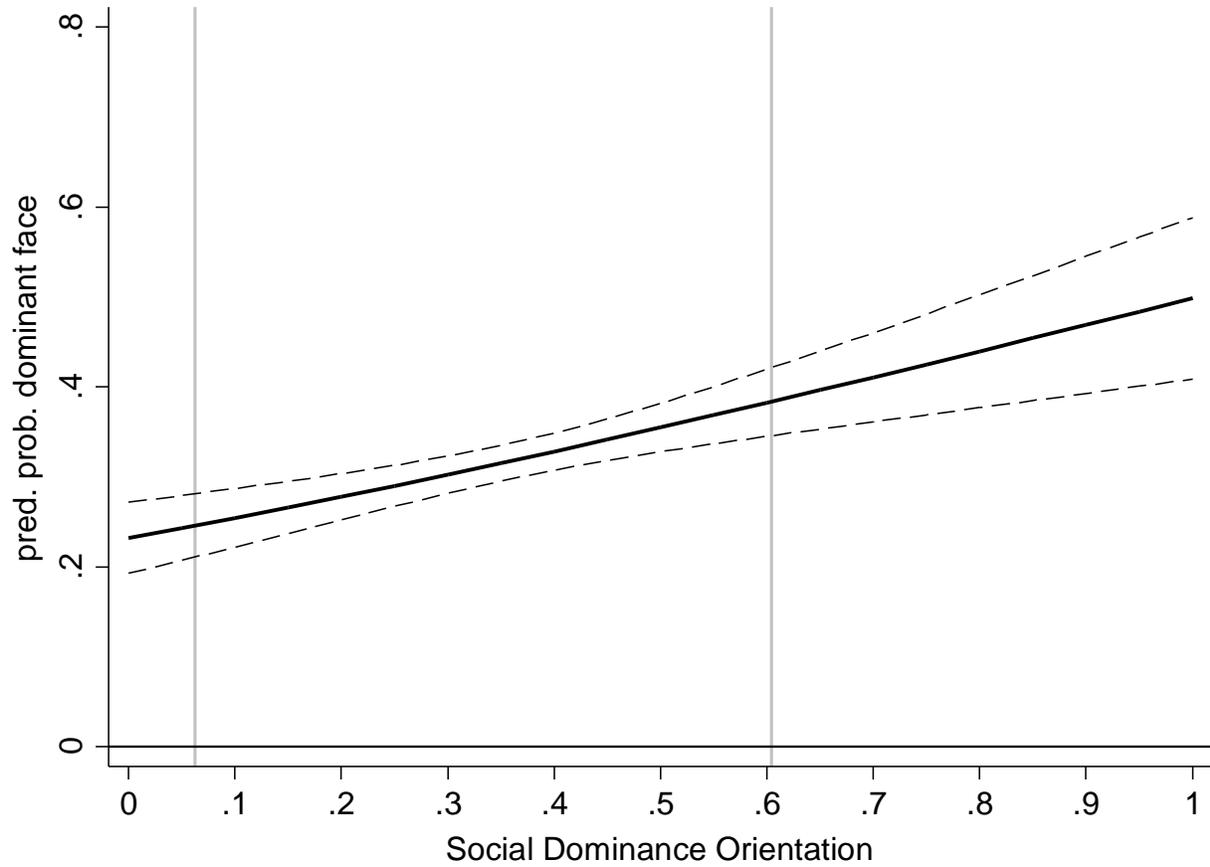
FIGURE 4   *Predicted probability for choice of the dominant leader face based on respondents'*
             chosen strategy in the Hawk-Dove game (Dovish vs Hawkish). Bars are estimated
             probabilities and dashed lines are 95% CIs.
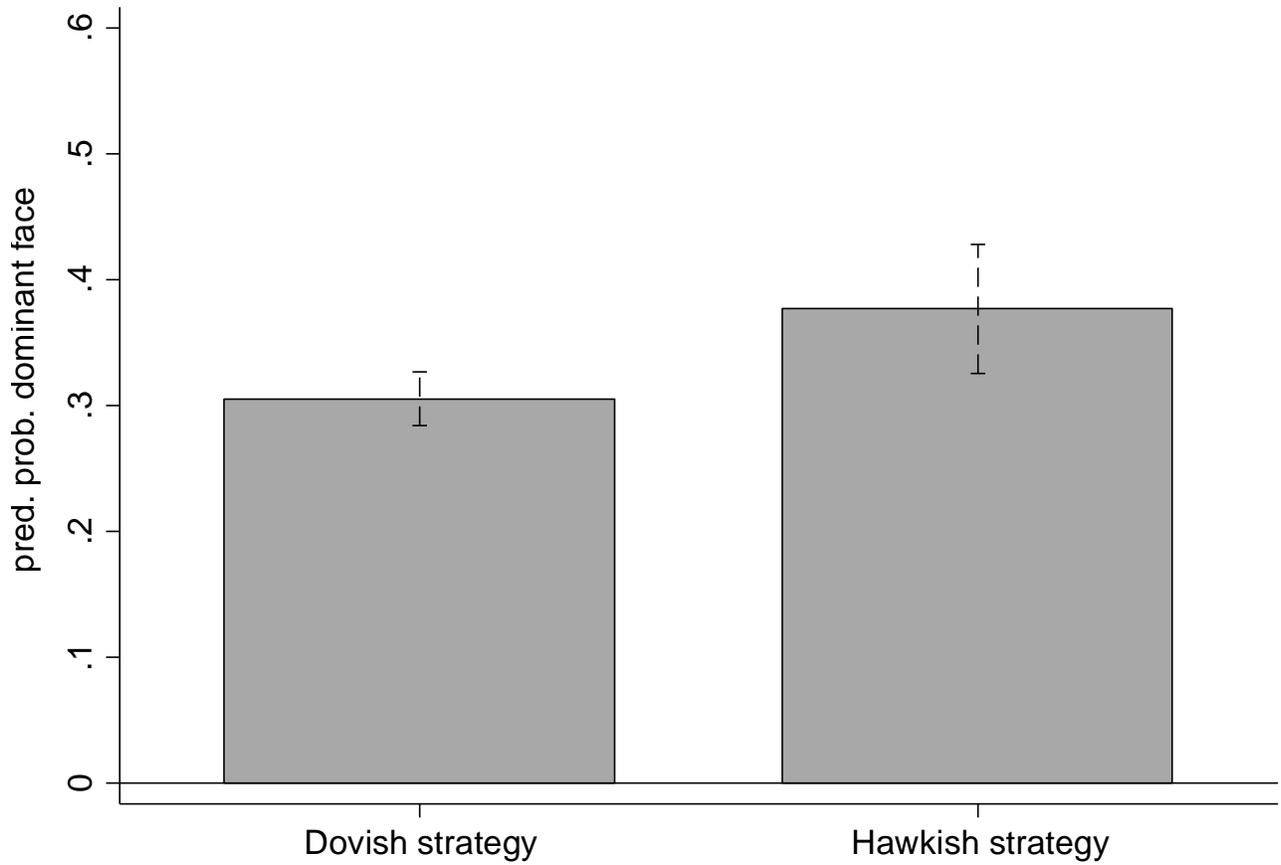
FIGURE 5   *Average marginal effects of Fight- and Flight-related emotions, respectively, on probability for choice of the dominant leader face. Left-hand panel shows effects for the No-Conflict region of Ukraine, while the right-hand panel shows effects for the Conflict region of Ukraine. Bars are average marginal effects and dashed lines are 95% CIs.*
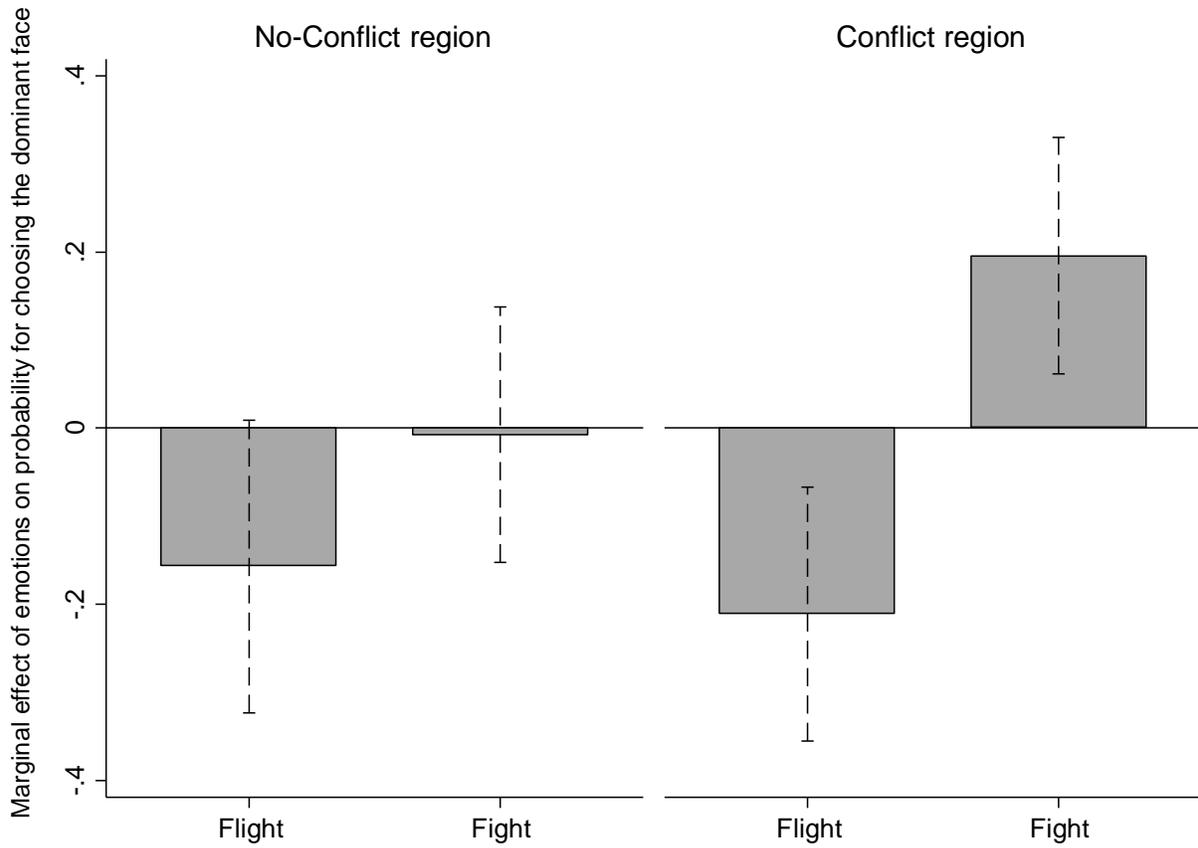
Supplementary Materials

Perceived Conflict and Leader Dominance:

Individual and Contextual Factors Behind

Preferences for Dominant Leaders

Contents

S.1 Descriptive statistics for the Eastern European sample

TABLE S.5   Descriptive statistics for the Eastern European sample employed for exploring the political psychology of preferences for dominant leadership. Means and standard deviations are reported for continuous variables while proportions (percentages), falling in each category, are reported for categorical variables.

	Descriptives
Gender	
- Female	51.6
- Male	48.4
Age	M = 38.1, SD = 12.2
Education	
- Primary School or High school	1.2
- Basic Vocational Training	9.5
- Secondary school	27.1
- Bachelor's degree	41.4
- Master degree/Science degree and Doctorate	20.9
Regional Belonging	
- Poland	50.0
- No-Conflict Ukraine	24.8
- Conflict Ukraine	25.1
Experimental Conditions	
- Control condition	33.3
- No-Conflict condition	33.3
- Conflict condition	33.4
Ideology (0-1 scale)	M = 0.51, SD = 0.21
SDO (0-1 scale)	M = 0.35, SD = 0.17
RWA (0-1 scale)	M = 0.55, SD = 0.13
Hawk-Dove Game Behavior	
- Dovish strategy	83.9
- Hawkish strategy	16.1
Fight-related Emotions	M = 0.42, SD = 0.29
Flight-related Emotions	M = 0.55, SD = 0.28
Identification with Poland/Ukraine	
- Identification Poland (N=1,005)	M = 0.84, SD = 0.20
- Identification Ukraine (N=1,004)	M = 0.80, SD = 0.28
Identification with Russia	M = 0.31, SD = 0.32
Identification with Europe	M = 0.53, SD = 0.19
N	2,009

S2. Full vignettes and other information on materials from the experiment

Below are first English versions of the three experimental conditions. Subsequently, we provide more information about the facial materials used in the experiment.

Full texts for the vignettes employed in the experiment

In all three conditions respondents read the following sentence and choose between the two faces shown in Figure 1 in the main text: "Below are two persons. Who would you prefer as the leader of your tribe?"

Neutral condition

Imagine that you belong to a small-scale tribal society residing in the middle of the jungle. Your village is comprised of ten families who number 90 people in total and live in huts in a clearing in the forest. Your diet is based on meat from fishing and hunting, fruits gathered in the surrounding jungle, and vegetables grown in small gardens.

No-conflict condition

Imagine that you belong to a small-scale tribal society residing in the middle of the jungle. The tribe's village is located near a river from where you get drinking water. However, the rainy season has made the water level rise dramatically. In order to control the water and steer it away from the village, all fellow tribesmen have agreed upon constructing a dam. Every single member of the tribe has different talents and skills to contribute to the construction of the dam and the collaborative endeavor needs to be carefully coordinated in order to build the most solid dam possible. Therefore, a good leader to oversee and coordinate the construction of the dam is important.

Conflict condition

Imagine that you belong to a small-scale tribal society residing in the middle of the jungle. The tribe's village is located in close proximity to another tribe. For a long time, the relationship between your tribe and the other tribe has been extremely tense. Both tribes try to secure the right to an important hunting ground located between the two villages. You and your fellow tribesmen anticipate that war can break out anytime and that the enemy will show no mercy. You

have to win the war. Therefore, a good leader, who can ensure that your tribe is victorious, is important.

Information on leader faces used in the experiment

After reading the vignettes, subjects chose their favored leader from among digital images of two male faces varying only with respect to facial dominance (see Figure 1 in the main text). Specifically, we used two versions of the same male face generated to vary two standard deviations in the more or less dominant direction, respectively, from a dominance-neutral version of the face. Faces were taken from an open access database maintained by Oosterhof & Todorov (2008). The same faces were used in Laustsen & Petersen (2016). Here a rating study demonstrated that the dominant face is perceived as more dominant and physically strong and as less friendly and attractive than the non-dominant face. Because attractive individuals are generally favored as leaders (e.g. Berggren, Jordahl & Poutvaara, 2010; Laustsen, 2014), the higher attractiveness of the non-dominant face would increase the appeal of this face and, hence, provide a conservative test of our claim that preferences for dominant faces are increased under conflict.

S3. Items used for SDO and RWA scales.

Social Dominance Orientation (SDO):

Items consist of the short 8-item version of the SDO-7 scale following Ho et al. (2016) (α = 0.721). Subjects answered the 8 items on the following 7-point scale: 1 = Strongly oppose; 2 = Somewhat oppose; 3 = Slightly Oppose; 4 = Neutral; 5 = Slightly favor; 6 = Somewhat favor; 7 = Strongly favor. The 8 Items (shown in random order) are:

- *An ideal society requires some groups to be on top and others to be on the bottom.*

- *Some groups of people are simply inferior to other groups.*

- *No one group should dominate in society.*

- *Groups at the bottom are just as deserving as groups at the top.*

- *Group equality should not be our primary goal.*

- *It is unjust to try to make groups equal.*

- *We should do what we can to equalize conditions for different groups.*

- *We should work to give all groups an equal chance to succeed.*

Rightwing Authoritarianism (RWA):

Items consist of a balanced subset of 8 items chosen form the RWA scale introduced by Zakrisson (2005) and form a somewhat reliable scale ($\alpha = 0.522$). Subjects answered the 8 items on a 7-point scale marked by the following anchors: 1 = Strongly disagree; 7: Strongly agree. The 8 items (shown in random order) are:

- Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people
- Our society would be better off if we showed tolerance and understanding for untraditional values and opinions
- It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material
- Our forefathers ought to be honored more for the way they have built our society, at the same time we ought to put an end to those forces destroying it
- There are many radical, immoral people trying to ruin things; the society ought to stop them
- It is better to accept bad literature than to censor it
- The situation in the society of today would be improved if troublemakers were treated with reason and humanity
- If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within

In order to improve scale reliability and to perform a robustness analysis with a more reliable RWA measure, we formed an alternative RWA measure based on the same items except for number 3. This leads to a slight improvement in scale reliability ($\alpha=0.582$) and further analyses show that leaving any more items out does not lead to similar improvements in reliability. See Supplementary Materials S.8 below for robustness analyses employing the RWA measure based on the seven remaining items.

S.4 Full description of Hawk-Dove game to respondents

Below we display an English language version of the full description of the Hawk-Dove game from the Polish part of the survey.

Finally, we want to investigate how people make economic decisions. Especially, we want to explore how economic choices are made between people who don't know each other. Therefore, you are asked to carefully read the text below. Your choice can potentially be translated into real money that will be paid to you and a fellow participant.

In this part of the survey you are randomly paired with another participant. You will not get to know who this other participant is, and, likewise, the other participant will not get to know who you are.

Imagine that both of you receive 300 PLN. This money belongs to each of you, respectively. But you can attempt to claim some of the money of the other participant. The same applies to the other participant. He or she can also attempt to claim some of your money.

Hence, you have two possibilities:

- *Possibility A: You decide to leave the other participant alone and do not claim the player's money.*
- *Possibility B: You decide to claim the other participant's money.*

The actual outcome will depend jointly on the decisions made by you and the other participant.

If none of you choose to claim each other's money (i.e., you both choose Possibility A), then there will be no change and both of you will receive 300 PLN.

If you choose Possibility A and leave the participant alone but the other participant choose Possibility B and tries to claim your money, you will lose half of your money. This means that

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you in the end will receive 1/2 * 300 PLN = 150 PLN. The other participant, in contrast, will get his or her money doubled and will receive 2 * 300 PLN = 600 PLN.

In reverse, if you choose Possibility B and claim the other participant's money but the other participant choose to leave you alone, you will double your money. This means that you in the end will receive 2* 300 PLN = 600 PLN. The other participant, in contrast, will lose half of his or her money and will receive 1/2 * 300 PLN = 150 PLN.

Finally, if both you and the other participant choose Possibility B and try to claim each other's money, then both of you will lose all your money. This means that no one receives any money at all.

When the survey is finished, we will randomly draw one pair of participants. These two participants will be paid in accordance with their choices between Possibility A and Possibility B. Your decision will therefore potentially affect the real amount of money that you will receive for participating in this survey. Therefore, consider carefully which Possibility you follow!

Which Possibility do you choose?

1. *Possibility A: I decide not to claim the other participant's 300 PLN*
2. *Possibility B: I decide to claim the other participant's 300 PLN*

S.5 Descriptives and intercorrelations of variables for the full sample

Table S.5 below reports means, standard deviations, Cronbach's alpha, α (for scales) and intercorrelations for variables applied in the analyses and relevant background demographics.

TABLE S.5   Descriptive statistics for the full Eastern European (Polish and Ukrainian parts) sample employed in the study. Table reports means and standard deviations for each variable and the intercorrelation between variables.

	1	2	3	4	5	6	7	8	9
1. SDO	-								
2. RWA	-0.068**	-							
3. Ideology	0.089***	0.012	-						
4. Hawk-Dove Game	0.105***	-0.020	0.031	-					
5. Fight emotions	0.047*	0.068**	0.007	0.019	-				
6. Flight emotions	0.008	0.097***	0.008	-0.026	0.505***	-			
7. Gender	-0.028	0.012	0.004	0.068**	0.011	-0.218***	-		
8. Age	-0.056*	0.043†	-0.084***	-0.002	-0.107***	-0.039†	0.171***	-	
9. Education	0.042†	0.063**	0.048*	-0.010	0.052*	0.090***	-0.120***	-0.136***	-
Mean	0.351	0.551	0.514	0.161	0.481	0.615	-	38.09	
SD	0.172	0.130	0.214	0.368	0.315	0.285	-	12.20	
α	0.721	0.522	-	-			-	-	
Number of items	8	8	1	1	2	2	1	1	1

Note: SDO = Social Dominance Orientation; RWA = Rightwing Authoritarianism. For Hawk-Dove Game the "Hawkish" and "Dovish" strategies are coded 1 and 0, respectively; for gender females are coded 0 and males 1. Education measured with 5 categories representing rising levels of education (see Supplementary Materials S.1) and used as a continuous variable in this table. Other variables are used as continuous variables.
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

S.6 Full models predicting choice of leader face from predispositions (Test 2)

Model A reported in Table S.6 below correspond to Figure 3 in the main text, while Model B correspond to Figure 4 in the main text.

TABLE S.6 *Logistic regressions for predictions of leader face from predispositions. Non-dominant and dominant face coded "0" and "1", respectively. Model A reports effects of SDO, political ideology, and RWA. Model B reports effect of Hawk-Dove Game behavior. Models control for experimental condition, gender, age, education and region. Unstandardized coefficients with standard errors in parentheses.*

	Model A		**Model B**	
SDO	1.275***	(0.300)	-	(-)
Ideology	-0.245	(0.240)	-	(-)
RWA	0.389	(0.415)	-	(-)
Hawk-Dove game				
- Hawkish strategy	-	(-)	0.342**	(0.132)
Experimental condition				
- No-Conflict	0.153	(0.128)	0.162	(0.127)
- Conflict	0.832***	(0.122)	0.811***	(0.122)
Gender				
- Male	0.242*	(0.103)	0.218*	(0.103)
Age	-0.035***	(0.005)	-0.035***	(0.004)
Education				
- Basic Vocational school	-0.885†	(0.458)	-0.934*	(0.461)
- Secondary school	-0.684	(0.435)	-0.728†	(0.437)
- Bachelor's degree	-0.827†	(0.431)	-0.849*	(0.434)
- Doctorate	-0.713	(0.446)	-0.725	0.447)
Region				
- No-Conflict Ukraine	-0.164	(0.148)	-0.172	(0.144)
- Conflict Ukraine	-0.333*	(0.151)	-0.347*	(0.142)
Constant	0.419	(0.520)	0.958	(0.458)
N	2,009		2,009	
Pseudo R^2	0.061		0.056	

Note: †p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. All p-values reported for two-tailed tests. SDO, ideology, and RWA coded 0-1 with higher values indicating more socially dominant, right-wing and authoritarian positions, respectively. Reference categories for categorical variables are Neutral control condition (experimental treatment), female (gender), Primary school or High school (education), Poland (region).

S.7 Robustness analyses for predictions of choice of leader face from Ideology (Test 2)

In the main analyses we find that subjects' ideological self-placement is unrelated to their preferences for dominant leader faces. However, one might argue that subjects in this Eastern European sample are unfamiliar and ambivalent with regards to the ideology measure and therefore potentially respond in the middle category of the scale (since there was no "Don't know" option) and that this causes the insignificant relationship (for a more general discussion of answers on scale mid-points as representations of ambivalence and uncertainty see Alvarez & Franklin, 1994). To account for this possibility, we estimated two alternative models. First, we reused the continuous ideology measure, but added a dummy variable for the scale mid-point. In this way, we take account of the possibility that the scale mid-point is used as a "Don't know" response. This model is reported in Table S.7 Model A below. Second, we estimate the potential effect of ideology using a categorical measure consisting of three categories (left-wing (all categories on the original variable below the mid-point), middle, and right-wing (all categories above the mid-point)) of ideology instead of the continuous measure employed in the main analyses. That is, by categorizing subjects based on the direction of their ideological position— rather than their exact placement—we might find some support for an ideology effect. This model is reported in Table S.7 Model B below. However, the conclusion reported in the main text is also reached based on these alternative models: SDO positively and significantly predicts preferences for the dominant leader face, whereas ideology remains an insignificantly predictor.

TABLE S.7   *Logistic regressions for predictions of leader face from predispositions. Non-dominant and dominant face coded "0" and "1", respectively. Models report effects of SDO, political ideology, and RWA. Model A employs continuous ideology variable and include a dummy variable for the scale mid-point. Model B employs a categorical ideology measure (with the mid-point category used as reference category). Both models control for experimental condition, gender, age, education and region. Unstandardized coefficients with standard errors in parentheses.*

	Model A		**Model B**	
SDO	1.263***	(0.300)	1.247***	(0.300)
Ideology (continuous)	-0.254	(0.240)	-0.254	(0.240)
Ideology mid-point			-	-
- Midpoint	-0.065	(0.103)		
Ideology (categorical)	-	-		
- Left-wing			0.077	(0.131)
- Right-wing			0.043	(0.119)
RWA	0.392	(0.414)	0.374	(0.414)
Experimental condition				
- No-Conflict	0.152	(0.128)	0.153	(0.128)
- Conflict	0.834***	(0.122)	0.833***	(0.122)
Gender				
- Male	0.235*	(0.104)	0.232*	(0.104)
Age	-0.036***	(0.005)	-0.035***	(0.005)
Education				
- Basic Vocational school	-0.865[†]	(0.459)	-0.883[†]	(0.459)
- Secondary school	-0.671	(0.435)	-0.689	(0.435)
- Bachelor's degree	-0.816[†]	(0.431)	-0.837[†]	(0.431)
- Doctorate	-0.702	(0.446)	-0.727	(0.446)
Region				
- No-Conflict Ukraine	-0.158	(0.148)	-0.160	(0.148)
- Conflict Ukraine	-0.324*	(0.152)	-0.308*	(0.151)
Constant	0.453	(0.523)	0.283	(0.514)
N	2,009		2,009	
Pseudo R^2	0.061		0.061	

Note: [†]$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. All p-values reported for two-tailed tests. SDO, ideology (continuous), and RWA coded 0-1 with higher values indicating more socially dominant, right-wing and authoritarian positions, respectively. Reference categories for categorical variables are Neutral control condition (experimental treatment), female (gender), Primary school or High school (education), Poland (region).

S.8 Robustness analyses for predictions of choice of leader face from RWA (Test 2)

In this section of the Supplementary Materials we report different alternative specifications aimed at testing the robustness of the insignificant relationship between RWA and subjects' preferences for dominant leader faces. First, in the analyses reported in Table S.8.1 RWA is measured based on only 7 items in order to improve scale reliability (see Supplementary Material S.3 above). Second, Table S.8.2 returns to the eight item measure of RWA and specifies two alternative models in which fewer other variables are controlled for (because RWA, SDO and ideology are related constructs). In Model A of Table S.8.2 SDO is not included, while Model B *excludes* all other variables than the experimental conditions when estimating the potential effect of RWA. However, in all three alternative specifications RWA remains insignificantly related to subject preferences for dominant leader faces as in the main analyses.

TABLE S.8.1 *Logistic regressions for predictions of leader face from predispositions. Non-dominant and dominant face coded "0" and "1", respectively. Model A reports effects of SDO, political ideology, and RWA. RWA measured with only seven items. Models control for experimental condition, gender, age, education and region. Unstandardized coefficients with standard errors in parentheses.*

	Model A	
SDO	1.303***	(0.301)
Ideology	-0.254	(0.240)
RWA (*seven items*)	0.650	(0.408)
Experimental condition		
- No-Conflict	0.152	(0.128)
- Conflict	0.837***	(0.122)
Gender		
- Male	0.238*	(0.103)
Age	-0.036***	(0.005)
Education		
- Basic Vocational school	-0.884†	(0.459)
- Secondary school	-0.690	(0.436)
- Bachelor's degree	-0.833†	(0.432)
- Doctorate	-0.717	(0.446)
Region		
- No-Conflict Ukraine	-0.173	(0.147)
- Conflict Ukraine	-0.351*	(0.149)
Constant	0.285	(0.523)
N	2,009	
Pseudo R^2	0.062	

Note: †p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. All p-values reported for two-tailed tests. SDO, ideology, and RWA (*seven items*) coded 0-1 with higher values indicating more socially dominant, right-wing and authoritarian positions, respectively. Reference categories for categorical variables are Neutral control condition (experimental treatment), female (gender), Primary school or High school (education), Poland (region).

TABLE S.8.2 *Logistic regressions for predictions of leader face from predispositions. Non-dominant and dominant face coded "0" and "1", respectively. Models estimate the potential effect of RWA. Model A leaves out SDO (still controlling for experimental condition, gender, age, education and region), while Model B leaves out all other variables than the experimental condition. Unstandardized coefficients with standard errors in parentheses.*

	Model A		Model B	
SDO	-	-	-	-
Ideology	-0.174	(0.238)	-	-
RWA	0.330	(0.411)	0.201	(0.377)
Experimental condition				
- No-Conflict	0.172	(0.127)	0.141	(0.125)
- Conflict	0.820***	(0.122)	0.815***	(0.119)
Gender				
- Male	0.239*	(0.103)	-	-
Age	-0.036***	(0.005)	-	-
Education				
- Basic Vocational school	-0.896†	(0.459)	-	-
- Secondary school	-0.697	(0.435)	-	-
- Bachelor's degree	-0.804†	(0.434)	-	-
- Doctorate	-0.680	(0.448)	-	-
Region				
- No-Conflict Ukraine	-0.214	(0.147)	-	-
- Conflict Ukraine	-0.400**	(0.150)	-	-
Constant	0.923†	(0.509)	-0.998***	(0.226)
N	2,009		2,009	
Pseudo R^2	0.054		0.023	

Note: †p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. All p-values reported for two-tailed tests. Ideology and RWA coded 0-1 with higher values indicating more right-wing and authoritarian positions, respectively. Reference categories for categorical variables are Neutral control condition (experimental treatment), female (gender), Primary school or High school (education), Poland (region).

S.9. Items used to measure identification as Ukrainian and Russian (Test 3)

When investigating the potential effects of geographic Conflict or No-Conflict region and Fight-related and Flight-related emotions on preferences for dominant leader faces under Test 3, we control for respondents' identification as Russians and Ukrainians in the robustness analyses reported in Supplementary Materials S.11 below. Furthermore, in the Polish part of the sample we measured identification as Poles instead, and for both the Ukrainian and the Polish parts of the sample we measured identification as Europeans. However, in the reported analyses we have not used the identification measures as Poles and Europeans.

The different identification measures are based on Thomsen, Green & Sidanius (2008) and consist of the following items:

Russian Identification:

- How strongly do you identify with Russians? 1 = "Not at all"; 7 = "Very Strongly")
- How close do you feel to Russians? (1 = "Not close at all"; 7 = "Very close")
- How often do you think about yourself in terms of Russian? (1 = "Never"; 7 = "Very often")

Ukrainian Identification:

- How strongly do you identify with Ukrainians? (1 = "Not at all"; 7 = "Very Strongly")
- How close do you feel to Ukrainians? (1 = "Not close at all"; 7 = "Very close")
- How often do you think about yourself in terms of Ukrainian? (1 = "Never"; 7 = "Very often")

Polish Identification:

- How strongly do you identify with Polish people? (1 = "Not at all"; 7 = "Very Strongly")
- How close do you feel to Polish people? (1 = "Not close at all"; 7 = "Very close")
- How often do you think about yourself in terms of Polish? (1 = "Never"; 7 = "Very often")

European Identification:

- How strongly do you identify with Europeans? (1 = "Not at all"; 7 = "Very Strongly")
- How close do you feel to Europeans? (1 = "Not close at all"; 7 = "Very close")
- How often do you think about yourself in terms of European? (1 = "Never"; 7 = "Very often")

S.10 Full models predicting choice of leader face from Conflict or No-Conflict region <u>within Ukraine</u> and Fight- and Flight-related emotions (Test 3)

Figure 5 in the main text is based on Model B reported in Table S.10 below.

TABLE S.10 *Logistic regressions for predictions of leader face from geographic region (Non-Conflict ("0") VS Conflict region ("1")) and Fight- and Flight-related emotions based on Ukrainian data. Non-dominant and dominant face coded "0" and "1", respectively. Model A reports main effect of geographic region. Model B reports interactive relationships between geographic region and Fight- and Flight-related emotions, respectively. Models control for experimental condition, gender, age, education. Unstandardized coefficients with standard errors in parentheses.*

	Model A		**Model B**	
Region				
- Conflict Ukraine	-0.152	(0.143)	-0.487	(0.345)
Fight emotions	-	(-)	-0.035	(0.357)
Region X Fight emotions				
- Conflict X Fight	-	(-)	1.049*	(0.505)
Flight emotions	-	(-)	-0.759†	(0.412)
Region X Flight emotions				
- Conflict X Flight	-	(-)	-0.336	(0.556)
Experimental condition				
- No-Conflict	0.212	(0.179)	0.229	(0.181)
- Conflict	0.767***	(0.172)	0.818***	(0.174)
Gender				
- Male	0.168	(0.148)	0.031	(0.156)
Age	-0.031***	(0.007)	-0.031***	(0.008)
Education				
- Basic Vocational school	-0.787	(0.807)	-0.822	(0.808)
- Secondary school	-0.631	(0.816)	-0.672	(0.817)
- Bachelor's degree	-0.444	(0.789)	-0.434	(0.790)
- Doctorate	-0.460	(0.790)	-0.472	(0.791)
Constant	0.421	(0.832)	0.966	(0.869)
N	1,004		1,004	
Pseudo R^2	0.037		0.049	

Note: †p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. All p-values reported for two-tailed tests. Fight and Flight related emotions coded 0-1 with higher values indicating stronger emotions. Reference categories for categorical variables are Neutral control condition (experimental treatment), female (gender), Primary school or High school (education), No-Conflict Ukraine (region).

S.11 Robustness analyses for prediction of leader face from Conflict or No-Conflict region <u>within Ukraine</u> and Fight- and Flight-related emotions (Test 3)

The models reported below correspond to robustness tests referred to in the main text for Test 3.

TABLE S.11 *Logistic regressions for predictions of leader face from geographic region (Non-Conflict ("0") VS Conflict region ("1")), Fight- and Flight-related emotions and interactions between region and emotions based on Ukrainian data. Non-dominant and dominant face coded "0" and "1", respectively. Model A controls for predispositions, Russian and Ukrainian identification. Model B further controls for interactions between identifications and geographic region. Unstandardized coefficients with standard errors in parentheses.*

	Model A		Model B	
Region				
- Conflict Ukraine	-0.555	(0.350)	-0.559	(0.706)
Fight emotions	-0.036	(0.361)	-0.046	(0.364)
Region X Fight emotions				
- Conflict X Fight	1.023*	(0.510)	1.032*	(0.512)
Flight emotions	-0.810†	(0.417)	-0.818†	(0.422)
Region X Flight emotions				
- Conflict X Flight	-0.277	(0.560)	-0.268	(0.569)
Experimental condition				
- No-Conflict	0.218	(0.183)	0.220	(0.183)
- Conflict	0.851***	(0.177)	0.853***	(0.177)
SDO	0.908*	(0.418)	0.914*	(0.419)
Ideology	-0.258	(0.375)	-0.264	(0.376)
RWA	0.741	(0.574)	0.733	(0.575)
Hawk-Dove game				
- Hawkish strategy	0.461*	(0.195)	0.462*	(0.195)
Russian identification	0.030	(0.258)	-0.011	(0.385)
Region X Russian identification				
- Conflict Ukraine X Russ. ident.	-	(-)	0.078	(0.506)
Ukrainian identification	0.150	(0.308)	0.187	(0.550)
Region X Ukrainian identification				
- Conflict Ukraine X Ukrain. ident.	-	(-)	-0.048	(0.658)
Gender				
- Male	0.032	(0.157)	0.034	(0.158)
Age	-0.029	(0.008)	-0.029	(0.008)
Education				
- Basic Vocational school	-0.850	(0.812)	-0.851	(0.813)
- Secondary school	-0.721	(0.820)	-0.724	(0.821)
- Bachelor's degree	-0.497	(0.795)	-0.499	(0.796)
- Doctorate	-0.524	(0.796)	-0.526	(0.796)
Constant	0.172	(0.984)	0.164	(1.079)
N	1,004		1,004	
Pseudo R^2	0.060		0.060	

Note: †p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001. All p-values reported for two-tailed tests. Fight and Flight coded 0-1 with higher values indicating stronger emotions. Ref. categories are Neutral control condition (experimental treatment), female (gender), Primary school or High school (education), No-Conflict Ukraine (region).

S.12 Extended Discussion of External Validity of the Findings

Below we provide more elaborate discussions of different aspects related to our findings external validity. First, we elaborate on the null-finding with respect to No-Conflict condition. Second, we discuss different issues related to the employed facial materials and whether we should expect to see similar patterns if for instance vocal cues of full body photos of potential leaders were employed in the design.

Conflict versus No-Conflict conditions and the general political situation in the society
Based on our analyses we find that only the Conflict condition moves subjects' preferences for dominant styles of leadership, whereas subjects assigned to the No-Conflict condition are no different from subjects assigned to the Neutral Control condition. However, one could argue that whether the Conflict or the No-Conflict condition moves follower preferences for dominant styles of leadership depends on the degree to which followers by default see society as conflict-ridden or cooperative. Following this logic, one might predict that in societies characterized by widespread conflict, we should see the No-Conflict condition move follower preferences towards non-dominant styles of leadership. At the same time, the present data speaks somewhat against this prediction as conflict—caused by the Crimea crisis—was very salient in at least the Ukrainian part of the sample used here. Still, as we also note under Supplementary Materials S.2 when discussing the facial materials used for the experiment, there are reasons to expect that preferences for the particular non-dominant face used in this sample is increased because of its higher attractiveness than the dominant face. However, this would ultimately bias against our prediction since more attractive leaders are shown to be preferred in general (Berggren et al. 2010; Laustsen, 2014).

External validity and the Employed Facial Materials
One might also consider the external validity of the results in terms of the specific materials used. First, it could be argued that external validity is limited by the use of slightly artificial-looking faces, and that the reuse of materials from prior work implies that conclusions are only grounded on a few, potentially idiosyncratic, faces. At the same time, it should be noted that other studies have reached similar conclusions by using faces of real politicians or by using

morphing software to create dominant and non-dominant versions of real faces (see for instance Little, 2014; Laustsen & Petersen, 2015; Bøggild & Laustsen, 2016). Regarding the reuse of materials, it should be noted that different face pairs are employed across studies from different research groups (for different faces than the ones used here, see Spisak et al. 2012a; 2012b; Little et al. 2007). Altogether this suggests that followers' larger preferences for dominant looking leaders under conflict are not only robust across countries—the finding is also robust across different types of facial materials. Nonetheless, future research should strive to expand variation in the applied face materials to also include non-white and non-Caucasian political leaders (for such an attempt see Bøggild & Laustsen, 2016). Second, one might consider if different cues (faces, voices etc.) to leader dominance will produce similar patterns in leadership preferences as outlined in the theory section. Hence, most studies in the literature have focused on facial cues. To remedy this concern, we believe that future research will benefit from directly comparing different cues to dominance—faces, voices and even body silhouettes. For instance, one might speculate if follower preferences for body photos of potential leaders follow the same pattern as the one identified here, or if such body profiles evoke more complex personality and competence inferences and, consequently, less clear context dependent preferences (see Lukaszewski et al., 2016).

S.13 References for Supplementary Materials

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