View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by LBS Research Online

This is the accepted version of the following article:

Kakkar, H, and Sivanathan N, 2017. When the appeal of a dominant leader is greater than a prestige leader, Proceedings of the National Academy of Sciences of the United States of America, vol. 114 no. 26, 6734-6739

The published version can be found here: http://dx.doi.org/10.1073/pnas.1617711114

When the appeal of a dominant leader trumps a prestige leader

Hemant Kakkar[1] & Niro Sivanathan

Department of Organisational Behaviour, London Business School, Regent's Park, London, NW1 4SA, UK.

[1] Author for correspondence: hkakkar@london.edu

Abstract

Across the globe, we witness the rise of populist authoritarian leaders – overbearing in their narrative, aggressive in behavior and often exhibiting questionable moral character. Drawing on evolutionary theory of leadership emergence – dominance and prestige as dual routes to leadership - we provide a situational and psychological account for when and why dominant leaders are preferred over other respected and admired candidates. We test our hypothesis using three studies, encompassing over 140,000 participants, across 69 countries, and spanning the past 2 decades. We find robust support for our hypotheses that under situational threat of economic uncertainty (e.g., poverty rate, housing vacancy rate, unemployment) people escalate their support for dominant leaders. Further, we find that this phenomenon is mediated by participants' psychological sense of lack of personal control. Together, these results provide the first large-scale, globally representative evidence for the structural and psychological antecedents that increase the preference for dominant leaders over their prestigious counterparts.

Significance Statement

We examine why dominant-authoritarian leaders attract support despite the presence of other admired-respected candidates. Although evolutionary psychology supports both dominance and prestige as viable routes for attaining influential leadership positions, extant research lacks theoretical clarity for when dominant leaders are preferred. Across 4 large-scale studies, we provide robust evidence for how economic uncertainty affects individuals' psychological feelings of lack of personal control, resulting in greater preference for dominant leaders. This research offers important theoretical advancements for why around the globe, authoritarian leaders from the US and Indian elections to the Brexit campaign continue to influence constituents over other admired-respected leaders.

/body

From the recent Brexit vote in the UK (1), to the resurgence of nationalism in communist China (2), to the ascend of the authoritarian Narendra Modi in India (3) to the overwhelming support for Donald Trump in the US elections (4), we are witnessing a return of populist, authoritarian leaders, with rhetoric focused on nationalism and protectionism of its indigenous citizens. Despite the general notion and research findings that indicate such individuals are often narcissistic, aggressive, and guided by a vague moral compass (5), their popularity remains steadfast even in the presence of other respected and admired candidates. This paper investigates when and why dominant leaders, despite the multitude of negative attributes associated with them, are often revered by its citizens.

We contend that preference for a dominant leader increases with uncertainty and competitive threats in one's environment. When faced with a milieu of uncertainty and the resulting psychological lack of control, individuals favor a dominant/authoritarian leader, whom they believe has the capability to brave unfavorable winds and increase their future chances of success. We draw upon relevant literatures in social psychology (6, 7), political psychology (8) and evolutionary psychology (9, 10) to develop our theoretical arguments.

A key tenet of Hogg's uncertainty theory is that individuals are motivated to reduce uncertainty – an aversive state – often perceived as a threat. Thus, when uncertainty implicates the self via group membership, those who identify more with their group are motivated to take extreme actions to overcome challenges in the environment. For instance, when faced with uncertainty, individuals support groups that are perceived as more agentic (11), capable of taking radical actions against others (12), and endorse leaders who are perceived as non-prototypical and action oriented (13), in hopes that such actions would lead to uncertainty reduction.

Similarly, Jost and colleagues (8) argued that support for right-wing authoritarianism , social dominance and political conservatism is based on a "*matching process*" whereby people support ideologies "that are most likely to satisfy their psychological needs and motives (such as needs for order, structure, and closure and the avoidance of uncertainty or threat)" (p.341).

Evolutionary psychology further illustrates that primates, including humans, organize around dominance hierarchies with an alpha leader perched at the top – a preference that is especially acute when the environment is uncertain, threatening or when there is contest among species or groups for resources (9, 10, 14–16). For instance, a study found that after removing central attributes of the faces of George Bush and John Kerry and transposing those to a neutral face, participants preferred Bush's physiognomy – associated with greater masculinity – as their leader in times of war and Kerry's physiognomy – comparatively low on masculinity – as their leader in times of peace (15). However, the most convincing studies are among animals, and those within the human population have relied on experimental manipulations and fictional scenarios to demonstrate this phenomenon. Furthermore, the phenomenon is demonstrated within a limited context relying on small samples (57 participants for the above study). Alternate to these studies, we test our hypotheses using objective macroeconomic indicators of economic uncertainty for a large representative global sample –140,595 participants from 69 countries, and draw on evolutionary origins of leadership, to provide a theoretically grounded and empirically robust explanation for why dominant leaders are preferred over their prestigious counterparts.

Dominance and prestige have been demonstrated as two distinct routes to ascend the hierarchy in order to attain influential leadership positions within groups (17). A dominance strategy necessitates an individual to be more assertive, controlling, decisive and self-assured in achieving their goals. Individuals pursuing this strategy often coerce or induce psychological fear

among other group members to attain these goals and do not worry about the cost accrued to others while doing so. They are apt at forming political coalitions and swift with decisions that help them achieve their goals and maintain their positions in their group (18). In contrast, individuals pursuing a prestige strategy, attain better social ranking by serving as cultural informational role models to others. Such individuals are not only successful in their domains but actively display and share knowledge or skills that are valuable to other group members. In return they receive respect and admiration from other group members, helping them attain a higher social rank in the group (19). The prestige path to attaining an influential position in the group hierarchy is unique to humans; individuals help in disseminating important cultural knowledge that helps others to overcome evolutionary selection pressures and increase their adaptation capabilities (20). An empirical investigation by Cheng and colleagues (17), demonstrated that both dominance and prestige are viable and alternate strategies of attaining influential positions within a social hierarchy.

We contend that when faced with uncertainty, individuals prefer a leader who is self-assured and decisive in achieving her objectives. These are characteristics that people expect to find in a dominant and authoritarian leader, compared to one who although is respected and well admired, is less willing to be forceful in pursuing her goals and commonly perceived as lacking conviction in making tough calls[2] (18, 23). Drawing on established work on environmental uncertainty and its implications on individual psychology (24–26), we contend that the uncertainty surrounding an economic downturn would result among its citizens a feeling of lack

[2] A pilot study directly tested our key assumption that dominant leaders are perceived as more agentic than prestige based leaders. We employed 8 items form the Personal Attributes Questionnaire, one of the most common operationalized measurement for the construct of agency (21, 22). Participants first read a description of a dominant vs. prestige type leader, and then rated these leaders on their perceived agency. As expected, we found a significant difference in participants' ratings, such that dominant leaders, as expected, were perceived as more agentic than prestige based leaders; $t(99)=10.51$, $M_{Dom}=4.35$ (.59), $M_{Ptg}=3.43$ (.68), $d=1.45$.

of personal control. Lack of personal control is a deeply undesirable state and people are motivated to restore it, via various compensatory strategies (27, 28). These compensatory strategies can be based on individuals' own ability or agency to overcome lost control, or their reliance on external agencies, such as governments, gods or leaders, to influence the outcome and restore a sense of agency or control on their behalf (27, 29).

For example, existing work has shown that lack of personal control increases belief in external entities that can specifically provide a sense of agency; for instance greater belief in an interventionist God as opposed to a God that is just a creator or provides meaning (30, 31). Moreover, when such external agents are challenged, for instance in the presence of a group level threat or uncertainty, individuals engage in behaviors or cognitions that are meant to increase personal control or they shift their beliefs in support of a different external entity that can help them bolster their perceived agency. Thus, when faced with political instability, participants expressed greater belief in God, a different external agent (32). Collectively, these findings highlight both group and individual level threats play an important role in affecting individual's sense of personal control. The two threats are often substitutable and function in a hydraulic fashion; threats to personal agency [external agents] increases support in external agents [increases exertion of personal control], or alternatively, shifting of support among different external entities, all with the impetus of gaining greater agency through compensatory strategies (32, 33). Along similar lines, Fritsche and colleagues (34, 35) have proposed a group based control restoration model wherein those who feel a lack of personal control due to threats in the environment, engage in ethnocentric behaviors, such as ingroup favoritism and outgroup derogation, in order to restore their sense of personal control. Moreover, echoing substitutability between group and personal threats, the authors argue that group level threats (e.g., lack of

ingroup homogeneity) leads to group members feeling a lack of personal control resulting in greater ethnocentric behaviors. Further, such behaviors are amplified for those who identify strongly with their ingroup.

Based on the above theoretical and empirical evidence, we contend that motivated to reduce the aversive state of low personal control, individuals when plagued by collective uncertainty will seek a dominant leader as a compensatory strategy to restore their sense of personal control. A dominant leader, by virtue of being perceived as decisive, assertive, self-assured, and determined to serve the interest of its members even at the cost to external members (16), are considered as more reliable in motivating individual members to take swift collective action in the face of uncertainty (23). Whereas, a prestigious leader is generally perceived as a generous and helpful individual, and hence reluctant to prioritize the interest of its members at all costs and especially at cost to other individuals (16) and thus appears as less agentic or indecisive in making difficult decisions (18). Taken together, a dominant leader provides a far stronger assurance in difficult times compared to a prestigious counterpart and affords a greater sense of agency. In short, we argue that individuals will endorse a dominant leader as opposed to a prestige leader when faced with uncertainty as a compensatory response to restore their sense of control or personal agency.

We test our hypothesis using three studies where we operationalize uncertainty using macroeconomic indices (i.e., poverty rate, housing vacancy rate and unemployment) and map that to people's preference for leaders. Further, in Study 3 we demonstrate that preference for a dominant leader is explained by people's lack of personal control over their livelihood when faced with the threat of economic uncertainty. In doing so, we highlight how the social environment shapes people's cognitive processes and preferences, thus influencing their

decisions to seek out and elect more dominant leaders, as means to regain their sense of personal control.

Results

Study 1. In Study 1 we sampled a cross-section of US citizens using Amazon Mechanical Turk (AMT) representing 46 different states (N=750, 44.13% females, M_{age}=34.61 years, *SD*=10.52) and asked for their voting preference. On the day, but prior to the start of the third presidential debate of 2016, participants indicated their voting preference between Donald Trump, Hillary Clinton or neither. In a separate pretest, employing a different sample, and candidates as the between subject condition, we first asked participants to rate the two candidates – Donald Trump and Hillary Clinton – on a validated dominance-prestige scale (5) in comparison to each other. The scale consisted of 5 items measuring prestige (e.g., "Donald Trump/Hillary Clinton is a kind of leader who is respected and admired by other members") (α=.96) and 6 items measuring dominance (e.g., "Donald Trump/Hillary Clinton is a kind of leader who often tries to get his/her own way regardless of what others may want") (α=.96)[3]. It was found that participants considered Donald Trump to be significantly higher on dominance in comparison to Hillary Clinton (F(1,118)=6.95, p=.01, d=.48, M_1=5.51, M_2=4.71). However, for prestige we found the opposite, such that participants rated Donald Trump significantly lower on prestige in comparison to Hillary Clinton (F(1,118)=12.26, p=.001, d=.64, M_1=3.54, M_2=4.68). Therefore, if our hypothesis is to be supported, we should expect participants facing economic uncertainty to prefer Donald Trump as opposed to Hillary Clinton.

After indicating their voting preference, participants reported their demographics and the zip code they live in. To rule out participants' political ideology as an alternate explanation for

[3] We use a shorter version of the original 17-item scale based on confirmatory factor analysis performed on an independent sample, using items that had a factor score greater than or equal to .60.

their voting preference, we measured their political orientation using a single item with higher values implying democratic/liberal orientation. We also controlled for participants' reported income, gender, age and the number of months/years they have lived in their reported zip code. We collected macroeconomic data for each zip code using Economic Innovation Group's (EIG) database - an independent group of economists and policymakers, interested in examining the economic markers of America's fiscal health (36). The EIG dataset contains economic indicators for more than 25,000 zip codes covering 99 percent of America. We matched data from this database to the reported zip codes in our study to examine whether economic uncertainty predicts preference for a dominant, authoritarian leader over a respected and well admired leader. Economic uncertainty was operationalized by aggregating the three key economic indicators – unemployment, housing vacancy rate and poverty rate (α=.72) – that are regularly monitored by the US treasury department to make economic forecasts and assess development in a particular region (37). Higher values of this indicator represent greater economic uncertainty.

We performed a multi logit regression with preference to vote for Hillary Clinton as the base option and examining participants' choice to vote for Donald Trump or neither of the two in comparison to the base outcome. Results revealed that economic uncertainty predicted preference for Donald Trump over and above the control variables, which included a voter's political partisanship (b=4.51, p=.021)[4]. Additionally, preferring not to vote for either of the two candidates was also significantly predicted by economic uncertainty (b=4.27, p=.008)[5]. Overall these results provide initial evidence that economic uncertainty increases preference for a dominant leader as opposed to a prestigious leader.

[4] Regression and correlation tables are presented in the online supplementary materials.
[5] Results do not change if we drop participants who preferred not to vote for Hillary Clinton and Donald Trump.

Study 2. The objective of this study was to a) assess the reliability of our findings and more importantly, b) directly assess participants' preference for a dominant or a prestige leader instead of the indirect evidence, as documented in Study 1. The design of this study was similar to Study 1. We sampled a large cross-section of US citizens using AMT, representing 50 different states (N=1403, average of 28.1 participants per state, (range 1-121), 52.49% females, M_{age}=37.96 years, *SD*=12.35) and asked them to report their preference for the leader they would like to see in power in their town or city. Participants rated their preference for a leader on the same dominance prestige scale items used in the pre-test of Study 1 ($\alpha_{Prestige}$=.89, $\alpha_{Dominance}$=.90). Further, to ensure that above effects are not influenced by participants' identification with their larger (more abstracted) physical surroundings (38), participants also rated their identification with the city or town their zip code is embedded in (α=.91) (39). As in Study 1, participants also reported income, gender, age and the number of months/years they have lived in their reported zip code. Participants' reported zip code was matched to the EIG database and the same three variables (poverty rate, unemployment and housing vacancy rate) were used to operationalize economic uncertainty (α=.71). As participants were indicating their preference for their local leader, we also controlled for geographical size of the county participants lived in using a covariate - total number of zip codes in the county.

A multilevel regression analysis with zip codes nested in each of the 50 states was performed. Regression results are presented in Table 1. When economic uncertainty in a particular zip code was included as the independent variable, a significant negative relationship with preference for a prestigious leader (*b*=-.87; *p*=.016; *Model 2*) was observed whereas a significant positive relationship in preferring a dominant leader emerged over and above the

various control variables (b=1.02; p=.035; *Model 4*)[6]. By measuring participants' preferences using validated measures of dominance and prestige, we demonstrate that increased economic uncertainty differentially affects leadership preference, whereby dominant leaders are preferred significantly more and prestigious leaders significantly less. These results among a cross-section of US participants, presents yet further evidence of how economic insecurity influences people's preference for a dominant authoritarian leader.

Study 3. In Study 3, we wanted to examine the robustness of this phenomenon more broadly, as well as explore the underlying psychological mechanism driving this effect[7]. Specifically, we contend the threat that accompanies economic uncertainty will engender among individuals a feeling of lack of personal control - an undesirable state that can be restored by looking to others, such as a dominant leader, to help rectify.

To test the above hypothesis, we collected data from two different databases – World Values Survey (WVS) and the World Development Indicators (WDI), a global macroeconomic dataset maintained by the World Bank (40). WVS is a popular database relied on by social scientists to understand changes in social and political beliefs of people across the world (41). They collect data on the same questions across approximately 100 countries representing roughly 90% of the world population. WVS has been carried out in waves between 1981 and 2014, with collection cycles distributed almost evenly across the years. We examined the entire dataset that included all our variables of interest from 1994 with a final sample of 138,323 non repeat observations across 69 countries. We combined this data with WDI database containing yearly data of macroeconomic indicators. WDI contained poverty data for only 16 out of 69 countries, and housing vacancy rate was also not available, therefore we used change in unemployment, a

[6] Correlation table is available in the online supplementary material.
[7] We also replicate the proposed psychological mechanism by experimentally manipulating personal control. See Study S1 in the online supplementary materials.

widely used variable by governments and scholars as a single lead indicator of economic health in a particular region (42–45), as the independent variable, with positive change in unemployment implying greater economic duress.

We operationalized preference for dominant leader using a single item, asking participants their opinion of "having a strong leader who does not have to bother with parliament and elections" on a 4-point scale. We reverse coded the scale such that higher values imply greater preference for a dominant leader. This measure is a conservative test of our hypothesis as the above item describes willingness to place a leader at the helm that at times is willing to disregard constitutional procedures rather than elect a leader who might be dominant but would still operate within statutory boundaries. Lack of personal control was operationalized using a question that asked participants to rate how much control they have over their lives, on a scale of 1 to 10. A similar measure has been used by others to operationalize lack of control (33). The scale was reverse coded such that higher values imply lack of personal control. We also controlled for participants' subjective social class, the income group they fall into, political beliefs (liberal or conservative), gender and age in our analysis.

Similar to Study 2, we ran a multilevel analysis as participants were nested within each country. We find that as unemployment increases, preference for a dominant leader also increases (b=.01; p<.001; *Table 2, Model 4*). We also find that rate of change in unemployment is positively associated with lack of control among participants (b=.10; p<.001; *Table2*, *Model 2*). More importantly when both change in unemployment rate and lack of control are entered together in the regression equation, both variables predict preference for a dominant leader over and above the control variables (*Table 2, Model 5*). We tested for lack of control as a mediator by running the bootstrap procedure with 5000 iterations. The indirect effect of unemployment

rate via lack of control, on preferring a dominant leader, was positive and significant (b=.0002, p<.001) with bias corrected 95% CI not containing zero [.0001, .0004].

To further establish that endorsing a dominant leader when faced with collective uncertainty is a compensatory strategy to restore a sense of personal control, we tested whether such effects were amplified for those who identified more strongly with their ingroup. In line with the group based control restoration model (34) and uncertainty-identity theory (6), our documented effects should be stronger for group members who identify more strongly with their ingroup. Accordingly, we operationalized social identity using a self-report item on the World Values Survey (WVS), that asks participants to report "how proud they are of their nationality" on a 5-point scale. As predicted, a first stage moderated mediation bootstrap analysis revealed that the effect of economic uncertainty via lack of personal control on endorsing a dominant leader was stronger for those who identified highly with their country (b=.0007, p<.001, *95%CI* [.0005, .0009]) than those who identified less (b=.0003, p<.001, *95%CI* [.0002, .0005]). Further, the difference in indirect effects for high and low level of identification was also significant (b=.0003, p<.001, *95%CI* [.0002, .0005]). This analysis provides further evidence in support of our theoretical model.

Overall, this study not only replicates findings from Studies 1 and 2, but also provides convincing evidence that economic uncertainty increases preference for a dominant leader because of participants' lacking a sense of personal control over their livelihood. By testing our theory across a large global sample and across a long temporal window, Study 3 further increases our confidence in the robustness and the generalizability of our results.

Discussion

Much ink has been spilled by political pundits proffering the appeal and success of the forceful leadership of Nigel Farage's "take back control" Brexit call, and even greater ink continues to flow in providing a logical architecture for the wide appeal of the assertive leadership of Donald Trump. Alternate to these political, and personality laden insights, we set out to empirically examine, guided by evolutionary theory for leadership emergence, the recent spate of global appeal for dominant leaders. Our central assertion is that the psychological threat imposed by one's environment, increases the appeal of an external agent who could help assuage this threat, and the psychological sense of lacking control over one's life. Specifically, people prefer a leader who is perceived as decisive, authoritative and dominant in assuaging this threat, over a respected, knowledgeable, admired and permissive one. As hypothesized, across three studies, we find consistent, robust effect for individuals to prefer dominant over prestige leaders both locally (within towns and cities) and nationally (country level) when faced with the situational threat of economic uncertainty.

In Study 1 and Study 2, utilizing a survey, and a large dataset measuring the economic health of 25,000 zip codes in the US, we find US participants faced with uncertainty stemming from increased economic struggle, show a preference for dominant leaders to hold power within their respective cities, towns and country and reject their respected and admired counterparts. Then employing a longitudinal dataset of over 138,000 participants, across 69 countries, spanning 20 years, and controlling for political partisanship, we again find evidence of the phenomenon; when faced with the threat of increased unemployment, participants increase their support nationally for dominant leaders. Finally, and in line with recent experimental research that demonstrates situational reduction in perceived control strengthens people's resolve in powerful external agents (33), we find the psychological sense of lacking control, that naturally

results from the economic hardship of unemployment, mediates people's preference for dominant leaders *globally*. Together, these results provide the first large-scale, globally representative, evidenced based support for the structural and psychological antecedents that increase preference for dominant over prestigious leaders.

Finally, we expect the effect of uncertainty via lack of personal control in supporting a dominant leader to generalize beyond economic indicators to other uncertainties that challenge a group's agency[8] (for e.g. war, terrorism, etc.). Crucially however, we only expect these results for epistemic uncertainty, and not for aleatory uncertainty (46, 47). Epistemic uncertainty is one that with some effort and due diligence can be known in advance and managed better whereas aleatory uncertainty comprises of random events (e.g., earthquakes) that cannot be anticipated and are thus beyond human control. Thus, our effects should extend to other group level threats that are perceived as more epistemic and thus threaten individual's personal control, and less so to those aleatory in nature. This could be an important boundary condition to be examined in future research. Finally, the partial mediation of personal control found in Study 3, leaves open the possibility of additional psychological mechanisms contributing to the effect, which warrants future research.

In conclusion, this research beyond providing a theoretically grounded and evidence based insight to the psychological impetus for supporting the likes of Farage, Trump and Modi, the results hold important social implications. Specifically, the results highlight how economic indicators of the health of a nation, not only have direct impact on its citizens and their well-being, but also shape their preference for those who hold office. Moreover, these leaders voted into power in turn set economic policies that shape the next generation's well-being and preferences.

[8] See Study S2 in the online supplementary materials.

Methods

Study 1

Participants. A total of 777 participants provided complete responses of which 9 participants completed the study more than once (duplicate IP address) and 17 indicated English as not their first language. Hence these 26 observations (3.53%) were not included in the final analysis and our final sample consisted of 750 participants (1 participant did not provide political orientation rating and hence was automatically excluded from the regression analysis). Results hold if we include participants who indicated English as not their first language.

Study 2

Participants. A total of 1441 participants provided complete responses of which 25 participants completed the study more than once (18 with duplicate IP address and 7 with duplicate MTurk ID) and 13 indicated English as not their first language. Hence these 38 observations (2.64%) were not included in the final analysis and the final sample consisted of 1403 participants. Results hold if we include participants who indicated English as not their first language.

Data availability. The authors declare that all data supporting the findings, study protocols and stimulus materials are available publically at https://osf.io/5xez4/.

Ethics Statement. The ethics approval for this project was provided by London Business School as per the school's guidelines. In line with ethical guidelines, all participants provided informed consent before taking the studies.

Acknowledgement. We would like to thank Selin Kesebir, the two anonymous reviewers and the editor for their helpful suggestions and feedback.

References

1. The Economist (2016) Explaining the Brexit vote.

2. Wang Z (2016) The New Nationalism: "Make My Country Great Again." *The Diplomat*.

3. Laughland O, Weaver M (2014) Indian election result: 2014 is Modi's year as BJP secures victory. *The Guardian*.

4. Ball M (2016) Is the Tea Party Responsible for Donald Trump? *The Atlantic*. Available at: http://www.theatlantic.com/politics/archive/2016/05/did-the-tea-party-create-donald-trump/482004/ [Accessed October 14, 2016].

5. Cheng JT, Tracy JL, Henrich J (2010) Pride, personality, and the evolutionary foundations of human social status. *Evol Hum Behav* 31(5):334–347.

6. Hogg MA (2007) Uncertainty–Identity Theory. ed Psychology B-A in ES (Academic Press), pp 69–126.

7. Hogg MA, Adelman J (2013) Uncertainty–Identity Theory: Extreme Groups, Radical Behavior, and Authoritarian Leadership. *J Soc Issues* 69(3):436–454.

8. Jost JT, Glaser J, Kruglanski AW, Sulloway FJ (2003) Political conservatism as motivated social cognition. *Psychol Bull* 129(3):339–375.

9. de Waal FD (1989) *Peacemaking Among Primates* (Harvard University Press, Cambridge, Mass.). Reprint edition.

10. de Waal F (1989) *Chimpanzee Politics: Power and Sex among Apes* (Johns Hopkins University Press, Baltimore, Md.).

11. Hogg MA, Sherman DK, Dierselhuis J, Maitner AT, Moffitt G (2007) Uncertainty, entitativity, and group identification. *J Exp Soc Psychol* 43(1):135–142.

12. Hogg MA, Meehan C, Farquharson J (2010) The solace of radicalism: Self-uncertainty and group identification in the face of threat. *J Exp Soc Psychol* 46(6):1061–1066.

13. Rast III DE, Gaffney AM, Hogg MA, Crisp RJ (2012) Leadership under uncertainty: When leaders who are non-prototypical group members can gain support. *J Exp Soc Psychol* 48(3):646–653.

14. Spisak BR, Nicholson N, van Vugt M (2011) Leadership in Organizations: An Evolutionary Perspective. *Evolutionary Psychology in the Business Sciences*, ed Saad G (Springer Berlin Heidelberg), pp 165–190.

15. Little AC, Burriss RP, Jones BC, Roberts SC (2007) Facial appearance affects voting decisions. *Evol Hum Behav* 28(1):18–27.

16. Halevy N, Chou EY, Cohen TR, Livingston RW (2012) Status conferral in intergroup social dilemmas: Behavioral antecedents and consequences of prestige and dominance. *J Pers Soc Psychol* 102(2):351–366.

17. Cheng JT, Tracy JL, Foulsham T, Kingstone A, Henrich J (2013) Two ways to the top: Evidence that dominance and prestige are distinct yet viable avenues to social rank and influence. *J Pers Soc Psychol* 104(1):103–125.

18. Maner JK, Case CR (2016) Dominance and Prestige: Dual Strategies for Navigating Social Hierarchies. *Advances in Experimental Social Psychology*, eds Olson JM, Zanna MP (Academic Press), pp 129–180.

19. Cheng JT, Tracy JL (2014) Toward a Unified Science of Hierarchy: Dominance and Prestige are Two Fundamental Pathways to Human Social Rank. *The Psychology of Social Status*, eds Cheng JT, Tracy JL, Anderson C (Springer, New York), pp 3–27.

20. Henrich J, Gil-White FJ (2001) The evolution of prestige: freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evol Hum Behav* 22(3):165–196.

21. Helgeson VS (1994) Relation of agency and communion to well-being: Evidence and potential explanations. *Psychol Bull* 116(3):412–428.

22. Spence JT, Helmreich RL, Stapp J (1974) The Personal Attributes Questionnaire: A measure of sex role stereotypes and masculinity-femininity (Journal Supplement Abstract Service, American Psychological Association).

23. Laustsen L, Petersen MB (2015) Does a competent leader make a good friend? Conflict, ideology and the psychologies of friendship and followership. *Evol Hum Behav* 36(4):286–293.

24. White RW (1959) Motivation reconsidered: The concept of competence. *Psychol Rev* 66(5):297–333.

25. Averill JR (1973) Personal control over aversive stimuli and its relationship to stress. *Psychol Bull* 80(4):286–303.

26. Tomaka J, Blascovich J, Kelsey RM, Leitten CL (1993) Subjective, physiological, and behavioral effects of threat and challenge appraisal. *J Pers Soc Psychol* 65(2):248–260.

27. Landau MJ, Kay AC, Whitson JA (2015) Compensatory control and the appeal of a structured world. *Psychol Bull* 141(3):694–722.

28. Whitson JA, Galinsky AD (2008) Lacking Control Increases Illusory Pattern Perception. *Science* 322(5898):115–117.

29. Kay AC, Whitson JA, Gaucher D, Galinsky AD (2009) Compensatory Control: Achieving Order Through the Mind, Our Institutions, and the Heavens. *Curr Dir Psychol Sci* 18(5):264–268.

30. Kay AC, Moscovitch DA, Laurin K (2010) Randomness, Attributions of Arousal, and Belief in God. *Psychol Sci* 21(2):216–218.

31. Laurin K, Kay AC, Moscovitch DA (2008) On the belief in God: Towards an understanding of the emotional substrates of compensatory control. *J Exp Soc Psychol* 44(6):1559–1562.

32. Kay AC, Shepherd S, Blatz CW, Chua SN, Galinsky AD (2010) For God (or) country: The hydraulic relation between government instability and belief in religious sources of control. *J Pers Soc Psychol* 99(5):725–739.

33. Kay AC, Gaucher D, Napier JL, Callan MJ, Laurin K (2008) God and the government: Testing a compensatory control mechanism for the support of external systems. *J Pers Soc Psychol* 95(1):18–35.

34. Fritsche I, Jonas E, Kessler T (2011) Collective Reactions to Threat: Implications for Intergroup Conflict and for Solving Societal Crises. *Soc Issues Policy Rev* 5(1):101–136.

35. Fritsche I, et al. (2013) The power of we: Evidence for group-based control. *J Exp Soc Psychol* 49(1):19–32.

36. Economic Innovation Group (2016) *The Distressed Communities Index* (EIG, Washington, DC, US) Available at: http://eig.org/about-us [Accessed October 14, 2016].

37. US Department of Treasury Monitoring the Economy. Available at: https://www.treasury.gov/resource-center/data-chart-center/monitoring-the-economy/Pages/Monitoring-the-Economy.aspx [Accessed October 22, 2016].

38. Ellemers N, Spears R, Doosje B (1999) *Social identity: Context, commitment, content* (Blackwell Science, Oxford, England).

39. Mael FA, Tetrick LE (1992) Identifying organizational identification. *Educ Psychol Meas* 52(4):813–824.

40. World Development Indicators | Data Available at: http://data.worldbank.org/data-catalog/world-development-indicators [Accessed October 14, 2016].

41. World Values Survey Association (2015) *WVS (2015). World Value Survey 1981-2015 official aggregate v.20150418.* (JDSystems, Madrid) Available at: http://www.worldvaluessurvey.org/WVSContents.jsp [Accessed October 14, 2016].

42. Calmfors L, Driffill J (1988) Bargaining Structure, Corporatism and Macroeconomic Performance. *Econ Policy* 3(6):14–61.

43. Hill SE, Rodeheffer CD, Griskevicius V, Durante K, White AE (2012) Boosting beauty in an economic decline: Mating, spending, and the lipstick effect. *J Pers Soc Psychol* 103(2):275–291.

44. Bianchi EC (2013) The Bright Side of Bad Times The Affective Advantages of Entering the Workforce in a Recession. *Adm Sci Q* 58(4):587–623.

45. Sirola N, Pitesa M (2016) Economic downturns undermine workplace helping by promoting a zero-sum construal of success. *Acad Manage J*:amj.2015.0804.

46. Fox CR, Ülkümen G (2011) Distinguishing two dimensions of uncertainty. *Perspectives on Thinking, Judging, and Decision Making: A Tribute to Karl Halvor Teigen*, eds Brun W, Keren G, Kirkebøen G, Montgomery H (Universitetsforlaget, Oslo, Norway), pp 21–35.

47. Tannenbaum D, Fox CR, Ülkümen G (2016) Judgment Extremity and Accuracy Under Epistemic vs. Aleatory Uncertainty. *Manag Sci*. doi:10.1287/mnsc.2015.2344.

48. Spencer SJ, Zanna MP, Fong, GT (2005) Establishing a causal chain: Why experiments are often more effective than mediational analyses in examining psychological processes. *J Pers Soc Psychol* 89(6):845–851.