Social Dominance in Context and in Individuals Contextual Moderation of Robust Effects of Social Dominance Orientation in 15 Languages and 20 Countries

32 AUTHORS, INCLUDING:

Maria P. Aranda
University of Southern California
40 PUBLICATIONS **650** CITATIONS

Antonio Aiello
Università di Pisa
24 PUBLICATIONS **187** CITATIONS

Kevin Durrheim
University of KwaZulu-Natal
109 PUBLICATIONS **1,536** CITATIONS

Monica Rubini
University of Bologna
39 PUBLICATIONS **513** CITATIONS

Social Psychological and Personality Science

http://spp.sagepub.com/

Social Dominance in Context and in Individuals : Contextual Moderation of Robust Effects of Social Dominance Orientation in 15 Languages and 20 Countries

Felicia Pratto, Atilla Çidam, Andrew L. Stewart, Fouad Bou Zeineddine, María Aranda, Antonio Aiello, Xenia Chryssochoou, Aleksandra Cichocka, J. Christopher Cohrs, Kevin Durrheim, Véronique Eicher, Rob Foels, Paulina Górska, I-Ching Lee, Laurent Licata, James H. Liu, Liu Li, Ines Meyer, Davide Morselli, Orla Muldoon, Hamdi Muluk, Stamos Papastamou, Igor Petrovic, Nebojsa Petrovic, Gerasimos Prodromitis, Francesca Prati, Monica Rubini, Rim Saab, Jacquelien van Stekelenburg, Joseph Sweetman, Wenwen Zheng and Kristen E. Henkel

Published by:

$SAGE

http://www.sagepublications.com

On behalf of:

Society for Personality and Social Psychology

Association for Research in Personality

European Association of Social Psychology

Society of Experimental and Social Psychology

Additional services and information for *Social Psychological and Personality Science* can be found at:

Email Alerts: http://spp.sagepub.com/cgi/alerts

Subscriptions: http://spp.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

>> OnlineFirst Version of Record - Feb 19, 2013

What is This?

Social Dominance in Context and in Individuals: Contextual Moderation of Robust Effects of Social Dominance Orientation in 15 Languages and 20 Countries

Felicia Pratto[1], Atilla Çidam[1], Andrew L. Stewart[1],
Fouad Bou Zeineddine[1], María Aranda[2], Antonio Aiello[3],
Xenia Chryssochoou[4], Aleksandra Cichocka[5], J. Christopher Cohrs[6],
Kevin Durrheim[7], Véronique Eicher[8], Rob Foels[1], Paulina Górska[5],
I-Ching Lee[9], Laurent Licata[10], James H. Liu[12], Liu Li[11], Ines Meyer[13],
Davide Morselli[8], Orla Muldoon[14], Hamdi Muluk[15],
Stamos Papastamou[4], Igor Petrovic[18], Nebojsa Petrovic[16],
Gerasimos Prodromitis[4], Francesca Prati[17], Monica Rubini[14],
Rim Saab[19], Jacquelien van Stekelenburg[18], Joseph Sweetman[19],
Wenwen Zheng[11] and Kristen E. Henkel[20]

Abstract

We tested the internal reliability and predictive validity of a new 4-item Short Social Dominance Orientation (SSDO) scale among adults in 20 countries, using 15 languages ($N = 2{,}130$). Low scores indicate preferring group inclusion and equality to dominance. As expected, cross-nationally, the lower people were on SSDO, the more they endorsed more women in leadership positions, protecting minorities, and aid to the poor. Multilevel moderation models showed that each effect was stronger in nations where a relevant kind of group power differentiation was more salient. Distributions of SSDO were positively skewed, despite use of an extended response scale; results show rejecting group hierarchy is normative. The short scale is effective. Challenges regarding translations, use of short scales, and intersections between individual and collective levels in social dominance theory are discussed.

Keywords

[1] Department of Psychology, University of Connecticut, Storrs, CT, USA
[2] University of Jaen, Jaen, Spain
[3] University of Pisa, Pisa, Italy
[4] Panteion University of Social and Political Sciences, Athens, Greece
[5] University of Warsaw, Warsaw, Poland
[6] Queens University, Belfast, Northern Ireland
[7] University of Kwa-Zulu Natal, Pietermaritzburg, South Africa
[8] NCCR "LIVES"—University of Lausanne, Lausanne, Switzerland
[9] National Cheng-Chi University, Taipei, Taiwan
[10] Université Libre de Bruxelles, Brussels, Belgium
[11] Beijing Normal University, Beijing, China
[12] Victoria University of Wellington, Wellington, New Zealand
[13] University of Cape Town, Cape Town, South Africa
[14] University of Limerick, Limerick, Ireland
[15] University of Indonesia, Jakarta, Indonesia
[16] Belgrade University, Belgrade, Serbia
[17] Alma Mater Studiorum, University of Bologna, Bologna , Italy
[18] VU University, Amsterdam, The Netherlands
[19] Cardiff University, Cardiff, Wales
[20] Central Connecticut State University, New Britain, CT, USA

Corresponding Author:
Felicia Pratto, Department of Psychology, University of Connecticut, 406 Babbidge Road, Storrs, CT 06269, USA
Email: felicia.pratto@uconn.edu

... perhaps psychology's greatest insight is that the human mind both forms and is formed by human society. Sidanius and Pratto (1999, p. 61)

Our most common collectives—families, workplaces, schools, and societies—are often hierarchical. Social hierarchy is therefore likely to influence people's orientations toward the social world. Pratto, Sidanius, Stallworth, and Malle (1994) postulated that in societies with group-based hierarchies, people would develop general psychological orientations toward hierarchy, with some people rejecting their unequal and exclusionary nature, and others endorsing their order and appropriateness. People's degree of approval of group-based hierarchies, namely social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994), correlates robustly with discrimination and prejudicial ideologies about many kinds of groups (e.g., Lee, Pratto, & Johnson, 2011). At the individual level, then, measures of SDO should correlate with attitudes regarding dominant or subordinate groups. In many societies, ethnic or religious minorities, the poor, and women are subordinated. Thus, we expect that protecting or promoting such groups will correlate negatively with SDO across many societies. We term this the *robustness hypothesis*.

Different groups are the special targets of discrimination and prejudice in different contexts. Sidanius and Pratto (1999, p. 61) hypothesized that social dominance drives would be targeted against "groups that are most salient and that define the sharpest power differential within any given society at any given time." This hypothesis implies that where a group power contest is socially highlighted, the relationship between SDO and attitudes toward treatment of that group should be even stronger. We call this the *moderation hypothesis*. In other words, the size of the relation between SDO and attitudes regarding subordinate groups should be moderated by contextual measures of group power differentiation. Notice, however, that if a group power difference is sociopolitically salient, that does not imply that there is more objective inequality between groups. For example, Lee, Pratto, and Johnson (2011) meta-analytically found that dominant and subordinate groups were more different on SDO not where objective differences were larger, but in more egalitarian contexts. The present study tests the robustness hypothesis and the moderation hypothesis using multilevel modeling with a cross-national survey. This technique simultaneously tests the robustness of correlations between SDO and attitudes concerning three target groups across nations, and whether these correlations are moderated by national indicators of group power differentiation. Using three different targets of dominance motives and a different national moderator for each, the study provides a strong, robust test of both hypotheses.

Measuring SDO

The 16-item "SDO$_6$" scale by Pratto et al. (1994) has been used in translations in many cultures (e.g., Aiello, Chirumbolo, Leone, & Pratto, 2005; Lee et al., 2011; Meyer, 2012) as a measure of propensity for prejudice. SDO correlates positively with endorsement of ideologies that legitimize inequality, such as racism, sexism, and nationalism, using a variety of culturally appropriate measures, and negatively with endorsement of ideologies that advocate for greater inclusiveness and equality, and with support for policies that would promote these principles (e.g., Lee et al., 2011).

Despite its widespread use, some problems have been posed since the scale's original testing. First, egalitarianism has become more normative in many nations (Inglehart, Norris, & Welzel, 2002), leading some to question the usefulness of assessing dominance motives (Sears, Haley, & Henry, 2008). In fact, scores on 1–5 and 1–7 SDO scales are typically skewed positively, with very few people at the midpoint or higher. However, the scale still correlates robustly with a variety of criterion variables, indicating that variability of scores on the scale is socially and psychologically meaningful (e.g., Lee et al., 2011). Second, using student samples in prejudice research has been criticized for inflating results (Henry, 2008; but see Cohrs & Stetzl, 2010 for contradictory results). Third, sometimes only a subset of the items work to predict criterion variables (e.g., Freeman, Aquino, & McFerran, 2009). Fourth, fewer items are more efficient for participants and researchers, and brief personality measures have become common (e.g., Rammstedt & John, 2007). Fifth, alternative translations of SDO items into the same language (e.g., Cohrs, Moschner, Maes, & Kielmann, 2005; Six, Wolfradt, & Zick, 2001), and use of different subsets of the 16 items, are abounding. To standardize the scale across countries, it is important to ensure that local connotations of particular words and phrases have comparable meaning, especially for languages spoken in many countries (e.g., Spanish, Arabic). Sixth, the pro-trait and con-trait aspects of the scale are confounded with item wording and may produce two factors (e.g., Six et al., 2001). Seventh, although social dominance theory was intended to pertain to all complex societies, the psychological focus of SDO, group dominance versus equality, may be a product of Western political–psychological history. If SDO primarily makes sense to people influenced by this cultural milieu, its robustness would be curtailed and new theorizing would be required.

The present research addressed these concerns as follows. First, to address whether scale truncation contributes to the apparent norm of low SDO, we employed 1–10 scales, rather than the more usual 1–5 or 1–7 (Lee et al., 2011). Second, to make the scale more efficient, we tested a new, 4-item Short Social Dominance Orientation (SSDO) scale. The items had high item-total correlations from 92 new and old SDO items in pilot studies (Pratto et al., 2012). To remove a confound in the SDO$_6$ scale, all items—rather than just the contrait items—are stated as ideals. The items selected are short and direct and were selected to cover different parts of the construct space. Thus, high inter-item correlations were not the aim. Third, we tested the 4 items using the same predictive validity criterion in multiple languages and nations approximately simultaneously. Fourth and most importantly, we tested the

Table 1. Demographic Characteristics of Samples.

Nation	N	% Women	Age Range	Median Age	Languages (N)	Recruited Via	Month/Months of 2011
Belgium	165	81	18–43	20	French	In person	December
Bosnia-Herzegovina	60	45	22–72	39	Serbo-Croatian	In person	September
China	90	47	21–41	26	Simplified Chinese	Internet	September
Greece	150	61	18–77	31	Greek	In person	December
Indonesia	66	74	18–39	20	Indonesian	In person	October
Ireland	60	56	25–68	42	English	In person	September
Italy	115	56	22–70	38	Italian	In person	August
Lebanon	130	41	18–66	28	Arabic	In person	August
The Netherlands	59	51	18–51	22	Dutch	In person	November–December
New Zealand	139	74	18–52	21	English	In person	November
Northern Ireland	122	56	18–69	46	English	Internet	December
Poland	62	42	19–26	21	Polish	In person	December
Serbia	62	55	20–59	26.5	Serbo-Croatian	In person	September
South Africa	101	50	18–67	26	English (89) IsiZulu (12)	In person	October
Spain	112	50	18–71	32	Spanish	In person	August–September
Switzerland	50	54	18–65	32	German (27) Italian (6) French (17)	Internet	August–October
Turkey	124	29	21–67	36	Turkish	Internet	August
United Kingdom	89	52	18–74	49	English	Internet	October
United States	153	46	19–78	33	English	Internet	August
Taiwan	199	50	18–87	33	Traditional Chinese	In person	September–November

scale in numerous cultural–political contexts, including Western democracies (e.g., United States, United Kingdom), non-Western democracies (e.g., Lebanon, Turkey, Taiwan), nations with recent histories of repression (e.g., South Africa, Poland), and nations with both high (e.g., Indonesia, Switzerland) and low (e.g., Ireland, Greece) ethnic and/or religious heterogeneity.

The robustness hypothesis implies that SSDO should correlate negatively with support for policies favoring different low-power groups that are found in many societies, namely the poor, minorities, and women. The moderation hypothesis implies that these correlations should be increased with national moderators that indicate greater salience of each group differentiation regarding power. Specifically, we reasoned that where economic distress is higher, economic insecurity differentiates people less, so we expected national economic distress to weaken the correlation between SDO and supporting aid to the poor. In contrast, democratic societies highlight minority rights and representation, so we expected degree of democratization to strengthen the correlation between SDO and protecting minorities. As higher education is a path to leadership in many societies, in nations in which women complete secondary school at comparable or higher rates than men, the correlation between SDO and attitudes toward women in leadership should be stronger.

Method

Participants

We recruited adult participants in culturally appropriate ways, including in-person requests, snowball sampling, and Internet surveys, seeking diversity in terms of sociopolitical attitudes, gender, age, and ethnic or religious affiliation. Each sample had some age spread, which in part reflected the age of its population. Approximately half the participants were women (see sample characteristics in Table 1).

Measures

Participant Variables. The initial version of the International Survey on Social and Political Life was written simultaneously in English, Arabic, and Spanish. Translations from English were done by local multilingual collaborators (who were social psychologists or political scientists) in discussion with the first and fourth authors. Appropriateness of the translations was ensured through back translations. After 32 unrelated questions, participants rated their opinion about "aid to the poor," "protecting ethnic/religious minorities," and "more women in leadership positions," from 1 (*strongly disfavor*) to 10 (*strongly favor*). Question about minorities designated ones appropriate to that nation (e.g., religious in Northern Ireland and Lebanon, ethnic in United States and New Zealand). Following those were instructions, rating scale, and items for the SSDO scale shown in the Appendix.

Nation Variables. Economic distress was measured by the subscale of the Failed States Index called *poverty, sharp, or severe economic decline* (Fund for Peace, 2011); no rating was available for Taiwan. The Economist Intelligence Unit's (EIU) Democracy Index for 2011 had all nations (EIU, 2011). The difference in the percent of women minus percentage of men

Table 2. Short Social Dominance Orientation Mean, Standard Deviation, Range, Internal Reliability Statistics, Tucker's Phi, and Correlations With Policy Attitudes by National Sample, With N.

| | | | | | | | | | Correlations With SSDO Scale | | |
Nation	M SDO	SD	Range	Skewness	Intraclass r	α	Tucker's Phi	N	More Women Leaders	Protecting Minorities	Aid to the Poor
Belgium	2.53	1.33	1–6.75	.75	.32	.65	.99	165	−.22**	−.49**	−.55**
Bosnia-Herzegovina	2.34	1.43	1–6.75	1.13	.31	.64	.99	60	−.21	−.20	−.23
China	2.88	1.45	1–6.50	.39	.24	.56	.98	90	−.10	−.07	−.31**
Greece	2.49	1.26	1–5.75	.77	.25	.58	.99	150	−.02	−.46**	−.24**
Indonesia	3.85	1.29	1.25–7.75	.11	.19	.48	.98	66	−.30**	−.18	.12
Ireland	3.06	1.46	1–7.00	.24	.27	.60	.99	60	−.30*	−.14	−.28*
Italy	3.33	1.57	1–6.50	.02	.32	.65	.98	115	−.10	−.40**	−.45**
Lebanon	2.74	1.40	1–5.75	.32	.16	.44	.98	130	−.30**	−.40**	−.46**
The Netherlands	3.13	1.30	1–6.33	.12	.22	.53	.99	59	−.41**	−.44**	−.23+
New Zealand	3.20	1.44	1–6.75	.43	.25	.58	.98	139	−.34**	−.42**	−.43**
Northern Ireland	3.07	1.46	1–7.00	.02	.44	.76	.98	122	−.47**	−.51**	−.31**
Poland	2.34	1.43	1–9.50	1.31	.41	.74	.98	62	−.47**	−.47**	−.44**
Serbia	4.37	1.96	1–10.00	.15	.21	.52	.96	62	−.24+	−.32*	−.10
South Africa	2.74	1.58	1–7.50	.73	.21	.52	.98	115	−.19*	−.16	−.26**
Spain	2.65	1.38	1–6.50	.61	.41	.74	.99	112	−.13	−.33**	−.39**
Switzerland	3.36	2.14	1–9.75	.98	.46	.77	.97	50	−.33*	−.62**	−.46**
United Kingdom	4.02	1.47	1–6.25	−.64	.37	.70	.98	89	−.22*	−.48**	−.37**
United States	3.44	2.02	1–9.00	.52	.51	.80	.98	153	−.50**	−.53**	−.52**
Taiwan	3.52	1.59	1–8.00	.30	.19	.48	.97	199	−.04	−.24**	−.13+
Turkey	3.12	1.57	1–7.25	.31	.18	.34	.98	124	−.24*	−.44**	−.32**
Averaged correlations weighted by N and corrected for attenuation by α									−.31**	−.48**	−.43**

Note. Scales were rated from 1 to 10.
+*p* < .10. **p* < .05. ***p* < .01.

who completed secondary education by age 25 differentiated women as potential leaders; this is the most leadership-relevant aspect of gender empowerment we found (United Nations Development Programme, 2011). This index was not available for Taiwan or Bosnia-Herzegovina. Across nations, economic distress correlated −.62 with EIU Democracy Index, .56 with gender difference in educational attainment, *p*s < .01, and economic distress correlated −.30 with the gender difference, *ns*.

Results

The Normativity of Rejection of Hierarchy

Table 2 shows that mean scores on the SSDO were decidedly on the low side of the scale, indicating normative disapproval of hegemony. Means ranged from about 2.5 (Belgium, Bosnia-Herzegovina) to around 4 (United Kingdom, Serbia), but individuals also varied within samples. Nearly the full range of the scale was used in some of the larger samples, and all samples included people at the minimum. In all samples, the maximum was above the midpoint of 5.5, but still substantially below the hypothetical high SDO end of the scale; all distributions were skewed positively, with the exception of the United Kingdom (see Table 2). Sample norms are indicated by variance. The mean and standard deviation of SDO for each country were correlated, *r*(18) = .52, *p* < .05, indicating that when responses were more normative, means were lower. As

with previous SDO scales, then, rejection of dominance and inclusion of groups was normative, but some individuals within each sample were more accepting of group hierarchy.

SSDO Scale

The mean inter-item correlation ranged from .18 to .53, with most of them in the range .20–.29 (see Table 2). This indicates that items are tapping the same construct but also sample different aspects of the construct space as intended. SSDO had good internal reliability for a brief scale; using Rodriguez and Maeda's (2006) formula, the weighted average α reliability was .65 (95% confidence interval: [.62, .67]). There was significant heterogeneity in the coefficient α between countries, *Q*(19) = 97.28, *p* < .0001 indicating differences among nations.

Principle axis factoring on the data revealed only one factor, eigenvalue = 2.00, accounting for 48% of the variance. Confirmatory factor analysis of a one-factor model of the four SSDO items indicated good fit for a large sample, CFI = .993, NFI = .992, TLI = .927, root mean square error of approximation = .06, PCLOSE = .26, $\chi^2(1)$ = 8.66, *p* < .003. Standardized loadings of the 4 items (1–4), respectively, were .45, −.60, .58, and −.43. Tucker's Phi measures congruence among the items, that is, factorial similarity, within each sample. As shown in Table 2, the Tucker's Phi for SSDO for each nation was higher than the .95

recommended (Lorenzo-Seva & ten Berge, 2006), showing that the scale is unidimensional across nations.

Translators often anticipated which items would not be effective in their contexts. In the Turkish sample, eliminating Item 2, which is negated with a suffix toward the end of the last word, would improve the α from .34 to .54. In the Taiwanese and Chinese samples, eliminating Item 4 would improve the α substantially (.48 to .67 in Taiwan, .56 to .73 in China). In these cultural contexts, superior groups are viewed as benevolent and protective (Liu, Li, & Yue, 2010), which makes the evaluative connotation of this item more ambivalent than that of other items. Suggestions about particular translations are shown in the Appendix.

Hypothesis Testing

The robustness hypothesis implies that the SSDO scale should correlate reliably negatively with attitude toward each target group. The Schmidt–Hunter method adjusts for sample size and internal reliability of the SSDO scale to average correlations across samples (see bottom of Table 2). All three were sizable, but the correlation was smaller for more women in leadership positions than for aid to the poor and protecting minorities. In some of the smaller samples (e.g., Bosnia-Herzegovina), correlations were in the expected direction but were weak enough to be unreliable. There were reliable correlations in all but one sample, and in 15 of the 20 samples, 2 or 3 of the correlations were reliable (see Table 2). Inspection of Table 2 shows that the size of correlations does not correspond to the language of administration, to major religion of the nation, to level of development of the nation, nor to method of administration.

To control for between-nation (between-sample) variance and to test the robustness hypothesis and the moderation hypothesis simultaneously, we estimated a multilevel model on each attitude. The model tests individuals' SDO scores at Level 1 and national moderators at Level 2. Using Raudenbush and Bryk's (2002) notation where Y_{ij} is the attitude, it is specified as follows:

$$Y_{ij} = \beta_{0j} + \beta_{1j}\text{SDO} + r_{ij}. \tag{1}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\text{MOD} + u_{0j}. \tag{2}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}\text{MOD} + u_{1j}. \tag{3}$$

In Equation 1, β_{1j} is the average standardized slope of SSDO on the attitude. The robustness hypothesis implies that this should be reliably negative. Each person's attitude is a function of the sample mean, β_{0j} (shown in Equation 2), the person's SSDO score (SDO), and each sample's slope (β_{1j}), which can vary between nations/samples, as shown in Equation 3. If the averaged standardized slope of SSDO is moderated by the national moderator (MOD), then the γ_{11} coefficient in Equation 3 should be reliable.

We report the average standardized slope of SSDO on the three attitudes (γ_{10}), the τ_{11} (i.e., the variance in the slope estimate between nations, which is variance of the error u_{1j}), the proportion of variance explained by SSDO, and the proportion of that variance associated with the moderator (similar to an R^2 in traditional regression analyses, but for multilevel models; Raudenbush & Bryk, 2002).

SSDO reliably predicted opposition to protecting minorities, $\gamma_{01} = -.39$, $SE = .03$, $t(18) = -16.09$, $p < .001$; this effect varied reliably between nations, $\tau_{11} = .009$, $\chi^2(17) = 31.98$, $p < .02$. The proportion of variance explained by SSDO at the individual level was .15. This effect was reliably moderated by the nation's Democracy Index, $\gamma_{11} = -.08$, $t(18) = -3.49$, $p < .01$. The proportion of variance in covariance of SSDO and attitude accounted for by the moderator was .63, which left no reliable between-nation variance in the slope of SDO, $\tau_{11} = .003$, $\chi^2(18) = 21.55$, $p = .16$. Both hypotheses were confirmed; the lower participants' SSDO, the more they advocated protecting minorities, and this effect was stronger in more democratic nations.

SSDO also reliably predicted opposition to providing aid to the poor, $\gamma_{10} = -.34$, $SE = .02$, $t(18) = -14.13$, $p < .001$, which varied reliably across countries/samples, $\tau_{11} = .01$, $\chi^2(17) = 42.43$, $p < .001$. The proportion of variance explained by SSDO at the individual level was .09. This effect was moderated by the economic distress, $\gamma_{11} = .10$, $t(16) = 3.63$, $p < .004$, which accounted for 68% of the variance explained by SSDO. In fact, the moderator left no reliable national variance, $\tau_{11} = .004$, $\chi^2(16) = 23.40$, $p = .10$. Also, in more economically distressed nations, there was greater support for aid to the poor, $\gamma_{01} = .20$, $SE = .07$, $t(16) = 3.03$, $p < .008$. These results also confirm the robustness and moderation hypotheses, with lower SDO participants endorsing more aid to the poor, but there was more consensus on such aid in economically distressed nations.

Finally, SSDO reliably predicted support for more women in leadership positions, $\gamma_{10} = -.27$, $SE = .03$, $t(16) = -10.69$, $p < .001$. This effect varied reliably across nations, $\tau_{11} = .007$, $\chi^2(17) = 78.34$, $p < .001$. The proportion of variance explained by SSDO at the individual level was .08. This effect was moderated by the educational gender difference, $\gamma_{11} = -.06$, $SE = .03$, $t(17) = -2.24$, $p < .04$, which accounted for 53% of the covariance of SSDO and attitude regarding women leadership and eliminated between-nation variance, $\tau_{11} = .003$, $\chi^2(16) = 21.94$, $p = .15$. The robustness hypothesis was confirmed; the lower participants' SSDO, the more they endorsed women in leadership positions, and this effect was stronger where women are gaining educational parity with men. The more a society has the social agenda of empowering women through education, the more endorsing women leaders differentiates lower from higher SDO people. We also tested whether the three moderators hypothesized and reported above predicted the other attitudes, but in no case was an alternative moderator effect stronger than the effect of the specified moderator.

The variances of the SSDO slopes were substantially smaller than the slopes themselves (e.g., .03 vs. −.27 for the smallest

slope regarding women leadership), and all were reliably negative as expected. Given that the policies were single-item measures, these are robust effects. The moderation effects were substantially smaller than the SSDO effects, which also indicate the robustness of the SSDO effects. Nonetheless, we found three unique demonstrations of the moderation hypothesis.

Discussion

The present findings confirm that people in group dominance societies develop general orientations toward hierarchies that influence their relations to a variety of kinds of groups (see also Pratto et al., 2000). Although people varied on the full range of the scale, these samples are decidedly opposed to group-based dominance. That orientation and immediate context lead people to act in ways that affect the hierarchy (see Pratto, Sidanius, & Levin, 2006). Given the criticisms of SDO scales and student samples, these results confirm the importance of testing theories in varied social and political conditions, including among adults and in developing nations (e.g., Henrich, Heine, & Norenzayan, 2010).

Because SDO is cross-culturally robust, moderation of its effects remain rare. The direct effects of SDO on attitudes toward three different kinds of target groups in 20 countries were over 3 times larger than the moderation effects, so the generality of SDO cannot be denied. As Pratto et al. (1994) hypothesized, sociopolitical context helps shape orientations toward group dominance. We found that increased salience of each particular group power differentiation strengthened the correlation of SDO with attitudes regarding such groups. Power salience need not mean minority status or greater inequality; more women being educated, fewer people in economic distress, and more democracy uniquely strengthened the association of SSDO with relevant policy attitudes. These results resoundingly support the idea that relations of attitudes and SDO are strengthened when group differentiation is on the sociopolitical agenda. Our findings clarify whether salience of group differentiation is due to objective inequality or politicization of power. If objective inequality increased the relationship between SDO and the attitude variables, we would have found moderation effects of the opposite signs than we did. Our moderation effects are not just a matter of temporary target group salience (e.g., Schmitt, Branscombe, & Kappen, 2003) or personal identity salience (Foels & Pappas, 2004; Wilson & Liu, 2003), but a broadscale and important political context effect.

Conducting multicountry, multilanguage research with adult participants poses particular challenges to researchers. Adults often have no patience for semiredundant items, so developing brief scales is important. The SSDO is more efficient for researchers and less tedious for participants. The SSDO scale is internally coherent, balanced, and does not confound pro-trait and con-trait item direction with whether items are phrased as ideals. However, to write balanced scales that do not confound particular words with direction of the item (e.g., a pro-trait item that uses "equality"), one may need to use negations

(e.g., Item 2). In some languages, negations are the first word or prefix (e.g., Italian); in some languages they come in the middle of the sentence, but in Turkish, negations are inserted toward the end of the last word, which makes them easy to overlook. For some participants, the instructions to consider different kinds of groups (e.g., political factions, ethnicities) required them to overgeneralize more than they preferred. Also, for some people, gender is not a "group" but a category. Finally, overtly naming equality, power, and dominance in items in order to ask people how they feel about them requires that (a) there are appropriate terms in the language, (b) that it is polite to designate these ideas, and (c) that people have considered these concepts and feel free to indicate their opinions about them, conditions which are not always the case (see Meyer, 2012).

Using few items may increase error variance. Generally, we found that construct validity results were more robust with samples of 100 or more. There may be a trade-off between the number of items and the number of participants in producing reliable results. For studies with fewer available participants, researchers may opt to use longer measures of SDO, and/or longer measures of criterion variables. Previous cross-cultural research on SDO employed attitude items that are salient and in the parlance of the local context (e.g., Pratto et al., 2000); doing so may produce stronger correlations with SSDO.

Another limitation of our study is the small number of nations, although they differ in important ways. Alternative interpretations of the present moderation effects are possible and call for additional research testing more moderators, which would require more and varied nations to be included. Unfortunately, many indices omit non-U.N. member nations, newer nations, and nations in turmoil. Least-developed nations remain understudied.

Research by numerous independent scholars using previous SDO measures has shown that the construct is useful in many different kinds of cultural and sociopolitical contexts for examining sociopolitical attitudes, intergroup prejudice, and discrimination. The present results verify that being low on SDO is far more common than being absolutely high. This is not due to truncation of response scale range; nearly the full range was used in several samples. Nonetheless, like research using previous SDO scales, we found robust differences among people on the SSDO scale that correspond to their sociopolitical attitudes. The present results demonstrate that people's orientations toward intergroup dominance or equality and inclusion, are broadly applicable in a variety of sociopolitical and cultural contexts.

As predicted by Sidanius and Pratto (1999, p. 61), the effects of SDO were moderated by objective social, political, and economic indicators of group power salience (see Pratto & Shih, 2000, for parallel experimental evidence). This interplay between individual psychological orientations and social context, central to social–personality psychology, reveals the potential dynamism of hierarchical systems. If hierarchies are contested, they are likely to invoke people's opposition to

hierarchy and may induce political action. The seeds of social change lie in this interplay: The more group power differentiation is made salient, the more people apply their orientation toward group inequality to their attitudes. If they act on that orientation, our results suggest that the vast majority would aim to reduce social inequality.

Appendix

Short SDO Scale by Language

Instructions (English version) read: There are many kinds of groups in the world: men and women, ethnic and religious groups, nationalities, political factions. How much do you support or oppose the ideas about groups in general? Next to each statement, write a number from 1 to 10 to show your opinion.

Extremely Oppose   1   2   3   4   5   6   7   8   9   10   Extremely Favor

Arabic

<div dir="rtl">

1. في وضع الأولويات, يجب الأخذ في الاعتبار كل الفرقاء.
2. لا يجب أن ندفع تجاه المساواة بين المجموعات.
3. المساواة بين المجموعات المختلفة يجب أن تكون مثال وقدوة يحتذى بها.
4. المجموعات البشرية المتفوقة يجب أن تسيطر على المجموعات الأقل حظا وشأنا.

</div>

Traditional Chinese

1. 在設定優先順序時，我們必須考量所有團體。

2. 我們不應該推動團體平等。

3. 團體平等應該是我們的理想。

4. 優勢團體應該支配劣勢團體。

Simplified Chinese

1. 在确定先，我必考所有群体

2. 我不推群体之平等

3. 群体平等成我的理想

4. 群体当支配弱群体

Dutch

1. Als we prioriteiten stellen moeten we rekening houden met alle groepen.

2. We zouden niet moeten streven naar gelijkheden tussen groepen.

3. Groepsgelijkheid zou ons ideaal moeten zijn.

4. Superieure groepen zouden minderwaardige groepen moeten domineren.

English

1. In setting priorities, we must consider all groups.

 2. We should not push for group equality.

 3. Group equality should be our ideal.

 4. Superior groups should dominate inferior groups.

French

1. En établissant les priorités, nous devons tenir compte de tous les groupes.

2. Nous ne devrions pas promouvoir l'égalité entre les groupes.

3. L'égalité entre groupes devrait être notre idéal.

4. Les groupes supérieurs devraient dominer les groupes inférieurs.

German

 1. Beim Setzen von Prioritäten müssen wir alle Gruppen berücksichtigen.

 2. Wir sollten nicht nach Gruppengleichheit drängen.

 3. Gruppengleichheit sollte unser Ideal sein.

 4. Überlegene Gruppen sollten unterlegene Gruppen dominieren.

Greek

1. Βάζοντας προτεραιότητες πρέπει να παίρνουμε υπόψη μας όλες τις ομάδες.

2. Δεν πρέπει να προωθούμε την ισότητα μεταξύ των ομάδων.

3. Η ισότητα μεταξύ των ομάδων πρέπει να είναι το ιδανικό μας.

4. Οι ανώτερες ομάδες πρέπει να κυριαρχούν στις κατώτερες ομάδες.

Indonesian

1. Dalam menetapkan prioritas, kita harus mempertimbangkan semua kelompok.

2. Kita tidak perlu memaksakan adanya kesetaraan diantara kelompok-kelompok tersebut.

3. Kesetaraan kelompok adalah sesuatu yang ideal buat kita.

4. Kelompok yang unggul sudah sepantasnya mendominasi kelompok yang lebih rendah.

IsiZulu

1. Ekuhleleni izinto ngokuba semqoka, kumele sicabangele onke amaqoqo abantu.

2. Kumele singakuqhubi ukulingana phakathi kwamaqoqo abantu.

3. Ukulingana kwamaqoqo abantu kumele kube inhloso yethu.

4. Amaqoqo abantu aphakeme kumele aphathe amaqoqo angaphakeme.

Italian

1. Nello stabilire le priorità, dobbiamo considerare tutti i gruppi.

2. Non dobbiamo spingere per l'uguaglianza per tutti i gruppi.

3. L'uguaglianza tra gruppi dovrebbe essere il nostro ideale.

4. I gruppi superiori dovrebbero dominare i gruppi inferiori.[1]

Polish

1. Wyznaczając priorytety, musimy brać pod uwagę wszystkie grupy społeczne.

2. Przeciwstawianie się opresji grup dominujących jest konieczne.

3. Równość wszystkich grup społecznych powinna być naszym ideałem.

4. Grupy lepsze powinny dominować nad grupami gorszymi.

Serbo-Croation

1. U određivanju onoga što je najvažnije, mi moramo uzeti sve grupe u obzir.

2. Ne bismo trebali podsticati jednakost među grupama.

3. Idealno bi bilo kada bi postojala jednakost grupa.

4. Superiorne grupe bi trebale dominirati nad inferiornim grupama.

Spanish

1. En el establecimiento de prioridades, debemos tener en cuenta todos los grupos.

2. No deberíamos presionar para obtener la igualdad entre los grupos.

3. La igualdad entre los grupos debería ser nuestro ideal.

4. Los grupos superiores deberían dominar a los inferiores.

Turkish

1. Öncelikleri belirlerken, bütün grupları göz önünde bulundurmalıyız.

2. Grupların eşitliği için çaba sarfetmemeliyiz.[2]

3. Grupların eşitliği idealimiz olmalıdır.

4. Üstün gruplar aşağı gruplara hükmetmelidir.

[1] Omitting the second "gruppi" would be more common Italian usage.

[2] To make the negation more evident, one could put the negation in bold or use

"Gruplarin esitligi icin caba sarfetmemize gerek yoktur."

Declaration of Conflicting Interests

Funding

References

Aiello, A., Chirumbolo, A., Leone, L., & Pratto, F. (2005). Uno studiodi Adattamento e Validazione della scala di Orientamento/Tendenzaalla Dominanza Sociale (Pratto et al. 1994). *Rassegna di Psicologia*, *22*, 65–75.

Cohrs, J. C., Moschner, B., Maes, J., & Kielmann, S. (2005). The motivational bases of Right-Wing Authoritarianism and Social Dominance Orientation: Relations to values and attitudes in the aftermath of September 11, 2001. *Personality and Social Psychology Bulletin, 31*, 1425–1434.

Cohrs, J. C., & Stetzl, M. (2010). How ideological attitudes predict host society members' attitudes towards immigrants: Exploring cross-national differences. *Journal of Social Issues*, *66*, 673–694.

Economist Intelligence Unit. (2011). Democracy index 2011: Democracy under stress. Retrieved from http://www.eiu.com/Handlers/WhitepaperHandler.ashx?fi=Democracy_Index_2011_Updated.pdf&mode=wp&campaignid=DemocracyIndex2011

Foels, R., & Pappas, C. J. (2004). Learning and unlearning the myths we are taught: Gender and social dominance orientation. *Sex Roles*, *50*, 743–757.

Freeman, D., Aquino, K., & McFerran, B. (2009). Overcoming beneficiary race as an impediment to charitable donations: Social dominance orientation, the experience of moral elevation, and donation behavior. *Personality and Social Psychology Bulletin*, *35*, 72–94.

Fund for Peace. (2011). Failed states index 2011. Retrieved from http://www.fundforpeace.org/global/?q=fsi-grid2011

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61–83.

Henry, P. J. (2008). College sophomores in the laboratory redux: Influences of a narrow data base on social psychology's view of the nature of prejudice. *Psychological Inquiry*, *19*, 49–71.

Inglehart, R., Norris, P., & Welzel, C. (2002). Gender equality and democracy. *Comparative Sociology*, *1*, 321–345.

Lee, I., Pratto, F., & Johnson, B. T. (2011). Support of social hierarchy: Individualistic cultures, liberal political environments, and decreased power increase intergroup dissension. *Psychological Bulletin*, *137*, 1029–1064.

Liu, J. H., Li, M., & Yue, X. (2010). Chinese social identity and intergroup relations: The influence of benevolent authority. In M. H. Bond (Ed.), *Oxford handbook of Chinese psychology* (pp. 579–597). New York, NY: Oxford University Press.

Lorenzo-Seva, U., & ten Berge, J. M. F. (2006). Tucker's congruence coefficient as a meaningful index of factor similarity. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, *2*, 57–64.

Meyer, I. (2012). The reliabilities of an English, Afrikaans and isiXhosa version of the SDO6 scale in South Africa. *South African Journal of Psychology*, *42*, 25–36.

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, *67*, 741–763.

Pratto, F., Liu, J., Levin, S., Sidanius, J., Shih, M., Bachrach, H., & Hegarty, P. (2000). Social dominance orientation and the legitimization of inequality across cultures. *Journal of Cross-Cultural Psychology*, *31*, 369–409.

Pratto, F., & Shih, M. (2000). Social dominance orientation and group context in implicit group prejudice. *Psychological Sciences*, *11*, 521–524.

Pratto, F., Sidanius, J., & Levin, S. (2006). Social dominance theory and the dynamics of intergroup relations: Taking stock and looking forward. In W. Stroebe & M. Hewstone (Eds)., *European Review of Social Psychology, 17*, 271–320.

Pratto, F., Stewart, A. L., Foels, R., Henkel, K. E., BouZeineddine, F., Laham, S., & Morselli, D. (2012). *Beyond me and mine: The socially-inclusive psychology of people low on social dominance orientation* (Unpublished manuscript). Storrs, CT: University of Connecticut.

Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, *41*, 203–212.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models* (2nd ed.). Thousand Oaks, CA: Sage.

Rodriguez, M. C., & Maeda, Y. (2006). Meta-analysis of coefficient alpha. *Psychological Methods*, *11*, 306–322.

Schmitt, M. T., Branscombe, N. R., & Kappen, D. M. (2003). Attitudes toward group-based inequality: Social dominance or social identity? *British Journal of Social Psychology*, *42*, 161–186.

Sears, D. O., Haley, H., & Henry, P. J. (2008). Cultural diversity and sociopolitical attitudes at college entry. In J. Sidanius, S. Levin, C. van Laar, & D. O. Sears (Eds.), *The diversity challenge* (pp. 65–99). New York, NY: Russell Sage Foundation.

Sidanius, J., & Pratto, F. (1999). *Social dominance: A theory of group-based inequality and oppression*. New York, NY: Cambridge.

Six, B., Wolfradt, U., & Zick, A. (2001). Autoritarismus und Soziale Dominanzorientierung als generalisierte Einstellungen. *Zeitschrift für Politische Psychologie*, *9*, 23–40.

United Nations Development Programme. (2011). *Human development report 2011*. Retrieved from http://hdr.undp.org/en/reports/global/hdr2011/

Wilson, M. S., & Liu, J. H. (2003). Social dominance orientation and gender: The moderating role of gender identity. *British Journal of Social Psychology*, *42*, 187–198.

Bios

Felicia Pratto (Ph.D., NYU, 1988) researches intergroup relations and power using game experiments, cross-national surveys, and social cognitive methods. She is a co-author of Social Dominance Theory and Power Basis Theory.

Atilla Cidam studies moral motivation and action in individual behavior and intergroup relations. Currently, he is investigating reactions to moral and immoral behavior, seeking to identify factors which lead to learning and growth from moral failures and successes.

Andrew L. Stewart (B.A. Math & Psychology, Colorado State University, 2009, M.A., University of Connecticut, 2011) is a PhD student at the University of Connecticut. His research interests include social change, ideology, intergroup violence, and gender relations.

Fouad Bou Zeineddine (M.S., Clark University, 2010, M.A. University of Connecticut, 2012) is a Ph.D. candidate in social psychology. His research concerns collective moral-political aspirations and entitlements, and violations of these aspirations, especially from the perspectives of subordinated groups in the international power hierarchy.

María Aranda is a Ph.D. candidate who researches processes underlying gender-based discrimination and prejudice. Her work incorporates social dominance theory, social identity, and stereotyping processes.

Antonio Aiello (Ph.D., La Sapienza University, 1994) studies political attitudes and social dominance especially in relation to power tactics and other ideological and societal factors. He is currently an associate professor at the Department of Political Science.

Xenia Chryssochoou (Ph.D., University Rene Descartes-Paris V, 1996) is Professor of Social and Political Psychology at the Department of Psychology at Panteion University, Athens, Greece. She researches the social psychological processes involved in cohesion and conflict in contemporary societies, particularly mobility and migration. she is interested in processes of identity construction and political participation.

Aleksandra Cichocka is a Ph.D. candidate at the Center for Research on Prejudice of the University of Warsaw. Her research interests include group identity, inter̀group relations and political ideology.

J. Christopher Cohrs (Dr. phil., University of Bielefeld, 2004) studies ideological attitudes, prejudice, and attitudes toward war and peace, in particular in relation to intergroup conflict and other societal factors. He is co-founder of the open-access publication, *Journal of Social and Political Psychology.*

Kevin Durrheim (Ph.D., University of Cape Town, 1995) is professor of psychology at the University of KwaZulu-Natal. He writes on topics related to racism, segregation and social change.

Veronique Eicher (Ph.D., University of Fribourg, 2010) is a postdoctoral researcher in social psychology at the NCCR LIVES at the University of Lausanne. Her research interests include intergroup relations, social inequality and social representations and regulation strategies.

Rob Foels (Ph.D., Syracuse University, 2005) studies prejudice and discrimination in terms of the cognitive complexity of the perceiver. He also studies feminist and ethnic social identity and how identity relates to cognitive complexity.

Paulina Gœrska is a PhD student at the University of Warsaw. Her thesis concerns reactive and proactive collective action.

I-Ching Lee (Ph.D., University of Connecticut, 2006) studies intergroup relations, power, and gender issues from a culturally-sensitive perspective. She has published studies using meta-analysis, experiments, surveys, and content analysis; her 2012 Psychological Bulletin paper won the Gordon Allport Intergroup Relations prize.

Laurent Licata (Ph.D., Université Libre de Bruxelles, 2001) researches collective memories, social identities, and intergroup relations. He is the chair of the COST Action IS1205 "Social psychological dynamics of historical representations in the enlarged European Union."

James H. Liu (Ph.D., UCLA, 1992) is a cross-cultural political psychologist best known for his work on history and identity. He publishes regularly on social representations theory, social dominance theory, and New Zealand bi-/multiculturalism, and is President-Elect of the Asian Association of Social Psychology as well as Co-Director of the Center for Applied Cross-Cultural Research (Victoria University of Wellington).

Ines Meyer (Ph.D., University of Cape Town, 2004) is Senior Lecturer in Organisational Psychology. Her research focuses on intergroup relations and diversity in the workplace.

Davide Morselli (Ph.D., University of Bologna, 2009) studies top-down and bottom-up processes of social change, developing research on the relationship vis-á-vis authorities, intergroup relations, social responsibility, and political violence. At present, he coordinates projects on individual and contextual vulnerability.

Orla Muldoon (Ph.D., Queens University Belfast, 1996) researches the impact of adversity and trauma on mental health and wider social and political relations.

Hamdi Muluk (Ph.D., University of Indonesia, 2004) researches socio-political and religious phenomena in Indonesia, especially in intersection with violence and terrorism. Currently he is Head of Doctoral program at Department of Psychology, University of Indonesia.

Stamos Papastamou (These D'Etat 1986, Ph.D., 1979, EHESS, Paris France), Professor of Experimental Social Psychology at the Department of Psychology at Panteion University of Athens-Greece major research focuses on social influence processes and on mechanisms of formation, diffusion and change of social representations. He has published, mainly in Greek, research on social psychology of terrorism and political violence

Igor Petrović (MSc, Vree University, Amsterdam 2011) is interested in various aspects of political participation in established and transitional democracies. His PhD research project focuses on grievances among the Dutch military personnel and the ways they deal with them.

Nebojsa Petrovic (Ph,D., Belgrade University, 2004) research addresses political and peace psychology, especially topics on reconciliation and authoritarianism. He also studies violence in youth sport

and other arenas in which psychological knowledge can address social problems and issues.

Francesca Prati (Ph.D, Alma Mater Studiorum University of Bologna, 2012) researches intergroup relations and strategies of prejudice reduction.

Gerasimos Prodromitis (Ph.D., Panteion University, 1996) is Associate Professor of Experimental Social Psychology at the Department of Psychology at Panteion University of Athens-Greece. His major research interests focus on social influence processes and on mechanisms of formation, diffusion and change of social representations. He has published, mainly in Greek, research on social psychology of terrorism and political violence

Monica Rubini (Ph.D, Alma Mater Studiorum University of Bologna, 1992) researches intergroup relationsidentity and language/social

cognition interface. She is coauthor of papers on linguistic discrimination, linguistic bias and identity development.

Rim Saab (Ph.D., Cardiff University, 2011) researches intergroup relations, with a focus on political attitudes and collective action. She is now at the Department of Psychology, American University of Beirut.

Joseph Sweetman (Ph.D., Cardiff University, 2011) researches intergroup relations, emotion, political and moral cognition/action.

Jacquelien van Stekelenburg (Ph.D., VU University Amsterdam, 2006) researches the social psychological dynamics of protest, with a special interest in identification, emotions and ideologies as motivators for collective action.

Wenwen Zheng is a PhD candidate in the School of Psychology, Beijing Normal University. Her research focuses on power and corruption.