Which people are willing to maintain their subordinated position?

Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting

Tesi, Alessio<sup>a</sup>; Aiello, Antonio<sup>a</sup>; Morselli, Davide<sup>b</sup>; Giannetti, Enrichetta<sup>c</sup>; Pierro Antonio<sup>d</sup>; Pratto Felicia<sup>e</sup>

- <sup>a</sup> University of Pisa, Department of Political Sciences
- <sup>b</sup> University of Lausanne, Swiss National Centre of Competence in Research LIVES
- <sup>c</sup> University of Florence, Department of Health Sciences
- <sup>d</sup> University of Rome "La Sapienza", Department of Social and Development Psychology
- <sup>e</sup> University of Connecticut, Department of Psychological Sciences

#### Abstract

Social dominance theory (SDT; Sidanius & Pratto, 1999) hypothesizes that members of subordinate groups who are higher on social dominance orientation (SDO; desire for maintaining status hierarchies) coordinate with dominant ones in maintaining asymmetrical relationships. The present research tests this hypothesis in a higher education setting by examining whether SDO serves as an antecedent to subordinates' compliance with harsh power tactics. A longitudinal study asked students (N = 91) to imagine themselves in a subordinated condition doing specific tasks in which they were supervised by a professor. Respondents' SDO and compliance to harsh tactics were measured at two different times. A cross-lagged path analysis, using Bayesian estimation, supported the hypotheses. Students' SDO measured at time 1 predicted their compliance to harsh power tactics measured at time 2, controlling for their initial levels of compliance to harsh power tactics. There was no evidence for

Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045 the converse; students' compliance to harsh power tactics at time 1 did not predict SDO measured at time 2 taking into account the initial levels of SDO.

Keywords: cross-lag analysis; inequality; organizations; social dominance; social power.

Social dominance theory (SDT; Sidanius & Pratto, 1999) is an influential theoretical framework that aims to describe how social inequalities and group hierarchies are maintained in societies. One component of SDT is social dominance orientation (SDO), defined so that the higher one's SDO level, the more that individual endorses group-based hierarchies and inequalities (Pratto, Sidanius, & Levin, 2006). A series of studies have shown SDO to be a stable individual difference that is an antecedent of attitudes and behaviors that promote inequalities and hierarchies (e.g., prejudice and discrimination against low-power groups; Kteily, Sidanius, & Levin, 2011; Sibley & Duckitt, 2009).

SDT posits that members of dominant groups high in SDO purposively preserve hierarchies in order to maintain the privileges of their dominant position. Although members of subordinate groups are generally lower on SDO then members of dominant groups (Pratto, Sidanius, & Levin, 2006), subordinate group members who are high on SDO contribute to their subordination by endorsing the dominant-created agenda of norms that legitimate hierarchies (hierarchy-enhancing legitimizing myths; Sidanius & Pratto, 1999).

Although SDT has been applied to studying the maintenance of group inequalities mostly at societal level (Sidanius & Pratto, 1999), some studies use SDT to understand asymmetrical relationships in different organizational contexts (e.g., Aiello, Pratto, & Pierro, 2013; Aiello, Tesi, Pratto, & Pierro, 2018).

To contribute to understanding how individual differences can shape organizational health dynamics, the present study explored how high SDO students promote their subordination by complying with specific harsh power tactics endorsed by their supervisor-professors in a specific organizational context (e.g., university). Although relationships between students and professors may differ from relationships between subordinates and supervisors in for-profit and non-profit work organizations (e.g., having different aims, reward- systems, and freedom of choice in

Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045 activities), from the perspective of SDT, given that universities have role asymmetries supported by legitimizing myths and assortative feedback processes (see Sidanius & Pratto, 1999), they are appropriate for testing our hypotheses.

## **Linking SDO and harsh power tactics**

Social power has been defined as the ability to influence others' beliefs, attitudes, and behaviors (Raven, 2008). The interpersonal power interaction model (IPIM; Raven, 1992) describes several means of social power influence (Raven, 1992; 2008). The IPIM proposed a taxonomy of 11 power bases, namely: "expert," "informational," "referent power," "legitimacy of dependence," "reciprocity," "legitimacy of position," "legitimacy of equity," "personal and interpersonal coercion" and "personal and impersonal reward" (see Raven, 1992; 2008). Further studies have claimed that these 11 power bases can be grouped into two categories, namely harsh and soft power tactics (Raven, Schwarzwald, & Koslowsky, 1998). Harsh and soft power tactics are distinguished by the amount of freedom allowed to a target of power (a subordinate) in choosing whether or not to comply with the requests prompted by an influencing agent (a supervisor or a person in a dominant role).

In the present study, we focused in particular on subordinates' compliance with harsh power tactics because of their potential contribution in maintaining group hierarchies (Aiello et al., 2018; Pierro, De Grada, Raven, & Kruglanski, 2004). From the 11 power bases, harsh power tactics include personal and impersonal coercion and reward, legitimacy of position, equity and reciprocity. Subordinates may comply to harsh tactics not because they necessarily believe or approve of them, but rather because those tactics are relatively coercive and leave subordinates with few attractive options besides being compliant (see Kelman, 2006). Thus, subordination itself is one reason to comply with harsh tactics, but we expect this to be especially likely among subordinates higher in SDO.

On this research line, a series of cross-sectional studies have shown that members of subordinate groups comply with harsh power tactics especially if they are high in SDO, with the effect of enhancing group inequalities in organizational settings (Aiello et al., 2013; Aiello et al., 2018). However, the cross-sectional studies by Aiello et al. (2018) and Aiello et al. (2013) did not provide evidence for the direction of the association between SDO and harsh power tactics.

## The present research

The present research tested whether subordinates within a university (e.g., students) level of SDO measured months prior would predict their compliance with supervisor's harsh power tactics. The study thus replicates and extends previous cross-sectional results (Aiello et al., 2018; Aiello et al., 2013) by using a longitudinal cross-lagged path model (see, Kteily et al, 2011).

We predicted that SDO, measured at Time 1 (T1), will be an antecedent to students' compliance to harsh hierarchy-enhancing power tactics at Time 2 (T2). In contrast, we predicted only null or a very weak relationship between students' compliance to harsh power tactics and their concurrent or future SDO levels.

#### Method

## Participants and procedure

For testing the hypotheses, we used Italian students so that their initial measure of SDO could predict future compliance in roles they had not yet held. One-hundred-eleven students in a psychology course for students pursuing a Bachelor degree's in social work were invited to participate. A total of 91 students volunteered to participate at the beginning of teaching activities (T1, February 2018; response rate = 82%), and all 91 participants also participated at the end of teaching activities (T2, May 2018), with a time lapse between administrations of four months. At each wave, participants completed the same pencil and paper anonymous self-report questionnaire. There were 77 women and 14 men; their mean age was 23 years (SD = 6.19).

Measures

Social dominance orientation. SDO was measured using the Italian adaptation of the Social Dominance Orientation<sub>7</sub> scale (Aiello, Morselli, Tesi, Passini, & Pratto, 2017). It is composed of 16 items to which responses are given using a seven-point Likert scale (0 = strongly disagree to 6 = strongly agree; example item, "Some groups of people must be kept in their place"). Cronbach's alpha was .88 for T1 administration and .92 for T2 administration.

Harsh power tactics. We assessed students' compliance with harsh power using the Italian Interpersonal Power Inventory (Pierro et al., 2004; Raven et al., 1998), subordinate form, adapted for students. The scale is composed of 18 items. Before completing the IPI, the participants were induced to imagine writing a thesis under the supervision of a professor (the supervisor). The introduction to the student version of the subordinate's IPI questionnaire was as follows:

Often professors ask students to do their tasks somewhat differently. Sometimes students resist doing so or do not follow the professor's directions exactly. On other occasions they will do exactly as their professors request. We are interested in situations which lead students to comply with their professors' requests.

Students were asked to indicate the extent to which each descriptive statement represents a personal reason to comply with the professor's (supervisor) request using a seven-point Likert scale ranging from 1 = definitely not a reason to 7 = definitely a reason. Item examples: "My professor could make things unpleasant for me (impersonal coercion)"; "My professor could help me receive special benefits (impersonal reward)"; "After all, he/she was my professor (legitimacy of position)". Cronbach's alpha was .87 for T1 administration, and .88 for T2 administration. Descriptive statistics and Pearson correlations among variables are reported in Table 1.

Analysis

Statistical analyses were performed with Mplus (Muthén & Muthén, 2015). We conducted a cross-lagged analysis (Selig & Little, 2012), running a path model, for testing the relationship between SDO and harsh power tactics both measured in two different – cross-lagged – times (T1

Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045 and T2), as either possible cause and effect of one another. We expected that a positive path from SDO (T1) to Harsh (T2) would be reliable, controlling for Harsh (T1). Moreover, we expected that the inverse association of Harsh (T1) to SDO (T2) would be null, controlling for SDO (T1).

To compensate for sample size limitations, we used Bayesian estimation as implemented in Mplus (Muthén & Asparouhov, 2012; Zyphur & Oswald, 2015). Bayesian estimation can produce unbiased estimates in structural equation models with sample sizes as low as 20 observations (Hox, van de Schoot, & Matthijse, 2012). Following Muthén and Muthén (2015), the model convergence was controlled using the Proportional Scale Reduction factor.

With this procedure, data are generated via Monte Carlo Markov Chains (MCMC, 10'000 iterations) to fit the model parameters, given a prior distribution, and then are compared to the observed data in order to determine the distance between the model from the observed data. We used the posterior predictive p-value (PPP) for evaluating the model's fit with the observed data. The PPP indicates the proportion of times that the observed data are more probable than the generated data. A good model fit can be reached when the PPP value is close to .50, indicating that the generated data are as probable as the observed data (Zyphur & Oswald, 2015).

For examining the magnitude of the association between variables, we used the credibility interval within Bayesian approach. A credibility interval that does not contain the zero-value shows that a specific parameter (e.g., regression coefficient) is reliably different from zero. Moreover, with the Bayesian estimation, it is possible to estimate whether the parameter (e.g., regression coefficient) falls into a specific range of probabilities, calculating the proportion of posterior estimates of a given size (Zyphur & Oswald, 2015). This method allows a direct test of the substantive hypothesis, and provides information about the effect size (e.g., small, medium, large) of the relationship between two variables.

[Table 1 here]

#### Results

Figure 1 reports the standardized coefficients of the cross-lagged path model. The model showed a good fit to the data. Indeed, the model's PPP was .46 and indicates that the generated data were as probable as the observed data. In line with our hypothesis the model showed a significant positive relation between SDOT1 and HarshT2 (95% credibility interval, -.04, .31).

# [Figure 1 here]

The parameter distribution of the association was equal to or less than zero in only 7% of the MCMCs, indicating that the coefficient of the path between SDOT1 and HarshT2 had a 7% probability of being null or negative. The probability that the coefficient of the path between SDOT1 and HarshT2 was modest (e.g., the parameter distribution was between .10 and .60) was .55 and the probability that the coefficient of the path had a large effect (e.g., the parameter distribution was greater than .60) was zero.

Moreover, as we hypothesized, the chance that the coefficient of the path between HarshT1 on SDOT2 was substantially less probable (95% credibility interval, -.14; 2.5% = .11). Also, the results demonstrated that the probability that the coefficient of the path between HarshT1 and SDOT2 was null was .61, the probability that the coefficient of the path was modest was .02, and the probability that the coefficient of the path was zero.

Figure 2 compares the distribution of the coefficients' size of the two paths, respectively SDOT1 on HarshT2 and HarshT1 on SDOT2. It shows that among the 10'000 MCMC iterations, the coefficients of the path from SDOT1 to HarshT2 were mainly distributed above zero, whereas the coefficients of the inverse paths from HarshT1 to SDOT2 were rather equally distributed above and below zero, indicating a larger probability that relationship is zero or negative.

## [Figure 2 here]

### **Discussion**

Results supported the hypothesis that students' level of SDO measured at T1 can be considered as an antecedent of their compliance to harsh power tactics measured at T2, controlling

Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are

willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045 for compliance measured at T1. Moreover, it should be noted that this effect occurred at a substantial interval of four months. This longitudinal effect extends previous studies conducted in various firms using older adult participants that show compatible orientations between SDO and compliance with harsh power tactics among subordinates, and use of harsh power tactics about supervisors (Aiello et al., 2013; 2018). Thus, the theoretically critical similarity between firms and universities, namely group asymmetries and legitimizing myths to convince people to maintain hierarchical relationships, have been found in a wide variety of adult ages and various organizational settings.

Further, the inverse association between subordinates' compliance to harsh power tactics measured at T1 and SDO measured at T2, controlling for SDO measured at T1, tended to be null or very small-sized. As other longitudinal studies have shown, SDO predicts relevant attitudes and behaviors (e.g., Kteily et al., 2011; Pratto, Stallworth, & Conway-Lanz, 1998; Sibley & Duckitt, 2009).

The present research has two broad implications as well. First, the fact that at least some subordinates (those higher on SDO) are willing to comply with harsh power tactics means that their behavior will induce a norm of compliance. This norm will make it appear that non-compliance will not only be met with punishments from supervisors, but with disapproval by peers. Normative compliance could also legitimize the superior's position and use of the tactics, and "demonstrate" to supervisors that these tactics are effective, and perhaps acceptable. Any protests against them will thereby seem all the more radical. Second, by disrespecting subordinates' agency, supervisors who use coercion and gain compliance with it may produce and reinforce stereotypes that subordinates are passive and should not exercise agency. Such stereotypes can influence the quality of student-professor relationships by providing ideological support for maintaining inequality between groups (Sidanius & Pratto, 1999). These processes may be the routes through which having subordinates to

Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045 go along with coercion helps to maintain the hierarchical organization. Stable hierarchy, then, is aided by dominants and subordinates (Sidanius & Pratto, 1999).

Our study's limitations are mainly connected to the composition and size of our sample. To overcome the small sample size, we used Bayesian estimation, which produces unbiased estimates even with relatively small samples. The sample was composed of mostly female university students of psychology. They typically have low SDO levels (Sidanius & Pratto, 1999), which makes the influence of SDO on the results more impressive, but the study should be replicated with other populations. Indeed, our results cannot be generalized to other organizational contexts. The relationship between SDO and subordinates' compliance to harsh power tactics could be further tested via longitudinal design within for-profit and nonprofit work organizations. Confirming the results of the present study in work environments could produce several practical implications (e.g., the process of personnel selection). Indeed, the SDO could represent a crucial individual difference influencing relationships between supervisors and subordinates and thus work-group functioning and cohesion. Another limitation of the present study students was use of an imagined scenario, which provided experimental control. However, further replications with real supervision and behavior are needed.

Notwithstanding its limitations, this study, along with those of Aiello et al. (2013) and Aiello et al. (2018), significantly contributes to understanding of the processes of the production and maintenance of social inequalities, and provides empirical evidence for a key hypothesis of SDT.

#### References

- Aiello, A., Morselli, D., Tesi, A., Passini, S., & Pratto, F. (2017). *The new Italian SDO7 scale*.

  Paper presented at ISPP at 40: Revisiting core themes of tyranny, intergroup relations and leadership, 29 June 2 July 2017, Edinburgh.
- Aiello, A., Pratto, F., & Pierro, A. (2013). Framing social dominance orientation and power in organizational context. *Basic and Applied Social Psychology*, *35*(5), 487-495. doi: 10.1080/01973533.2013.823614
- Aiello, A., Tesi, A., Pratto, F., & Pierro, A. (2018). Social dominance and interpersonal power:

  Asymmetrical relationships within hierarchy-enhancing and hierarchy-attenuating work
  environments. *Journal of Applied Social Phycology*, 48 (1), 35-45. doi:10.1111/jasp.12488
- Hox, J., van de Schoot, R., & Matthijsse, S. (2012). How few countries will do? Comparative survey analysis from a Bayesian perspective. *Survey Research Methods*, 6, 87–93.
- Kelman, H. C. (2006). Interests, relationships, identities: Three central issues for individuals and groups in negotiating their social environment. *Annual Review of Psychoogly.*, *57*, 1-26. doi: 10.1146/annurev.psych.57.102904.190156
- Kteily, N. S., Sidanius, J., & Levin, S. (2011). Social dominance orientation: Cause or 'mere effect'? Evidence for SDO as a causal predictor of prejudice and discrimination against ethnic and racial outgroups. *Journal of Experimental Social Psychology*, 47(1), 208-214. doi: 10.1016/j.jesp.2010.09.009
- Lee, I. C., Pratto, F., & Johnson, B. T. (2011). Intergroup consensus/disagreement in support of group-based hierarchy: an examination of socio-structural and psycho-cultural factors. *Psychological bulletin*, *137*(6), 1029. doi: 10.1037/a0025410
- Muthén, B., & Asparouhov, T. (2012). Bayesian structural equation modeling: A more flexible representation of substantive theory. *Psychological Methods*, 17, 313–335.
- Muthén, L. K., & Muthén, B. O. (2015). Mplus 7.4 user's guide. Los Angeles: Muthén & Muthén.

- Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045
- Pierro, A., De Grada, E., Raven, B. H., & Kruglanski, A. W. (2004). Fonti, antecedenti e conseguenti del potere in contesti organizzativi: l'interpersonal power/interaction model [Sources, antecedents, and consequences of power in organizational settings: The interpersonal power/ interaction model]. In A. Pierro (Ed.), *Potere e leadership: Teorie, metodi e applicazioni* (pp. 33–58). Roma: Carocci.
- Pratto, F., Sidanius, J., & Levin, S. (2006). Social dominance theory and the dynamics of intergroup relations: Taking stock and looking forward. *European review of social psychology, 17*(1), 271-320. doi: 10.1080/10463280601055772
- Pratto, F., Stallworth, L. M., & Conway-Lanz, S. (1998). Social Dominance Orientation and the Ideological Legitimization of Social Policy. *Journal of Applied Social Psychology*, 28(20), 1853-1875. doi: j.1559-1816.1998.tb01349.x
- Raven, B. H. (1992). A power/interaction model of interpersonal influence: French and Raven thirty years later. *Social Behavior and Personality*, 7, 217–244.
- Raven, B. H. (2008). The bases of power and the power/interaction model of interpersonal influence. *Analyses of Social Issues and Public Policy*, 8, 1–22. doi: 10.1111/j.1530-2415.2008.00159.x
- Raven, B. H., Schwarzwald, J., & Koslowsky, M. (1998). Conceptualizing and measuring a power/interaction model of interpersonal influence. *Journal of Applied Social Psychology*, 28, 307–332. doi: 10.1111/j.1559-1816.1998.tb01708.x
- Selig, J. P., & Little, T. D. (2012). Autoregressive and cross-lagged panel analysis for longitudinal data. In B. Laursen, T. D. Little, & N. A. Card (Eds.), *Handbook of developmental research methods* (pp. 265-278). New York: Guilford Press.
- Sibley, C., & Duckitt, J. (2009). The ideological legitimation of the status quo: Longitudinal tests of a social dominance model. *Political Psychology*, 31(1), 109–137.

Tesi, A., Aiello, A., Morselli, D., Giannetti, E., Pierro, A., & Pratto, F. (2019). Which people are willing to maintain their subordinated position? Social dominance orientation as antecedent to compliance to harsh power tactics in a higher education setting. *Personality and individual differences*. https://doi.org/10.1016/j.paid.2019.04.045
Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and* 

oppression. Cambridge University Press.

Zyphur, M. J., & Oswald, F. L. (2015). Bayesian estimation and inference: A user's guide. *Journal of Management*, 41, 390–420.

Table 1: Means, standard deviations and correlations among variables

(N = 91)

Variable	Mean (SD)	1	2	3
1.SDOT1	1.49 (.91)			
2.HarshT1	2.36 (.97)	.28**		
3.SDOT2	1.55 (1.00)	.85**	.28*	
4.HarshT2	2.32 (1.03)	.31**	.76**	.24*

*Note.* \*\*p<.01 \*p<.05

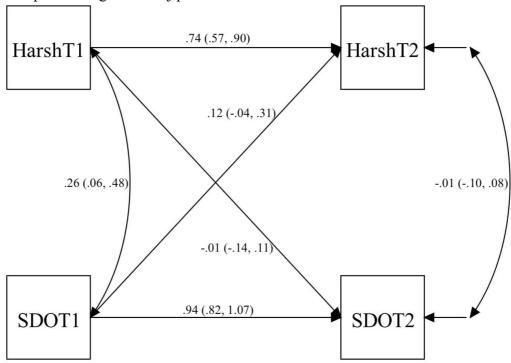


Figure 1. Study model.

Note. Standardized coefficients and 95% credibility intervals in parentheses are on the model paths.

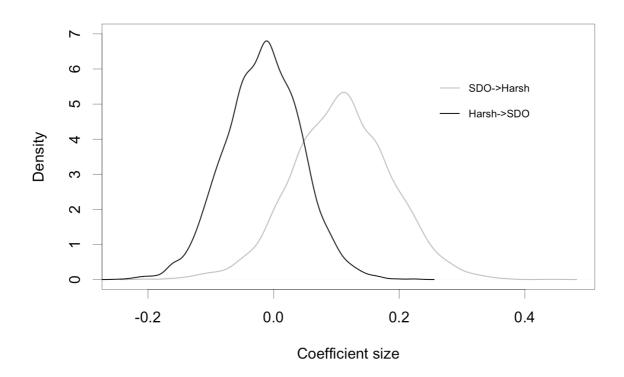


Figure 2. Coefficients' size distribution of the predictive paths between SDO and harsh power.

Note. Light grey line = SDOT1 on HarshT2; dark grey line = HarshT1 on SDOT2