



## Short Communication

# On the path to social dominance? Individual differences in sensitivity to intergroup fairness violations in early childhood



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## ABSTRACT

According to current literature, individual differences in Social Dominance Orientation (SDO) are assumed to consistently manifest only around young adulthood. Here, we examined, to our knowledge for the first time, whether individual differences in sensitivity to intergroup inequality – a defining characteristic of SDO – have expressions already in early childhood. We expected young children to be less sensitive to moral standards of intergroup fairness to the extent that their parents supported social inequality. Using a sample of 75 preschoolers and their parents, we found that children's sensitivity to intergroup fairness violations varied systematically in line with their parents' SDO levels. Specifically, children of parents low in SDO penalized ingroup members' fairness violations in the intergroup context, whereas children of parents high in SDO showed no such penalization. These findings suggest that individual differences in sensitivity to intergroup equality have expressions significantly earlier than currently acknowledged in the literature.

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People vary in the degree to which they endorse social inequality. This individual-difference – commonly operationalized as Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) – has been found to predict a long list of important social and political outcomes including, among others, prejudice, intolerance, and economic conservatism (Sidanius & Pratto, 1999). People high in SDO are characterized by insensitivity to moral violations and the welfare of social others, and are driven by a perception that the world is a competitive jungle in which one must 'trump the competition'; whereas people low in SDO are motivated by egalitarianism and altruistic social concern, and prioritize fairness and harm-avoidance (Duckitt, 2001; Federico, Weber, Ergun, & Hunt, 2013; Sidanius et al., 2013).

Several theoretical articulations have pointed to early socialization as a central source of SDO (Duckitt, 2001; Pratto, Sidanius, & Levin, 2006; Weber & Federico, 2007), and accordingly, researchers have expected and found intergenerational concordance in levels of SDO among young adults and their parents (e.g. Chatard & Selimbegovic, 2008; Duckitt, 2001; Duriez & Soenens, 2009). Yet, no work has examined expressions of SDO in early childhood, likely due to the general consensus that such differences do not consistently manifest and congeal before young adulthood (Chatard & Selimbegovic, 2008; Duckitt, 2001; Duriez & Soenens, 2009).

Research in developmental science, however, suggests that children demonstrate both awareness of intergroup relations, and sensitivity to intergroup inequality already early on (LoBue, Nishida, Chiong, DeLoache, & Haidt, 2011; Tomasello & Vaish, 2013). For example, preschoolers demonstrate ingroup preference in resource allocation (e.g. Dunham, Baron, & Carey, 2011; Moore, 2009) and are sensitive to the context of intergroup competition (Rhodes & Brickman, 2011). At the same time, children also enforce moral norms for both ingroup and outgroup members and prioritize fairness considerations over group bias (Killen, Margie, & Sinno, 2006; Schmidt, Rakoczy, & Tomasello, 2012). Especially relevant is the finding that preschoolers are less likely to favor an ingroup member after viewing her divide resources unfairly with an outgroup member (Hetherington, Hendrickson, & Koenig, 2014). Recent research also suggests that systematic differences consistent with parents' socio-political orientation may be captured in early childhood by examining age-relevant manifestations (Reifen Tagar, Federico, Lyons, Ludeke, & Koenig, 2014). The goal of this work, therefore, is to examine behavioral expressions of individual differences in SDO in early childhood.

## The current research

In the current literature, children's sensitivity to intergroup fairness is regarded as a general human tendency reflecting normative development (Fehr, Bernhard, & Rockenbach, 2008; Killen, 2007). However, considered through the lens of individual differences in SDO, one might expect systematic individual differences in this tendency.

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Correspondingly, we hypothesized that children of parents high (versus low) in SDO would show lower sensitivity to intergroup inequality and particularly to violation of fairness norms in division of resources with the outgroup. To examine this hypothesis, we crossed data in which children's intergroup fairness considerations were assessed (Hetherington et al., 2014) with a survey administered to these children's parents, assessing their levels of SDO. Specifically, we expected that parent's level of SDO would moderate the extent to which children penalize intergroup fairness violations, such that higher parent scores in SDO would correspond to less child penalization.

## 1. Method

### 1.1. Participants and procedure

Eighty 4- to 5-year-old children (38 girls, mean age = 4.86; range = 3.9–5.7) and a parent of each were recruited through a university based database. All recruitment and experimental procedures were approved by the university's Institutional Review Board (IRB), target sample size was determined a-priori based on similar earlier work (Rhodes & Brickman, 2011), and all analyses were conducted after completion of data collection. Three children did not complete the study due to lack of cooperation and two for technical reasons.

Children were first randomly assigned to a minimal group by being told that they were going to play some games and would be assigned to the blue/red group. Children then received a T-shirt and wristband of the corresponding color. Next, in a between-subjects design, children viewed one of three series of short video clips, in each of which they witnessed an ingroup member and an outgroup member – as marked by their T-shirt color – both seated at a table, and a third person ('moderator') presenting them with a single coveted resource (e.g. a candy bar) and noting that there was only one. Depending on condition, children either saw the ingroup member claim the resource for herself and refuse to share with the outgroup member ('Unfair In-group' condition;  $n = 25$ , 12 girls, mean age = 4.86; range = 4.07–5.50); the outgroup member declare that she was happy to share and that they can each have half, while splitting the scarce resource into two equal parts and handing half to the ingroup member ('Fair Outgroup' condition;  $n = 25$ ; 13 girls, mean age = 4.84; range = 4.07–5.70); or the moderator saying they can each have half, and split the scarce resource in two equal parts providing half each to the ingroup and outgroup members, such that no moral behavior was demonstrated by the ingroup or outgroup member (control condition;  $n = 25$ ; 13 girls; mean age = 4.89; range = 3.87–5.71); Across conditions, each participant saw three clips, with the same dynamic occurring each time. This procedure was developed based on previously established designs (e.g. Dunham et al., 2011; Rhodes, 2012; Schug, Shusterman, Barth, & Patalano, 2013).

Parents were seated at the back of the room, behind their children, to enable the young children's comfort in the new environment while minimizing the parent's impact on the children's decision making, based on common practice in earlier related work (e.g. Reifen Tagar et al., 2014). In addition, the experimenter was instructed to look away when the child was making the allocations. All actors were female, and ingroup and outgroup member actors were counterbalanced across participants, such that the same actor might once be the ingroup member and once the outgroup member.

The focal comparison of interest was that between the Unfair Ingroup condition and the Control condition, the latter providing the baseline for ingroup favoritism in the absence of inequality. This comparison would enable us to see if ingroup unfairness would differentially lead to reduced ingroup favoritism conditional on parent's level of SDO. The goal of the third condition was to test if parent's SDO would also moderate the extent that outgroup moral behavior would trump baseline ingroup favoritism. This additional comparison enables testing whether parent SDO would impact child sensitivity uniquely to

violations of intergroup fairness as we expect, or also to signals of lower intergroup competition indicated by outgroup cooperativeness.

Following the clips, children's understanding of which agent was an ingroup member and which was an outgroup member was tested by presenting a still image of the two agents and asking 'is this person in your group?'. All children ( $n = 75$ ) completed this test correctly. All children in the two experimental conditions ( $n = 50$ ) also successfully completed a manipulation check by identifying whether the agent had shared or not. Next, children completed a set of measures including a liking measure and resource allocation measure (described below) as well as other measures irrelevant for the present hypothesis (for full details see Hetherington et al., 2014). While children were engaged with these activities, parents completed a short survey including measures of Social Dominance Orientation, authoritarianism, and demographics.

### 1.2. Measures

#### 1.2.1. Parent Social Dominance Orientation

An 8-item SDO measure (Sidanius & Pratto, 1999) was used (e.g. "It's probably a good thing that certain groups are at the top and other groups are at the bottom"). Responses were recorded using a 7-point Likert scale with verbal anchors *strongly disagree* (1) to *strongly agree* (7). Responses were averaged to create a single scale ( $\alpha = 0.84$ ), with higher values reflecting higher levels of SDO.

#### 1.2.2. Parent authoritarian predisposition

In order to test whether any moderating effect of SDO is unique and not simply capturing conservatism or intergroup prejudice, we included a measure of authoritarian predisposition. This was measured using four forced-choice items in which parents were asked which of two child-rearing values (authoritarian and nonauthoritarian) they found more important (Feldman & Stenner, 1997; Stenner, 2005). Responses were averaged to create a single scale ( $\alpha = 0.62$ ), with higher scores indicating a stronger authoritarian predisposition.

#### 1.2.3. Child resource allocation

Across three trials, children were asked to distribute all fifteen paper coins between the two agents they had seen in the video clips (i.e., one ingroup member and one outgroup member) by placing coins in two cups, bearing the image of each agent. The gap in total number of coins distributed to the ingroup versus the outgroup member across the three trials was calculated, with larger numbers reflecting greater ingroup preference.

#### 1.2.4. Child explicit liking

Children were presented with a still image of each agent and asked to rate how much they liked each using a 6-point pictorial response scale ranging from very negative to very positive. A difference score between ingroup and outgroup liking was calculated, with a higher score representing greater ingroup preference.

## 2. Results

Table 1 presents means, standard deviations, and intercorrelations among study variables. To test our hypothesis, we examined whether parents' level of SDO moderated differences in children's ingroup favoritism in the presence versus absence of fairness violation. Specifically, we examined whether higher parent scores in SDO corresponded to children penalizing ingroup members to a lesser degree for dividing resources unfairly with an outgroup member. We further examined whether parent SDO would moderate child sensitivity to cues of cooperation from the outgroup, to see if the role of SDO was indeed unique to the presence of inequality.

**Table 1**  
Correlations and summary statistics of study variables.

	M (SD)	1	2	3	4	5
1. Condition dummy 1	–	–				
2. Condition dummy 2	–	–	–			
3. Liking	0.65 (2.57)	–0.27*	0.01	–		
4. Resource allocation	0.53 (3.68)	–0.23*	0.13	0.18	–	
5. Parent Social Dominance Orientation	2.27 (0.93)	–0.01	0.18	–0.06	–0.08	–
6. Parent authoritarian disposition	0.29 (0.29)	–0.16	0.16	0.04	0.11	0.27*

Condition dummy 1: 0 = Control & Outgroup Fair, 1 = Ingroup Unfair; Condition dummy 2: 0 = Control & Ingroup Unfair, 1 = Outgroup Fair.

\*  $p < 0.05$ .

**Table 2**  
Unstandardized coefficients for predictors of ingroup preference in explicit liking and resource allocation.

		Resource allocation		Explicit liking	
		Boot coefficient	CI (lower, upper)	Boot coefficient	CI (lower, upper)
Step 1	Condition dummy 1	–1.8†	–3.5, 0.22	–1.9*	–3.1, –0.48
	Condition dummy 2	0.12	–2.0, 2.6	–0.88	–2.1, 0.38
Step 2	Condition dummy 1	–0.15	–3.3, 0.42	–1.9*	–3.1, –0.43
	Condition dummy 2	0.55	–1.5, 2.9	–0.82	–2.0, 0.41
	SDO	–0.95†	–2.4, –0.06	–0.12	–0.84, 0.45
	SDO × cond dummy 1	2.07*	0.12, 3.8	0.06	–1.0, 1.3
$\Delta R^2$ <sup>a</sup>		0.06*		0.00	

Condition dummy 1: 0 = Control & Outgroup Fair, 1 = Ingroup Unfair; condition dummy 2: 0 = Control & Ingroup Unfair, 1 = Outgroup Fair, tolerance indicator for both SDO and the interaction term is >0.95 indicating no multicollinearity.

†  $p < 0.08$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

<sup>a</sup>  $\Delta R^2$  reflects change when adding interaction term to the three predictors.

### 2.1. Resource allocation

Across trials, children allocated the fewest resources to their ingroup member in the Unfair Ingroup condition ( $M = 7.16$ ,  $SD = 1.70$ ; Fair Outgroup condition  $M = 8.08$ ,  $SD = 2.02$ ; Control condition  $M = 8.04$ ,  $SD = 1.72$ ), but this trend was not significant,  $F(2,72) = 2.04$ ,  $p = 0.14$ . Using bootstrapped hierarchical moderated regression analyses (Aiken & West, 1991), and adding to the model parent level SDO and the interaction between parent SDO and the condition dummy-variable representing the comparison between the Unfair Ingroup condition and the Control condition, we find a significant interaction (see Table 2, level 2). Simple slope analyses at one standard deviation above and below the mean of parent SDO indicated that children of parents low in SDO penalized ingroup members for behaving unfairly toward the outgroup member, such that children in the Unfair Ingroup condition allocated significantly less resources to their ingroup member over the outgroup member than participants in the control condition ( $M_{\text{Difference}} = 3.43$ ,  $SE = 1.37$ ,  $t = 2.50$ ,  $p = 0.02$ ,  $CI (0.67, 6.2)$ ). In contrast, and consistent with our expectation, children of parents high in SDO showed no such penalization ( $M_{\text{Difference}} = 0.23$ ;  $SE = 0.14$ ,  $t = -0.17$ ,  $p = 0.87$ ,  $CI (-2.5, 3.0)$ ). See Fig. 1 for a visualization of these effects.

The test of the role of SDO for reaction to the Fair Outgroup condition was exploratory and it is important to note that adding the interaction between the second dummy variable and SDO yields a non-significant effect ( $p = 0.61$ ). Following procedures recommended by Aiken and West (1991), we excluded this non-significant interaction term from the model. Running the same model controlling for authoritarianism finds both that authoritarianism is an insignificant predictor in the model, and importantly, that the interactive effects of parent SDO and

experimental condition remain significant and essentially unchanged. Importantly, replacing parent SDO for parent authoritarianism yields an insignificant interaction, suggesting that the effect of SDO is unique and not capturing a general tendency for conservatism or prejudice more broadly as might be reflected if the effects were identical for SDO and authoritarianism.<sup>1</sup>

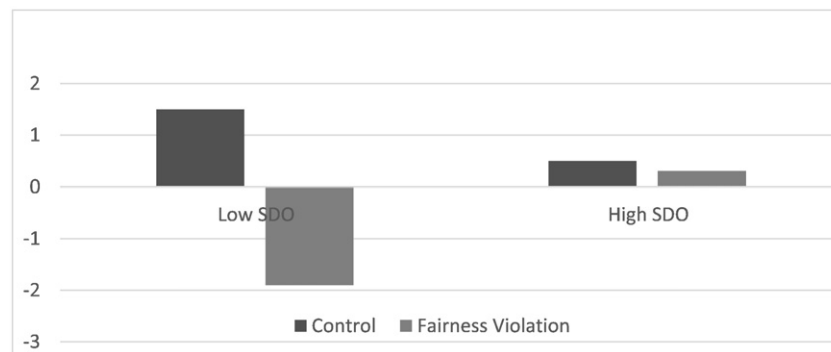
### 2.2. Explicit liking

Children expressed less liking for the ingroup over the outgroup member in the Ingroup Unfair condition (see Table 2, level 1). This effect was not moderated by parent SDO, nor by parent authoritarianism.

## 3. Discussion

In this study, we found that children differed in the extent to which they penalized an ingroup member for unfairly dividing resources with an outgroup member, in a manner consistent with their parent's level of SDO. Children of parents low in SDO allocated less resources to their ingroup member relative to the outgroup member in the presence of inequality. In contrast, children of parents high in SDO showed no such penalization. Given the established association between parents' and their

<sup>1</sup> Additional measures in the full dataset included: child selective trust and endorsement of prosocial and antisocial behavior toward other group members; and parent political ideology, competitive jungle, and moral foundations. Other child behaviors are not germane to the current hypothesis and have been examined elsewhere (Hetherington et al., 2014). Regarding parent measures, political ideology did not play a moderating role in the outcomes of interest. Parent fairness and competitive jungle – both related to SDO – played a similar moderating role to that of SDO; whereas the other moral foundations (harm, loyalty, authority, and purity) did not. Further analyses are available upon request.



**Fig. 1.** Children's ingroup preference in the resource allocation task across the control condition and ingroup fairness violation condition, conditional on parent SDO. High and low values of SDO reflect 1 SD above and below the mean.

young-adult children's level of SDO (Chatard & Selimbegovic, 2008; Duriez & Soenens, 2009), we interpret these findings to suggest that individual differences in SDO – in the form of differing levels of sensitivity to intergroup inequality – have expression already in the preschool years. This is in contrast to the widely accepted assumption to the contrary in the current literature (Chatard & Selimbegovic, 2008; Duckitt, 2001; Duriez & Soenens, 2009).

Concurrently, our findings inform literature in developmental science on the origins and development of sensitivity to inequality by suggesting that what is traditionally understood as normative, partially age-dependent development, may entail systematic individual differences directly associated with parents' psychological dispositions. Our findings, however, cannot determine whether such intergenerational concordance is due to socialization, shared genetic tendencies, or both. Though pioneering empirical work in this direction suggests a role for socialization (Duckitt, 2001; Meeusen & Dhont, 2015; Weber & Federico, 2007), this avenue merits further exploration.

Of note, though parents' level of SDO moderated children's behavioral penalization of fairness violation, it did not moderate liking of the violator – children favored their ingroup member less in the Unfair condition regardless of parent SDO. This suggests that children of parents high in SDO are not oblivious to intergroup fairness violations. However, it could be that they have learned to regulate their emotional reactions to concur with the goals set out by their parents with regard to intergroup competition over scarce resources. This interpretation is consistent with Social Dominance Theory, according to which: “people with high and low SDO allocate resources differently because they rely on different ideologies to guide and legitimize their behavior” (Pratto, Tatar, & Conway-Lanz, 1999, p. 131). This interpretation remains to be tested, but, encouragingly, points to possible avenues for intervention toward increased social equality not currently considered in the literature. At the same time, one must also consider the possible influence of reporting liking directly to an adult which might cloud existing individual differences. Future work would do well to have children report liking privately as they did with the current resource allocation task.

Finally, given the novelty of our findings, future work should test its replicability and applicability across different social and political contexts. Such future work should also consider recent developments in the literature on SDO which identify two distinct yet related underlying subfactors of SDO – namely, SDO-Dominance which refers to the endorsement of intergroup dominance, and SDO-Egalitarianism, which refers to the endorsement of non-egalitarian intergroup relations (Ho et al., 2012; Ho et al., 2015). As the current work used the earlier unidimensional measure, and conceptually seems to correspond more to the latter than to the former, future work should both examine early individual difference in the dominance aspect of SDO among young children, as well as the distinct role of parents' endorsement of intergroup dominance versus intergroup inequality in impacting child outcomes.

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