Personal relative deprivation negatively predicts engagement in group decision-making

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Abstract

Inequality has been linked with numerous negative consequences at the societal and individual levels. The detrimental effects of inequality are proposed to operate at the individual level through social comparisons, where perceived unfair disadvantage leads to the experience of personal relative deprivation (i.e., subjective feelings of anger and resentment), which in turn causes psychosocial stress. To date, little empirical work has investigated how individual differences in personal relative deprivation influences group dynamics. In a simulated high-pressure hypothetical scenario, first-year business students ($n = 150$) in groups of four to six were tasked to reach a consensus decision despite being assigned roles with competing interests, then they individually completed a survey. Greater feelings of personal relative deprivation were associated with reduced group engagement. Personal relative deprivation explained 9% of variance in group exercise engagement over and above demographic and situation-related variables (e.g., stress, perceived competition, role fit), and the overall regression model accounted for 58% of total variance in group. These findings suggest that such negative socioemotional comparison reactions as personal relative deprivation have important implications for group-based decision making and small group dynamics.

Keywords: Relative deprivation, groups, social comparisons, individual differences, decision-making, participation, engagement

Human organizations, like human societies, are almost universally defined by social hierarchy. Hierarchy necessitates inequality, and inequality creates potential for interpersonal conflict. In navigating social hierarchy, people inevitably engage in social comparison processes (Festinger, 1954; Garcia, Tor, & Schiff, 2013), leading to the experience of *personal relative deprivation* for some: anger and frustration in response to perceiving that one is unfairly disadvantaged relative to others (Smith, Pettigrew, Pippin, & Bialosiewicz, 2012). The three components of personal relative disadvantage—social comparison, perceived unfairness/injustice, and a negative emotional reaction (Smith et al., 2012)—together index sensitivity to being victimized by inequality (Callan et al., 2008; Smith & Huo, 2014).

The experience of personal relative deprivation has been associated with numerous potentially harmful outcomes, including increased risk-taking, gambling, and delay discounting (Callan, Ellard, Shead, & Hodgins, 2008; Mishra & Novakowski, 2016); poorer mental and physical health (Beshai, Mishra, Meadows, Parmar, & Huang, 2017; Beshai, Mishra, Mishra, & Carleton, 2017; Mishra & Carleton, 2015); and diminished prosociality (Callan, Kim, Gheorghiu, & Matthews, 2017; Zhang, Liu, & Tian, 2016). Put simply, the experience of personal relative deprivation is associated with damaged social relationships, increased risk-taking and antisocial behavior, reduced cooperation, and increased interpersonal conflict. These findings are consistent with research more broadly linking inequality with a wide range of deleterious social effects in social collectives (Wilkinson & Pickett, 2011).

Social collectives in the form of small groups are fundamental to human organization. However, surprisingly little is known about how the (ubiquitous) social comparison experience of personal relative deprivation influences group dynamics. To begin to fill this knowledge gap, we examined if individual differences in personal experience of relative deprivation (resulting

from comparison to other group members) reduced engagement in a university-level classroom group decision-making exercise with tangible stakes (i.e., significant attached grades). Given growing evidence that personal relative deprivation is associated with a wide array of damaging social outcomes, we predicted that the experience of personal relative deprivation would be associated with lower engagement with one's social collective in a small group context.

Method

Participants

Of 192 undergraduates in a first-year business course who participated in this study, 150 completed all variables of interest (37% female, $M_{age} = 21.9$, $SD = 5.1$). Informed consent was obtained for all participants. Post-hoc power analysis indicated 80% power to detect an effect of $R^2 = 0.12$ with 10 predictors. Data and materials are available at <https://osf.io/6r8xc/>. Analyses were conducted in R 3.6.0 (R Core Team, 2019). Additional sample and methodological details are provided in Appendix S1.

Students were randomly assigned to groups of four-to-six participants. In a class exercise, each group had to reach a consensus decision in a hypothetical product recall scenario. Each group member was assigned one of six roles with specific instructions: human resources manager, risk manager, production manager, plant controller, engineering manager, or marketing manager (see Appendix S2). Participants first read the instructions, then all participants assigned to a specific role were given verbal instructions. Students were given one hour to deliberate and reach a decision.

The exercise was designed such that roles had competing interests and a consensus would be hard to reach. Consensus was considered achieved when all group members recorded an

identical (signed) decision outcome. Not all groups achieved consensus. After the exercise was complete, the survey below was distributed and completed individually.

Measures

Additional measures administered but not addressed in the present paper are included in Supplement B.

Personal relative deprivation. The five-item Personal Relative Deprivation Scale, Revised (PRDS-R) assesses feelings of deprivation, resentment, and anger in response to perceived inequality. We adapted the scale to specifically reference group members (e.g., “I felt deprived when I thought about what I had compared to the other group members”). Participants responded using a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*).

Group competition. On a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*), participants indicated agreement with the following statements/questions: (1) “There was an imbalance of power in the group” and (2) “To what extent do you feel that you were competing with the other group members?”. Each item was investigated separately.

Attitudes toward group experiences. Participants rated: (1) their agreement with the objective of their role; (2) how stressful they found the group activity; (3) how valuable they found the group activity; and (4) how seriously they took the exercise. Each rating was provided on a scale from 1 (*not at all*) to 7 (*very much*). All items were investigated separately.

Group engagement. To assess overall *group engagement*, we created a compound variable by averaging responses to the following three questions: (1) “How much of a role did you play in the final decision making?”, (2) “Overall, how much did you participate in the exercise?”, and (3) “Were you as vocal as you would have liked to be?”. Responses were

provided on a scale from 1 (*not at all*) to 7 (*very much*). This composite had good reliability, $\alpha = .86$, 95% CI [.82, .89].

Results

To determine if feelings of personal relative deprivation predicted group engagement beyond demographic and exercise-related variables, we entered the following items in a three-block sequential regression analysis: (1) demographics (age, gender, income); (2) situation-specific perceptions and attitudes (agreement with role objective [role fit], stress experienced during group exercise, value of the exercise, how seriously the exercise was taken, perceived competition within group, and imbalance of power within group); and (3) personal relative deprivation scores. The compound *group engagement* variable was used as the dependent measure.

The sequential regression analysis (Table 1) showed demographic variables (Block 1) explained 3% of variance in engagement scores, $F(3,146) = 1.63$, $p = .19$, $R^2 = .03$; exercise-related variables (Block 2) accounted for 46% of variance, $F(6,140) = 20.90$, $p < .001$, $R^2 = .46$. Personal relative deprivation (Block 3) significantly predicted 9% of unique variance over and above the two previous blocks, $F(1,139) = 28.63$, $p < .001$, $R^2 = .58$. This finding suggests that feelings of relative deprivation are a unique and surprisingly strong predictor of group engagement in the present study. The overall model accounted for 58% of variance in group engagement scores. When all variables were entered simultaneously into a regression analysis, personal relative deprivation scores accounted for 17% of variance in group engagement (see Supplementary B, Table SB.1). Zero-sum correlations between all relevant variables are presented in Table 2.

Discussion

We provide novel evidence that personal relative deprivation is significantly associated with diminished group engagement. Individual differences in personal relative deprivation strongly predicted group engagement ($r = -.39$; Funder & Ozer, 2019), and relative deprivation explained a meaningful amount of variance in group engagement above and beyond demographics and subjective assessments of the group context (9%). These assessments included subjects' role fit, whether the group task was stressful, valuable and/or taken seriously, and the perceived degree of competition and power imbalance within the group. Finally, personal relative deprivation explained 17% of variance in group engagement when entered in a simultaneous regression along with all group context-specific attitudes and perceptions. Taken together, evidence from this study suggests that personal relative deprivation is an under-appreciated predictor of poorer social relations (and downstream consequences) in small groups.

Consistent with previous research, we found strong and consistent associations between personal relative deprivation and damaged social perceptions, relations, and outcomes. More specifically, those who report greater personal relative deprivation experience poorer outcomes in small group context. To date, surprisingly little research has examined the consequence of personal, subjective, and emotional reactions to inequality in group context. Some research has suggested that objective inequality in small groups leads to poorer social outcomes (e.g., Christine & Barling, 2010), but it is clear that further study of subjective, emotional processes in group dynamics is necessary.

The results of this study have some potentially important implications. Groups are regularly formed in schools and in industry to work together on projects, deliberate, or to make decisions. In these contexts, it is impossible to escape social comparison and its resultant

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155 emotional consequences, leading to poorer outcomes if left unchecked. These results make clear
156 that individual members of social collectives are of consequence; for example, from our results
157 we may predict that a jury may experience relatively greater engagement in deliberations if status
158 differences were reduced. There is a growing awareness of the damaging effects of inequality
159 and a consequent appetite for interventions that may ameliorate these damaging effects; our
160 results provide further evidence that consideration of emotions tied to inequality, like personal
161 relative deprivation, may be fruitful in these endeavors.

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Table 1. Sequential regression of demographics, group situation-specific perceptions and attitudes, and personal relative deprivation on group engagement.

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Step 1 (Demographics): $R = .18$, $R^2 = .03$					
Age	.13	.06	.16	1.95	.053
Gender	-.18	.65	-.02	-.28	.782
Income	-.03	.02	-.10	-1.24	.216
Step 2 (Situation-Specific Perceptions and Attitudes): $R = .70$, $\Delta R^2 = .46^{***}$					
Role fit	.61	.16	.24	3.76***	< .001
Exercise was stressful	-.30	.14	-.13	-2.05*	.042
Exercise was valuable	.66	.21	.23	3.18**	.002
Took exercise seriously	.80	.20	.29	3.92***	< .001
Competition in group	.57	.15	.26	3.83***	< .001
Imbalance of power in group	-.17	.13	-.08	-1.35	.179
Step 3 (Personal Relative Deprivation): $R = .76$, $\Delta R^2 = .09^{***}$					
PRDS-R	-.28	.05	-.31	-5.35***	< .001

Notes. * $p < .05$; ** $p < .01$; *** $p < .001$. PRDS-R = Personal Relative Deprivation Scale-

Revised.

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Table 2. Correlations between group engagement, subjective relative deprivation, group competition, and attitudes toward the group exercise.

Numbers in brackets are 95% confidence intervals.

	1	2	3	4	5	6	7
1. Group engagement	-						
2. PRDS-R	-.39*** [.51, .25]	-					
3. Role fit	.34*** [.20, .47]	-.22** [.36, .07]	-				
4. Exercise was stressful	.00 [.15, .16]	.00 [.14, .15]	.07 [.03, .26]	-			
5. Exercise was valuable	.48*** [.35, .57]	-.17* [.31, .02]	.16* [.00, .30]	.29*** [.14, .42]	-		
6. Took exercise seriously	.06 [.39, .62]	.05 [.23, .07]	.24* [.09, .38]	.22** [.07, .36]	.46*** [.33, .57]	-	
7. Competition in group	.43*** [.30, .55]	.13 [.04, .26]	.04 [.11, .19]	.03 [.12, .18]	.30*** [.16, .43]	.37*** [.23, .49]	-
8. Imbalance of power	-.06 [.21, .09]	.12 [.02, .26]	-.18* [.32, .04]	-.07 [.21, .08]	.01 [.14, .16]	-.03 [.17, .12]	.16* [.01, .30]

Note. PRDS-R = Personal Relative Deprivation Scale-Revised. * $p < .05$; ** $p < .01$; *** $p < .001$.