Socioeconomic status predicts children's moral judgments of novel resource distributions

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SOCIOECONOMIC STATUS PREDICTS MORAL JUDGMENTS

Research Highlights

- Children who rated their families as wealthier relative to their neighborhoods rated a novel resource-distributing machine as more fair.
- Children from families that were *actually* wealthier relative to their neighborhoods were more likely to rate the machine as unfair when receiving a material disadvantage.
- Subjective and objective forms of relative socioeconomic status have distinct consequences for children's moral judgments.

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Abstract

Children's moral judgments of resource distributions as having "fair" or "unfair" origins play an important role in early social cognition. What factors shape these judgments? The present study advances research on this question in two primary ways: First, while prior work has typically assigned children to an advantaged or disadvantaged position in an experimental setting, here we also investigated how relative objective and subjective socioeconomic status (OSS and SSS) predicted children's judgments. Second, while prior work has asked children to judge distributions with known origins, here we presented children with novel and causally-ambiguous distributions, thereby simulating children's initial encounter of resource distributions in the social world. We assessed participants' ($n = 113$ 6- to 9-year-olds) OSS and SSS and then introduced them to a machine that distributed Skittles on an unknown basis. Participants received half as many, twice as many, or the same number of Skittles as a peer in three between-subjects conditions, and then rated the machine's fairness. Results revealed that children who rated their families as wealthier relative to their neighborhoods (higher SSS) rated the machine as more fair. However, children from families that were actually wealthier relative to their neighborhoods (higher OSS) were more likely to rate the disadvantage-giving machine as unfair. Together, results represent the first evidence that objective and subjective socioeconomic status shape children's moral judgments of resource distributions, consistent with evidence that these two forms of socioeconomic status have unique impacts on adults' judgments of inequality. Implications for moral and social development are discussed.

Key words: Socioeconomic status, moral judgments, inequality, children, just world beliefs, development

Socioeconomic status predicts children's moral judgments of novel resource inequalities

Children are born into a social world replete with vast inequalities in material resources. By the preschool years, children understand that some of their peers have large houses, fancy cars, and new clothing, while others have small houses, modest cars, and used clothing (Olson et al., 2012; Shutts et al., 2016), and they can identify their peers as “rich” or “poor” (Hazelbaker et al., 2018).

Moreover, children seek to make moral sense of the resource inequalities they encounter. Children generally judge inequality as unfair (see McAuliffe et al., 2017 for a review), but importantly, their moral judgments are also sensitive to the *causes* of unequal resource distributions. For example, Hussak and Cimpian (2015) told children about the Blarks who had more money than the Orps, either because the Blarks were “smarter” or because of “something that happened long ago.” Children rated the intelligence-based explanation for the resource inequality as fairer than the historical explanation. Similarly, Elenbaas and Killen (2017) found that children rated discrimination-based explanations for a racial wealth inequality as “less okay” than other types of explanations. In sum, children morally evaluate the causes of resource inequalities.

These moral judgments play a critical role in social development. For example, viewing resources as distributed on an unfair basis leads children to rectify unequal resource distributions (Blake & McAuliffe, 2011; Shaw & Olson, 2013), and to avoid forming negative attitudes about resource-poor groups (Horwitz, Shutts, & Olson, 2014; Hussak & Cimpian, 2015).

Given these important consequences, researchers have been interested in the factors that promote children's view of inequalities and their causes as unfair. Several relevant factors have

been identified, including age (children grow increasingly likely to judge inequalities as unfair, Blake et al., 2015; Elenbaas, 2019, and are increasingly likely to morally evaluate inequalities based on their the causes, Dunham et al., 2018, Shaw & Olson, 2014) and children's own position (young children judge resource inequalities as acceptable when they are advantaged by them, but older children reject both advantageous and disadvantageous inequalities, Blake & McAuliffe, 2011). Yet, this research area is young, and a recent review called for more research on children's conceptions of resource inequality (Mistry et al., 2017).

The present study aimed to advance this research area in two primary ways: First, we aimed to build upon prior findings that children's social position shapes their moral judgments of inequality by investigating the role of relative socioeconomic status (SES). Most prior work has manipulated children's membership into advantaged and disadvantaged experimental groups (see McAuliffe et al., 2017); here, we examine how children's actual relative SES predicts their moral judgments. Substantial social psychological research suggests that lived experiences of advantage/disadvantage profoundly shape adults' evaluations of the causes of inequality (i.e., their "beliefs in a just world" or BJWs, see Furnham, 2003 for a review). We envisioned two ways that SES could shape children's moral judgments, supported by this literature: On one hand, lower-status children might feel more distrustful of resource-distributing systems, consistent with Relative Deprivation Theory (Smith et al., 2012). On the other hand, lower-status children might be more practiced at justifying their material disadvantages and might therefore judge inequality as more acceptable, consistent with System Justification Theory (Henry & Saul, 2006; Liviatan & Jost, 2011). We return to these theories in the Discussion. In sum, we were interested in how SES would predict children's moral judgments of resource-distributing systems, especially when distributions are disadvantageous. Given these competing predictions,

we made no a priori hypotheses about the direction of the relation between SES and moral judgments.

To our knowledge, only a single study has examined how SES shapes children's moral evaluations of resource distributions. Elenbaas (2019) found that preschoolers who identified as high-resource, compared to the combined group of those who identified as middle- and low-resource, judged it as less okay to redistribute resources from the wealthy to the poor. However, these judgments did not correlate with children's reported resource-levels overall (high/middle/low), nor with objective SES (income level). We note several aspects of the study's design that may have limited its ability to detect these relations: First, children of this age do not have an accurate understanding of their family's socioeconomic status (Mandalaywala, Tai, & Rhodes, 2020; Peretz-Lange, Harvey, & Blake, 2021), as this typically develops in late childhood or adolescence (Mistry et al., 2015; Peretz-Lange et al., 2021; Rivenbark et al., 2019). Moreover, one's SES *relative* to one's peers may be more relevant for social cognition than absolute income level (Luttmer, 2005; Quon & McGrath, 2014). Thus, here we assess *relative* SES, using both *objective* and *subjective* measures. Second, participants in the Elenbaas (2019) study were not implicated in the resource distributions between third-parties, potentially reducing distributions' relevance to children. Finally, the study examined judgments about *redistributing owned* resources, rather than about the systems initially distributing resources, as in the present study. Thus, important open questions remain about how SES shapes children's moral judgments of resource distributions.

A second way we aimed to advance prior research was by presenting children with novel resource distributions. Prior work has typically explored children's ideas about familiar resource distributions (e.g., in wealth or house size, Olson et al., 2012; Mistry et al., 2015). Children with

different socioeconomic backgrounds may have different beliefs about the causes of these inequalities (del Río & Strasser, 2011), potentially reflecting different conversations with parents (Chalik & Rhodes, 2015) or cultural experiences (Davoodi et al., 2020; Enesco & Navarro, 2003). Rather than asking children about a familiar wealth inequality, we asked about a novel resource inequality. This approach follows prior work utilizing novel inequalities to circumvent what children may have learned about particular familiar inequalities (Hussak & Cimpian, 2015; Peretz-Lange et al., 2021). We reasoned that, if SES impacted children's moral judgments of novel inequalities, this would provide strong evidence that SES impacts children's conceptual construal of inequality, rather than only their knowledge of particular familiar inequalities.

Relatedly, we also designed the novel inequality to be causally-ambiguous. Prior research has typically asked children about distributions whose origins are known to them, because children either distributed resources themselves (Blake & McAuliffe, 2011; Blake et al., 2015) or were told how they were distributed (Hussak & Cimpian, 2015). However, children may not always know the causes of inequalities that they encounter in the social world (see Elenbaas, Rizzo, & Killen, 2020 for a discussion). We simulated this encounter in the present study by using a novel resource-distributing machine whose exact mechanism was not visible to children.

In sum, the present study investigated how SES shapes children's moral judgments of novel resource distributions. We assessed both *Objective* Socioeconomic Status (OSS) as well as *Subjective* Socioeconomic Status (SSS). Importantly, both variables represented participants' *relative* SES compared to others in their community. To determine OSS, we gathered information from parents about family income and education levels, along with publicly-available socioeconomic information about participants' neighborhoods, and used these to compute families' OSS relative to others in their neighborhoods. To determine SSS, we asked

children to rank their family's SES relative to others in their neighborhood using a 10-level scale that has been validated for use with young children (Amir et al., 2019, Mandalaywala et al., 2020). We then introduced participants to a novel machine that distributed Skittles between the participant and a fictional peer. We experimentally manipulated participants' position (advantaged, disadvantaged, or equal to the peer) in three between-subjects conditions. Finally, we asked participants to make moral judgments of the Skittle-distributing machine (i.e., whether it was fair and whether its distributions were right and deserved). We aimed to investigate how SES would impact these judgments, both overall and with respect to condition. We had competing hypotheses that SES might either positively or negatively predict moral judgments of the machine. We made no a priori predictions about distinct impacts of SSS versus OSS. As a secondary aim, we also sought to replicate prior findings that age and experimentally-manipulated position would impact children's judgments, extending these findings to a novel, causally-ambiguous resource distribution.

Method

Participants

Participants were 113 six- to nine-year-old children (mean age = 7.8 years) recruited from a database at an urban university. A power analysis indicated that a sample size of 112 would be sufficient to detect medium-small effects in our multiple regression model with a power level of 80%.

Parents reported gender, racial, zip code, and socioeconomic information through a questionnaire. (Due to their sensitive nature, data are not publicly available.) The sample was 56% male and 44% female, and 65% White, 10% Black, 10% Multiracial, 8% Asian or Pacific

Islander, and 5% Latinx. The remaining 2% did not report their racial identity. Families reported their household income level (from “<20,000” to “>\$250,000”) and maternal education level (from “no H.S. degree” to “graduate degree”) on two ordinal scales, following previous research using these factors to jointly indicate OSS (Hunt, 2000). Although our sample included the full range of socioeconomic levels, it skewed quite high on both measures. In particular, 82% of parents reported household incomes above their zip code’s Median Household Income, and 62% reported that the child’s mother had a graduate-level degree. We return to this issue in the Discussion.

Procedure

Participants first reported their SSS, then completed distractor tasks¹, then completed the machine task, and finally reported their moral judgments.

Subjective Socioeconomic Status (SSS) scale. A ladder task was used to assess SSS. This task has been validated for use with young children; it has strong test-retest reliability (Amir et al., 2019) and correlates with other measures of children’s socioeconomic judgments (e.g., house-matching tasks, Mandalaywala et al., 2020). In the task, participants were shown an image of a ladder with ten rungs and told, “Imagine that this ladder is like your neighborhood. At the top of the ladder are the families with the most money, biggest houses, whose parents have the best jobs, and they have the most food. At the bottom of the ladder are the families with the least amount of money, the smallest houses or no house, and whose parents have the worst jobs or no jobs, and the least food. Now think about your own family. Where would you put your family on this ladder?” Children pointed to a rung of the ladder to indicate their responses (1-10).

¹ These tasks pertained to another research project conducted in the lab and were not related to resources, inequality, or fairness.

Machine task. Participants were introduced to a machine (Figure 1) that dispensed Skittles out of two holes. (When participants reported not liking Skittles, an alternative candy was used.) The machine was an opaque box whose mechanism was not visible. No information was provided about how the machine worked. The experimenter explained that Skittles from one hole would be for them to take home, while Skittles from the other hole would go to another child coming into the lab later. After confirming the child understood, the experimenter announced, “Okay, I’m going to turn the machine on and we’ll see how many Skittles come out.”

Figure 1. The novel machine, shown here with its lid open and internal mechanism visible.

The machine appeared to distribute Skittles on its own, but was in fact operated by the experimenter through a remote control. Skittles were distributed across ten rounds, with the precise number of Skittles distributed varying each round to promote participant engagement.

After each round, participants were asked how many Skittles they had received and how many the peer had received, and who had received more or if it was equal. Skittles were then placed in bowls so that participants could see them accumulate throughout the task. After the tenth round, participants were prompted to count the total number of Skittles and to report who got more overall or if it was equal.

In all conditions, the participant received a total of 24 Skittles. This was either half of (Disadvantage condition), twice (Advantage condition), or equal to (Equality condition) the number of Skittles the peer received. The peer received either 48, 12, or 24 Skittles in the respective conditions.

Moral judgments. Participants were trained to use a five-point likert scale by pointing to images (from “two thumbs down” to “two thumbs up”). Participants then judged four moral statements, a fairness statement (“this machine is fair”), two normative statements (“this machine is working like it should” and “this machine is broken and needs to be fixed,” which was reverse-coded), and a desert statement (“this machine is set up so that people get what they deserve”), which the experimenter read aloud in a fixed order.

Results

Preliminary steps. We first computed OSS and Moral Judgment Scores. To compute OSS, we took the mean of Income Level and Maternal Education Level (as in Hunt, 2000), following a Spearman’s rank correlation confirming that these ordinal scores were correlated, $\rho = .43, p < .001$. We then divided the result by the male unemployment rate in participants’ zip codes, a neighborhood metric often used to contextualize individual socioeconomic information (see Boardman & Robert, 2000 for a similar approach). To compute Moral Judgment Scores, we

took the mean of participants' four judgments. Finally, a correlation confirmed that OSS and SSS were uncorrelated ($r = .02, p = .82$), in line with our expectation that children would not know their family's SES.

Analyses. A linear regression was conducted to investigate how Moral Judgment Scores were predicted by OSS, SSS (1-10), Condition (Advantage, Disadvantage, or Equality, with Equality serving as the reference level for the dummy-coded conditions), and Age (6.0-9.9). The model was significant overall, $F(5,95) = 5.19, p < .001$, with the predictors accounting collectively for 21.4% of the variance in scores.

Supporting our primary hypothesis, the analysis revealed that SSS accounted for significant variance in Moral Judgment Scores. In particular (see Figure 2a), children who viewed their families as lower-status judged the resource distributions as less fair, $b = .08, p = .01$, holding other factors constant. However, OSS did not account for significant variance in Moral Judgment Scores, $p = .69$. Thus, children who viewed their families as high-status, but not those whose families were actually high-status, viewed inequalities as more fair.

Supporting our secondary hypotheses, the analysis also revealed significant main effects of Age and Condition: Children's fairness ratings declined with age ($b = -.14, p = .004$), and children in the Advantage ($b = .35, p = .009$) and Disadvantage conditions ($b = .35, p = .01$) judged the machine more negatively than children in Equality condition, and increasingly so as they grew older (Advantage*Age interaction $b = .23, p = .045$; Disadvantage*Age interaction $b = .27, p = .02$). Thus, children rated inequality as more unfair as they got older, and viewed inequalities as unfair regardless of whether they advantaged or disadvantaged the participant.

Figure 2. Relations between Moral Judgment Scores and (a) SSS and (b) OSS and Condition.

Marginal density plots show the underlying distributions of each relative SES measure.

Follow-up analyses explored whether socioeconomic status might impact children's sensitivity to disadvantage. When an interaction between SSS and Condition was added into the model, it did not explain significant additional variance in Moral Judgment Scores ($p = .94$). However, an interaction between *OSS* and Condition did explain significant additional variance in scores (Model Comparison: $F(2,93) = 3.13, p = .04$). In particular, the impact of the Disadvantage relative to the Equality condition varied by OSS ($b = -.24, p = .02$), but the impact of the Advantage relative to the Equality condition did not ($p = .68$). As shown in Figure 2b, higher OSS predicted significantly more positive judgments in the Equality and Advantage conditions ($b = .09, p = .04$), but marginally more negative judgments in the Disadvantage condition ($b = -.2, p = .09$). Thus, children from socioeconomically *advantaged* positions were especially sensitive to being at a resource *disadvantage* in the experiment. As effects are small, we recommend interpreting these results with caution.

Overall, results revealed that both SSS and OSS predicted participants' moral judgments, albeit in different ways. Lower SSS predicted more negative moral judgments overall, while lower OSS predicted more positive judgments of the Disadvantage condition in particular. Moreover, both age and condition predicted participants' judgments, as we expected.²

Discussion

The present study investigated how SES shapes children's moral judgments of the causes of resource distributions. We collected subjective and objective measures of relative SES (SSS and OSS) and then asked children to judge a novel candy-distributing machine. Both SSS and OSS predicted moral judgments, but in different ways: *Viewing oneself as lower-status* predicted more negative moral judgments (i.e., more judgments of the machine as unfair), but *actually being lower-status* predicted more acceptance of disadvantage (i.e., more judgments of the machine as fair in the Disadvantage condition relative to the other conditions). Notably, because these relations were found in the context of a novel resource distribution, they do not reflect children's knowledge of a particular resource distribution, but rather how children conceptualize resource distributions they encounter. Findings represent initial evidence that SES predicts children's moral judgments of the causes of resource distributions, which may inform their reasoning about the distributions themselves.

Although we made no a priori predictions about the precise roles of SSS and OSS, results revealed a distinction in how these forms of SES predicted children's judgments. SSS predicted more positive judgments (consistent with initial findings from Elenbaas, 2019), but OSS

² See Supplementary Materials for further results, including models with *absolute* rather than relative measures of OSS as predictors, collinearity analyses, analyses of Moral Judgment Score residuals, investigations of whether age impacted relations between OSS and SSS, and disaggregated responses to the four moral judgment items.

predicted more negative judgments of disadvantage (a new contribution to this literature.) Why might SSS and OSS play such different roles in children's moral judgments? Social cognitive theories shed some light on potential mechanisms underlying these relations. According to Relative Deprivation Theory, one's *view of* one's own socioeconomic position shapes levels of resentment and distrust of resource-distributing systems, as people may attribute their position to these systems (Crosby, 1976; Smith et al., 2012). However, according to System Justification Theory, one's *actual socioeconomic position* and experiences with socioeconomic disadvantage lead a person to temper their reactions to disadvantage, an adaptive strategy to avoid distress (Henry & Saul, 2006; Hochschild, 1981; Liviatan & Jost, 2011). Indeed, adults' ladder-based ratings of relative SSS have been positively associated with BJWs (Yu et al., 2020), whereas Income-and-Education-based indicators of relative OSS have been negatively associated with BJWs (García-Sánchez et al., 2020). Thus, this study contributes to a growing body of evidence on distinctions between objective and subjective SES, harnessing a population (children) for whom these two forms of SES are distinct.

We also replicated prior findings that children increasingly view distributions as unfair as they grew older (Blake et al., 2015) and view both advantageous and disadvantageous forms of inequality as unfair, unlike younger children (Blake & McAuliffe, 2011). By extending these effects to the context of a novel inequality, we demonstrate that these developmental shifts do not reflect children's growing knowledge of a particular resource inequality, but rather a conceptual shift in how children construe distributions they encounter.

A major limitation of the present study was the high-SES background of our sample. Although the full range of OSS levels was represented, families skewed high on both Income and Maternal Education measures. We note that our findings concerning SSS conceptually replicate

findings from a highly socioeconomically diverse sample (Elenbaas, 2019), suggesting that our results are not unique to our sample. Nevertheless, future research should employ more socioeconomically diverse populations.

In sum, both subjective and objective forms of socioeconomic status predict children's moral judgments of novel resource distributions. Future research should continue to explore how these distinct forms of socioeconomic status shape early social cognition.

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