



ELSEVIER

Contents lists available at ScienceDirect

# Journal of Experimental Child Psychology

journal homepage: [www.elsevier.com/locate/jecp](http://www.elsevier.com/locate/jecp)



## Perceived access to resources and young children's fairness judgments



Laura Elenbaas

Department of Clinical and Social Sciences in Psychology, University of Rochester, Rochester, NY 14627, USA

### ARTICLE INFO

#### Article history:

Received 21 January 2019

Revised 7 June 2019

#### Keywords:

Subjective social status

Fairness

Resource allocation

Inequality

Equality

Ownership

### ABSTRACT

This study examined how young children's ( $N = 101$ ,  $M_{\text{age}} = 4.14$  years,  $SD = 0.57$ ) perceptions of their families' access to resources affect their views on others' use and distribution of familiar items. Using a simple measure involving stickers, children identified their families as either lower, higher, or in the middle in access to resources. Then, children evaluated a scenario in which an individual took crayons from one person and gave them to another in order to establish equality. Children who saw themselves as higher in access to resources determined that this was "not okay" (ownership took priority). By contrast, children who saw themselves as lower in access to resources or in the middle did not consistently prioritize equality or ownership. Thus, not only did young children think about how much or how little their families had, but these perceptions also played a role in their reasoning about the fair treatment of others.

© 2019 Elsevier Inc. All rights reserved.

### Introduction

Determining who can use which resources is both a moral concern across the lifespan and a frequent source of societal debate (Rutland & Killen, 2017; Wilkinson & Pickett, 2017). From a developmental perspective, the preschool years offer children an influx of experience with resource distribution. Dividing up snacks, protecting treasured possessions, and taking turns with limited materials like toys are some of children's earliest experiences with questions such as who owns, needs, and wants what (Nancekivell, Van de Vondervoort, & Friedman, 2013; Olson & Spelke, 2008). Interestingly, adults'

E-mail address: [laura.elenbaas@rochester.edu](mailto:laura.elenbaas@rochester.edu)

<https://doi.org/10.1016/j.jecp.2019.104667>

0022-0965/© 2019 Elsevier Inc. All rights reserved.

perceptions of their own access to resources can play an important role in their attitudes about what is fair for others (Brown-Iannuzzi, Lundberg, Kay, & Payne, 2015). Young children, too, pay close attention to how many items such as toys and treats they possess in comparison with their peers (Blake & McAuliffe, 2011). This raises the question of whether young children's perceptions of their own access to resources affect their developing views on the fair use and distribution of familiar items.

Early-emerging tendencies to focus on one fairness concern (e.g., who owns what) over another (e.g., who needs what) based on the perception that one has more or fewer resources than one's peers may have important interpersonal implications. To investigate this question, this study used a simple measure involving stickers to assess young children's perceptions of their families' access to resources and examined how these perceptions related to children's views on fair access for others. We focused on two common resource-related fairness concerns in young children's lives: equality and ownership.

### *Early-emerging fairness concerns*

From the perspective of social domain theory, fair treatment of others is a fundamental moral concern (Killen & Smetana, 2015). For instance, young children and adults alike recognize that taking someone else's resources (e.g., taking a peer's toy) or denying resources to others (e.g., refusing to share group snacks equally) is unfair. Young children also distinguish moral issues such as fairness, others' welfare, and rights from other salient considerations that are, for instance, conventional (e.g., socially normative, contextually expected) or pragmatic (e.g., convenient, practical) in nature (Dahl & Turiel, 2019; Smetana & Ball, 2019).

Recent research from this perspective also emphasizes that an important part of moral development involves reasoning and forming judgments about social interactions where more than one moral consideration is at stake (Dahl, Gingo, Uttich, & Turiel, 2018; Nucci, Turiel, & Roded, 2018; Wainryb, Brehl, Matwin, Sokol, & Hammond, 2005). For instance, imagine that two children need crayons to complete a special art project, but one child owns many more crayons than the other. Would it be acceptable for the child with less to take some crayons from the child with more so that, through equal access to crayons, both could achieve their goals?

In this scenario, concerns for ownership rights are in conflict with concerns for equality. Recognition of both of these moral concerns emerges very early in development. Toddlers expect items like snacks to be distributed equally between recipients (Sommerville, 2018) and share new toys equally with peers (Ulber, Hamann, & Tomasello, 2015). At the same time, however, toddlers also claim ownership of their own belongings ("mine!") during free play (Ross, Friedman, & Field, 2015).

By 3 years of age, young children uphold others' ownership rights by protesting when they see someone using an item without the owner's permission and by returning lost toys to their owners (Riedl, Jensen, Call, & Tomasello, 2015; Schmidt, Rakoczy, & Tomasello, 2013). However, 3-year-olds also share items like toys equally among third parties, judge that others should do the same, and protest when they see peers distributing unevenly (Olson & Spelke, 2008; Rakoczy, Kaufmann, & Lohse, 2016; Rizzo & Killen, 2016). In fact, young children even correct existing inequalities between peers by passing out items like treats equitably to ensure that everyone has the same amount (Li, Spitzer, & Olson, 2014; Paulus, Nöth, & Wörle, 2018). At the same time, young children recognize that ownership of familiar items such as clothing and toys can be legitimately transferred from one peer to another through an action like giving a birthday gift (Blake & Harris, 2009; Friedman & Neary, 2008; Nancekivell & Friedman, 2014).

In short, young children support both owners' rights to control the use of their property and individuals' rights to equal resources. Weighing concerns like these is a challenge throughout the lifespan. However, attempts to reason about and resolve these issues may emerge during early childhood as young children spend more time in the company of peers, experiencing and evaluating morally salient interactions and forming judgments about who is entitled to what (Rutland & Killen, 2017).

### *Impact of perceived access to resources on fairness concerns*

Interestingly, how young children see themselves in terms of relative access to resources may influence their views on the fair treatment of others (Côté, House, & Willer, 2015; Piff, Kraus, Côté, Cheng, &

Keltner, 2010). For instance, adults who see themselves as relatively well resourced are less supportive of redistributive policies like taxation to support public services than adults who see themselves as having fewer resources than others (Brown-Iannuzzi et al., 2015). These effects hold over and above the impact of more objective measures of socioeconomic status (SES), such as income, on adults' attitudes.

Similarly, where children *think* they stand in comparison with their peers can influence certain elements of developing social cognition. Perceptions of one's access to resources play a role, for instance, in older children's intergroup attitudes and views on peer social exclusion (Burkholder, Elenbaas, & Killen, 2019; Mistry, Brown, White, Chow, & Gillen-O'Neel, 2015) and in adolescents' emotional well-being and mental health (Goodman, Maxwell, Malspeis, & Adler, 2015; Rivenbark et al., 2019).

Young children, too, pay close attention to how many items such as stickers, candy, and toys they possess relative to their peers (Blake & McAuliffe, 2011; Mulvey, Buchheister, & McGrath, 2016; Paulus, Gillis, Li, & Moore, 2013). This suggests that perceived access to resources may play a role in young children's fairness judgments, particularly in contexts where more than one conclusion may seem reasonable. In the previous crayon example, for instance, concerns for ownership rights were in conflict with concerns for equality. The relative salience of these two fairness issues may differ for children based on whether they see themselves as low or high in access to resources (Brown-Iannuzzi et al., 2015).

To date, however, only a few studies have assessed *young* children's perceptions of their own access, or their families' access, to resources. For instance, in one study, 3- to 6-year-olds placed themselves on a rope with six pegs such that the kids at the top had "lots of toys and new clothes" and the kids at the bottom held the opposite social position (Mandalaywala, Tai, & Rhodes, 2019). In another study, 4- to 6-year-olds placed their families on a 10-rung ladder such that families at the top "have the most money, biggest houses, most food, and their parents have the best jobs" (Harvey & Blake, 2019). In both studies, the majority of young children placed themselves or their families at or near the top of the scale. Unlike older children's and adolescents' perceptions (e.g., Mistry et al., 2015; Rivenbark et al., 2019), young children's placements did not correlate significantly with their parents' reports of income or educational attainment (Harvey & Blake, 2019) or these indices were not directly measured (Mandalaywala et al., 2019).

Yet, most participants in prior studies were from families who were relatively high in SES. Some evidence suggests that young children from lower-income backgrounds may have a more early-emerging sense of their relative economic placement. For instance, one recent study asked 5- and 6-year-olds whether their families were more like "a family with a lot of money or a family with a little money" (Rauscher, Friedline, & Banerjee, 2017). Most children identified as "in between," but children from lower-income families were qualitatively less likely to identify as wealthy than children from higher-income families (see also Amar et al., 2015). One possibility is that access to resources may be a more salient everyday concern for young children from lower-income families relative to young children from higher-income families. Supporting this point, by the elementary school years, many children experiencing poverty report acute awareness of their families' financial situation, often in terms of not having enough money for food, school supplies, or brand-name clothes and shoes (Quint, Griffin, Kaufman, Landers, & Utterback, 2018).

Interestingly, older children across the economic spectrum often compare their possessions and lifestyle with those of their neighborhood and school peers when explaining how they arrived at an understanding of their economic placement (Mistry, Brown, White, Chow, & Gillen-O'Neel, 2015). These external reference points may generate awareness of similarities as well as differences. For instance, one recent study found that older children's perceptions of their families' access to resources correlated with their parents' reports of family economic disadvantage, the median household incomes of their home neighborhood, and the levels of poverty in their school (Rivenbark et al., 2019). In fact, recent evidence suggests that children attend to the economic status of their neighbors from as early as 5 years of age (Hazelbaker, Griffin, Nenadal, & Mistry, 2018).

Together, these findings indicate that young children from lower-income backgrounds may have a very general sense of their families' access to resources, and these perceptions may be informed by both family-level and broader environmental factors. Most pertinent to the current study, related work suggests that when equality and ownership are in conflict, the concern for ownership may be more salient to children who perceive themselves as having many resources, whereas the concern

for equality may be more salient for children who see themselves as relatively under-resourced (Brown-Iannuzzi et al., 2015; Piff et al., 2010).

### *The current study*

To investigate this question, this study assessed young children's perceptions of their families' access to resources and examined how these perceptions related to children's evaluations of three different hypothetical third-party actions involving resources (within participants). One action was similar to the scenario described above in which concerns for ownership and equality were in conflict. Specifically, a child took crayons that belonged to one peer and gave them to another in order to establish equality.

The other two actions involved only one fairness concern in isolation; a child took a building block that belonged to someone else (ownership), and a child distributed erasers in a way that established equality between two peers (equality). There is little prior evidence that children's evaluations of actions involving one fairness concern in isolation should differ based on their perceived access to resources. Thus, these evaluations were included in order to assess the limits of the influence of perceived access to resources on young children's judgments about fairness for others.

To assess their perceptions of their families' access to resources, all participants indicated which of a set of three hypothetical peers was "more like the kids in [their] family": an individual who owned one sticker, an individual who owned three stickers, or an individual who owned five stickers. To determine the extent to which these subjective perceptions matched more objective family and neighborhood indices, we examined correlations between children's placement of their families on the sticker scale and their parents' reported income and educational attainment as well as measures of family income and poverty in the zip codes where they attended school.

As children spend more time with peers outside the home, they develop increasingly sophisticated evaluations of fair and unfair interactions and increasingly complex reasoning about fairness concerns (Rutland & Killen, 2017). We recruited 3- and 4-year-olds for this study because, as noted above, these children could be expected to recognize and support both ownership rights (Ross et al., 2015; Schmidt et al., 2013) and equality (Olson & Spelke, 2008; Rakoczy et al., 2016) and to pay attention to their own relative resource status (Blake & McAuliffe, 2011; Mulvey et al., 2016; Paulus et al., 2013).

We focused on young children from low- to middle-income backgrounds because children from lower-income families may be more aware of their families' access to resources earlier in development than children from higher-income backgrounds (Quint et al., 2018; Rauscher et al., 2017). Moreover, although 44% of children in the United States alone live in families classified as low income (Jiang, Ekono, & Skinner, 2016), a far smaller percentage of studies on developing conceptions of fairness have included these children as participants. A small body of work suggests, however, that how children respond to certain morally salient decisions can differ as a function of family and neighborhood resources (Ball, Smetana, Sturge-Apple, Suor, & Skibo, 2017). For instance, young children from lower-income families are more generous in their giving behavior than young children from higher-income families (Chen, Zhu, & Chen, 2013; Miller, Kahle, & Hastings, 2015). In addition to the persistent need for sample diversity for a full understanding of child development (Nielsen, Haun, Kärtner, & Legare, 2017; Saegert et al., 2007; Williams, 2019), these emerging findings in particular underscore the need to know more about the fairness concerns of children from lower-income backgrounds.

### *Hypotheses*

Based on the evidence reviewed above, we expected that children's perceptions of their families' access to resources would affect their decision making in a complex context where more than one conclusion seemed fair. Specifically, when a peer infringed on ownership rights in order to establish equality, we predicted that children who perceived their families as higher in access to resources would evaluate this action more negatively than children who perceived their families as lower in access to resources, reflecting support for ownership rights over equality. Furthermore, we predicted that children who focused on equality, as evidenced by their reasoning for their decision, would eval-

uate this action more positively than children who focused on ownership. By contrast, we did not expect differences as a function of perceived family resources in children's evaluations of actions involving only one fairness concern (ownership or equality) in isolation.

## Method

### Participants

Participants were 3- and 4-year-old children ( $N = 101$ ,  $M_{\text{age}} = 4.14$  years,  $SD = 0.57$ ) from eight universal prekindergarten, expanded prekindergarten, or Head Start programs in a midsize city in the northeastern United States. Response rates ranged from approximately 40% to 100% between sites. A priori power analyses for the models described in the data analytic plan indicated that a sample size of approximately 75 would be necessary to detect medium effects with alpha at 0.05 and power at 0.80.

Parents were invited to provide demographic information for their children (displayed in Table 1). Additional economic information about each of the data collection sites is provided in Table 2 using publicly available data from the 2017 American Community Survey (ACS; U.S. Census Bureau, 2017). For comparability with our study sample, all reported ACS data pertained to families with children younger than 18 years.

### Procedure

Parental consent and children's verbal assent were obtained for all participants. Children were individually interviewed in quiet spaces at their schools. All stimuli and measures were presented

**Table 1**  
Sample demographics.

	<i>n</i>
Age	
3 years	35
4 years	66
Gender	
Girl	45
Boy	41
Declined to provide gender	15
Race or ethnicity	
African American	37
Multiracial or multiethnic	11
European American	7
Latinx	7
Asian American	2
Other	2
Declined to provide race or ethnicity	35
Approximate annual family income	
(1) <\$15,000	24
(2) \$15,000–\$30,000	16
(3) \$30,000–\$45,000	13
(4) \$45,000–\$60,000	11
(5) \$60,000–\$75,000	1
(6) \$75,000–\$90,000	2
(7) >\$90,000	0
Declined to provide approximate annual family income	34
Mother's highest level of education	
(1) Some high school	14
(2) High school graduate	17
(3) Some college	26
(4) Bachelor's degree	5
(5) Graduate or professional degree	1
Declined to provide mother's highest level of education	38
Total <i>N</i>	101

**Table 2**  
Site demographics.

Site	Study data: Participating families		Zip code data: Families with children under 18 years of age <sup>b</sup>	
	<i>n</i>	Approximate annual income <sup>a</sup>	Median annual income	Percentage in poverty
1	22	1.40	\$19,392	54
2	18	1.43	\$16,915	59
3	18	3.83	\$44,896	23
4	13	2.42	\$16,915	59
5	10	2.14	\$15,276	66
6	10	2.29	\$78,146	11
7	5	2.33	\$30,625	37
8	5	3.00	\$16,915	59

<sup>a</sup> Study scale for parent-reported annual income ranged from 1 (<\$15,000) to 7 (>\$90,000).

<sup>b</sup> Zip code data were drawn from the U.S. Census Bureau's 2017 American Community Survey.

on laptops in the form of fully illustrated and semi-animated vignettes in the order presented below. The characters in each vignette were silhouette outlines of young children with gender-neutral names (e.g., Alex) that were pretested to reveal no implications about gender or race.

Prior to the first vignette, participants were familiarized with a 6-point smiley/frowny face Likert-type scale used to measure their evaluations of characters' actions. The scale ranged from 1 = *really not okay* (big frown) to 6 = *really okay* (big smile). The entire session took approximately 15 min.

#### *Evaluation: ownership only*

Two characters were introduced: one with five building blocks described as the character's blocks "from home" and another with no blocks. The character with no blocks took one of the other character's blocks. The interviewer asked "Was it okay or not okay for [X] to do that?" and followed up with "Was it a little (not) okay, (not) okay, or really (not) okay?" in order to record participants' responses on the 6-point scale. Children responded verbally or by pointing to one of the smiley/frowny faces from 1 to 6.

#### *Evaluation: equality only*

Two characters were introduced: one with five erasers and another with one eraser. A third character, described as someone who was "giving out erasers," distributed one eraser to the character with five and five erasers to the character with one, resulting in six erasers per person. The interviewer used the procedures described above to record participants' evaluations of this action on the 6-point scale.

#### *Evaluation: ownership versus equality*

Two characters were introduced; both were coloring with the promise of receiving gummy bears for each picture they completed. The characters needed to use their own crayons "from home" for this task. One character had five crayons from home, whereas the other had one crayon from home. Then, a third character, described as "another kid" who was not coloring, took two crayons from the character with five and gave them to the character with one, resulting in three crayons per person. The interviewer used the procedures described above to record participants' evaluations of this action on the 6-point scale and then asked "Why was it (not) okay?" Children's verbal responses were audio-recorded.

*Reasoning coding.* Participants' reasoning was later coded into one of two mutually exclusive conceptual categories expected based on previous research (Nancekivell et al., 2013; Rutland & Killen, 2017). Table 3 provides the label and definition for each category as well as example responses. Responses that did not fit into one of the categories (e.g., "just because," "I don't know") were coded as "other." Codes were assigned by two research assistants blind to the hypotheses of the study. On the basis of  $n = 30$  participant responses, Cohen's  $\kappa = 0.90$  for inter-rater reliability.

**Table 3**  
Reasoning coding system.

Conceptual category	Definition	Examples
Ownership	References to the characters' ownership of resources	"Because he took some crayons from him." "Well! He took his crayons and put them in the other one's box!" "Because she had them."
Equality	References to equal resources for two characters	"Because now they both have three." "They got the same crayons now." "It's equal."

### Perceived family resources

Three characters were introduced: one who owned one sticker, one who owned three stickers, and one who owned five stickers. Participants were asked to think about the kids in their families and to indicate which character was "more like the kids in [their] family." Responses were coded as 1 = *one-resource character*, 2 = *three-resource character*, and 3 = *five-resource character*.

### Data analytic plan

All analyses were conducted in SPSS 24 (IBM, Armonk, NY, USA). We used three generalized linear models to test our hypotheses about children's evaluations in the Ownership Versus Equality, Ownership Only, and Equality Only scenarios. As noted above, all three evaluations were measured on the same scale ranging from 1 = *really not okay* to 6 = *really okay*. All three models examined the effects of perceived family resources (1 = *one resource*, 2 = *three resources*, and 3 = *five resources*) and age (0 = *3-year-olds* and 1 = *4-year-olds*) on children's evaluations.

For the Ownership Versus Equality scenario, we also used a generalized linear model with a binomial distribution and logit link function to examine the effects of perceived family resources, age, and evaluation (all coded as above) on children's reasoning (ownership or equality). Because data were collected from eight sites, we calculated intraclass correlation coefficients for children's evaluations and reasoning. These ranged from .03 to .05; we determined that the use of multilevel models was not necessary for the current analysis.

## Results

Table 4 reports correlations among all variables in the study. Notably, children's perceptions of their families' access to resources correlated significantly with their evaluations when ownership and equality were in conflict but not with their evaluations of actions involving each fairness concern in isolation.

### Perceived family resources

When asked whether the kids in their families were more like a hypothetical peer who owned one, three, or five stickers, 45% of participants ( $n = 43$ ) selected the child with one sticker, 17% ( $n = 16$ ) selected the child with three stickers, and 38% ( $n = 36$ ) selected the child with five stickers,  $\chi^2(2, N = 95) = 12.40, p = 0.002$ .

As noted in Table 4, children's perceptions were not significantly correlated with their parents' reports of income ( $r = -0.05, p = 0.70$ ) or education ( $r = 0.11, p = 0.40$ ). However, they were significantly correlated with the median annual incomes of families in the six different zip codes where data were collected ( $r = 0.21, p = 0.04$ ) and marginally correlated with zip code estimates of the proportions of families classified as living in poverty ( $r = -0.17, p = 0.09$ ).

**Table 4**  
Correlations among study variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Age <sup>a</sup>											
2. Gender <sup>b</sup>	-0.01										
3. Race or ethnicity <sup>c</sup>	0.04	0.17									
4. Approximate annual family income <sup>d</sup>	-0.03	-0.07	-0.25*								
5. Mother's highest level of education <sup>e</sup>	-0.04	0.08	0.06	0.30*							
6. Perceived family resources	0.14	-0.05	0.00	-0.05	0.11						
7. Evaluation: Ownership Versus Equality	-0.05	0.18	-0.06	-0.10	0.09	-0.23*					
8. Evaluation: Ownership Only	-0.23*	0.29**	-0.08	0.18	-0.01	0.03	0.34**				
9. Evaluation: Equality Only	-0.11	0.17	-0.12	0.10	-0.08	-0.04	0.15	0.17			
10. Zip code: Median income <sup>f</sup>	0.10	-0.11	-0.10	0.26*	0.21	0.21*	0.10	-0.07	-0.05		
11. Zip code: Percentage poverty <sup>f</sup>	-0.13	0.08	0.09	-0.36**	-0.23	-0.17	-0.18	0.06	0.03	-0.95**	

<sup>a</sup> For age, 1 = 4 years old.

<sup>b</sup> For gender, 1 = boy.

<sup>c</sup> For race or ethnicity, 1 = African American.

<sup>d</sup> Study scale for income ranged from 1 (<\$15,000) to 7 (>\$90,000).

<sup>e</sup> Study scale for education ranged from 1 (some high school) to 5 (graduate or professional degree).

<sup>f</sup> Zip code data pertain to families with children under 18 years of age.

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

### Evaluation: ownership versus equality

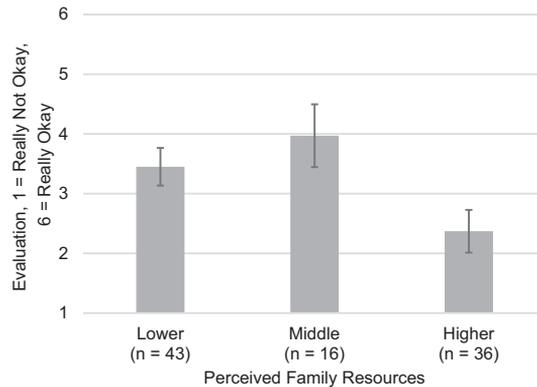
Overall, 62% of children evaluated taking crayons from one individual and giving them to another in order to establish equality as not okay (38% found this to be okay). On average, children evaluated the action at 3.11 ( $SD = 2.15$ ). The model testing our hypotheses was significant, likelihood ratio (LR)  $\chi^2(2, N = 95) = 8.56, p = 0.04$ . Children's evaluations differed as a function of their perceived family resources, Wald  $\chi^2(2, N = 95) = 8.72, p = 0.01$ , but not their age, Wald  $\chi^2(1, N = 95) = 0.10, p = 0.75$ .

As illustrated in Fig. 1, children who viewed their families as higher in access to resources evaluated this action significantly more negatively ( $M = 2.37, SE = 0.36$ ) than children who viewed their families as lower in access to resources ( $M = 3.45, SE = 0.32$ ), Wald  $\chi^2(1, N = 95) = 5.40, p = 0.01$ , Exp( $B$ ) = 2.97, 95% confidence interval (CI) [1.19, 7.44], or in the middle ( $M = 3.97, SE = 0.53$ ), Wald  $\chi^2(1, N = 95) = 6.78, p = 0.009$ , Exp( $B$ ) = 4.99, 95% CI [1.49, 16.75]. The evaluations of children who identified as lower or in the middle did not differ significantly from each other, Wald  $\chi^2(1, N = 95) = 0.73, p = 0.39$ , Exp( $B$ ) = 1.68, 95% CI [0.51, 5.52].

### Reasoning: ownership versus equality

Overall, 42% of participants provided reasoning for their evaluations that fit into one of the conceptual categories outlined in Table 3. Of these, 62% ( $n = 26$ ) referenced ownership and 38% ( $n = 16$ ) referenced equality. The model testing our hypotheses was significant, LR  $\chi^2(4, N = 42) = 33.20, p < 0.001$ . The effect of evaluation was significant, Wald  $\chi^2(1, 42) = 11.63, p = 0.001$ , but the effects of perceived family resources, Wald  $\chi^2(2, 42) = 1.39, p = 0.50$ , and age, Wald  $\chi^2(1, 42) = 1.05, p = 0.31$ , were not.

In line with expectations, the more positively children evaluated taking crayons from one individual and giving them to another in order to establish equality, the more likely they were to reason



**Fig. 1.** Children's evaluations of transferring crayons from one individual to another in order to establish equality differ as a function of their perceived access to resources. Bars represent standard errors of the means.

about equality rather than ownership,  $b = 1.23$ , 95% CI [0.52, 1.94],  $p < 0.001$ ,  $\text{Exp}(B) = 0.29$ , 95% CI [0.14, 0.59].

#### *Evaluations: ownership only and equality only*

Overall, 70% of children evaluated taking a building block that someone owned as not okay (30% found this to be okay). On average, children evaluated the action at 2.79 ( $SD = 1.96$ ). The model testing children's evaluations was significant, LR  $\chi^2(3, N = 95) = 8.73$ ,  $p = 0.03$ , but the effect for perceived family resources was not, Wald  $\chi^2(2, N = 95) = 2.84$ ,  $p = 0.24$ . Children's evaluations differed by age, Wald  $\chi^2(1, N = 95) = 7.23$ ,  $p = 0.007$ , with 4-year-olds evaluating the action more negatively ( $M = 2.56$ ,  $SE = 0.25$ ) than 3-year-olds ( $M = 3.67$ ,  $SE = 0.36$ ), Wald  $\chi^2(1, N = 95) = 7.23$ ,  $p = 0.007$ ,  $\text{Exp}(B) = 0.33$ , 95% CI [0.15, 0.74].

Overall, 54% of children evaluated an equitable resource distribution as not okay (46% found this to be okay). On average, children evaluated the action at 3.45 ( $SD = 2.00$ ). The model testing children's evaluations was not significant, LR  $\chi^2(3, N = 94) = 2.34$ ,  $p = 0.50$ .

## **Discussion**

Young children's attempts to coordinate the resource needs and wants of others shape their broader conceptions of fairness. This study found that children's perceptions of their families' access to resources played a role in their decisions in a morally salient situation where more than one conclusion seemed to be fair. Specifically, when concerns for ownership and equality were in opposition, children who perceived their families to be higher in access to resources determined that ownership took priority, whereas children who perceived their families to be lower in access to resources did not consistently prioritize equality or ownership. Moreover, children's reasoning for their decisions revealed that those who focused on issues of ownership were more likely to reject crayon redistribution, whereas those who focused on equality were more likely to accept it. Thus, not only did young children think about how much or how little their families had, but these perceptions were related to their judgments about what was fair for others.

#### *Perceived access and fairness judgments*

Challenges arise for young children in reasoning about interactions where more than one moral consideration is at stake (Dahl et al., 2018; Nucci et al., 2018; Wainryb et al., 2005). The findings from this study seem to echo recent evidence that adults who see themselves as higher in access to resources are less supportive of broad-scale redistributive policies (Brown-Iannuzzi et al., 2015).

Specifically, when one person took resources from another to establish equality between two peers, only children who perceived their families to be higher in access to resources consistently judged that ownership took priority.

These findings also fit well with related work indicating that young children distinguish between property transfers initiated through actions such as gift giving and those initiated through an action such as taking (Blake & Harris, 2009; Friedman & Neary, 2008; Nancekivell & Friedman, 2014). In this study, the vignette character who transferred crayons from one person to another did so without the permission of the well-resourced individual. Children who perceived their families to be higher in access to resources may have interpreted this action as more unfair than children who perceived their families to be lower in access to resources, leading to greater rejection of crayon redistribution. Indeed, children who explicitly reasoned about ownership evaluated this action more negatively than children who reasoned about other issues (e.g., “Because he took some crayons from him”).

By contrast, children who perceived their families to be lower or middle in access to resources judged this action more neutrally, reflecting mixed concerns for equality and ownership. These findings accord with those of recent studies indicating that young children distinguish between fair and unfair inequalities. For instance, when ownership is not a factor, young children correct disparities with perceived illegitimate origins (like gender biases) but not inequalities with perceived legitimate origins (like unequal reward for unequal effort) (Rizzo, Elenbaas, & Vanderbilt, 2018). In this study, children who perceived their families to be lower or middle in access to resources may have interpreted the initial crayon inequality between peers as more unfair than children who perceived their families to be higher in access to resources, leading to greater acceptance of crayon redistribution. Along these lines, children who explicitly reasoned about equality evaluated this action more positively than children who reasoned about other factors (e.g., “Because now they both have three”).

More generally, these findings build on related work demonstrating how perceptions of one's relative access to resources affect developing social cognition. Relative resource status affects older children's intergroup attitudes (Burkholder et al., 2019; Mistry et al., 2015) and adolescents' emotional well-being (Goodman et al., 2015; Rivenbark et al., 2019). This study revealed that perceiving one's family as well resourced or less well resourced also plays a role in young children's evaluations of what is fair for others. Importantly, however, these differences emerged only when children considered a complex scenario in which more than one decision appeared to be reasonable and not when they considered the issues of ownership and equality in isolation. These findings reflect the strength and prevalence of ownership and equality concerns in young children's daily lives (Nancekivell et al., 2013; Olson & Spelke, 2008) and point to a limit on the impact of perceived access to resources on young children's thinking about fairness.

#### *Young children's perceptions of their families' access to resources*

Interestingly, 45% of young children in this study identified the “kids in their family” as similar to a child who owned one sticker (rather than three or five stickers). In general, prior work suggests that most young children identify themselves or their families as quite high in access to resources. However, this is the first study of its kind to focus explicitly on children from lower-income backgrounds. Young children from lower-income families may be more aware of their access to resources earlier in development than young children from higher-income backgrounds (Rauscher et al., 2017). Certainly by the elementary school years, many children experiencing poverty are keenly aware of their families' financial situation (Quint et al., 2018).

Alternatively, the very simple measure employed in this study may have made it easier for 3- and 4-year-olds to place their families on a relative scale. Stickers are not a basic need like food, housing, or medical care, but they are a resource that is familiar and desirable to young children (Blake & Rand, 2010; Chernyak & Sobel, 2016). Furthermore, comparing one sticker versus three stickers versus five stickers requires only an awareness of relative numerosity and a basic understanding of ownership, both of which emerge by toddlerhood (Ross et al., 2015; Xu & Spelke, 2000). By contrast, determining where to place one's family on a multilevel rope or ladder representing wealth or income may require a modest comprehension of metaphor, which is later developing (Lecce, Ronchi, Del Sette, Bischetti, & Bambini, 2019).

Finally, this study found one significant association between an objective economic measure and young children's subjective perceptions of their families' access to resources. Specifically, young children's perceptions correlated significantly with median annual family incomes (and marginally with the proportions of families in poverty) in the zip codes where they went to school. However, children's perceptions did not correlate significantly with their parents' reports of income and education. It is possible that zip code indices actually provided a more fine-grained scale of family SES than the parent-report measure given the somewhat small range of parent-reported incomes and education levels for this study. Parents' reports were correlated with zip code data (see Table 4), providing some evidence for this possibility. Moreover, whereas only 66% of parents provided income and education information for their families, census data were available for 100% of participants, increasing the number that could be included in the correlation.

It is also possible that young children's perceptions of their families' access to resources are directly informed by what they observe in the places where they live, play, and go to school. This interpretation is in line with recent research indicating that older children's responses to similar measures correlate with markers of SES in their schools and neighborhoods (Rivenbark et al., 2019). Although we did not ask participants in the current study to verbally explain their answers, other studies (e.g., Mistry, Brown, White, Chow, & Gillen-O'Neel, 2015) have documented references to the possessions and lifestyle of peers at school and in the neighborhood when older children explain their perceptions of their families' access to resources (see also Hazelbaker et al., 2018).

#### *Limitations and future directions*

The findings from this study point to several important areas for further investigation. For instance, young children recognize that there are ways to transfer resources from one person to another without violating ownership rights such as requesting, offering, and giving (Blake & Harris, 2009; Friedman & Neary, 2008; Nancekivell & Friedman, 2014). Their reasoning about these actions is likely to differ from their reasoning about the action used in this study. Future research should examine how young children's perceived access to resources relates to their evaluations of social interactions where resource equality is achieved through different means.

Furthermore, there is a need for continued investigation into the bases of young children's perceptions of their families' access to resources and the best ways to assess them. Based on the findings of this study, future research should include participants from low-income backgrounds because these children may be attuned to their families' financial situations earlier in development than children from middle- or high-income backgrounds. During early childhood in particular, it may be especially important to ask about children's families' resources rather than their own resources (as individuals) because our findings and those of another prior study (Rauscher et al., 2017) suggest that asking about families may produce more accurate assessments.

In addition to ladder-type measures, which effectively assess older children's and adolescents' perceptions (e.g., Mistry et al., 2015; Rivenbark et al., 2019), research during early childhood should consider using visual measures involving familiar resources because these comparisons may be especially salient to young children. It would be beneficial, however, to include more comparisons, such as relative possession of books, food, and/or clothing, as well as measures asking children to explain their subjective placement, to strengthen the evidence for children's perceptions. Using different resources may also help to determine which types correlate with parent reports of family SES in addition to neighborhood indicators and which types relate most strongly to children's fairness judgments. Future work should also vary the number of items for relative comparison to determine which differences of scale best capture young children's perceptions of their families' access to resources.

Concerns for ownership and equality emerge very early in development. However, some children own more, and experience more equal treatment, than other children. In this study, when the two fairness concerns were in conflict, children who perceived their families to be higher in access to resources determined that ownership took priority, but children who perceived their families to be lower in access to resources did not. Together, these findings point to one way in which young children's perceptions of their own access to resources affect their developing conceptions of fairness in everyday life.

## Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jecp.2019.104667>.

## References

- Amar, J. A., Llanos, R. A., González, M. M., Agamez, E. M., Peña, O. C., & Romero, F. A. C. (2015). Beliefs about poverty related to social categorization in childhood. *Suma Psicológica*, *22*, 9–17.
- Ball, C. L., Smetana, J. G., Sturge-Apple, M. L., Suor, J. H., & Skibo, M. A. (2017). Moral development in context: Associations of neighborhood and maternal discipline with preschoolers' moral judgments. *Developmental Psychology*, *53*, 1881–1894.
- Blake, P. R., & Harris, P. L. (2009). Children's understanding of ownership transfers. *Cognitive Development*, *24*, 133–145.
- Blake, P. R., & McAuliffe, K. (2011). "I had so much it didn't seem fair": Eight-year-olds reject two forms of inequity. *Cognition*, *120*, 215–224.
- Blake, P. R., & Rand, D. G. (2010). Currency value moderates equity preference among young children. *Evolution and Human Behavior*, *31*, 210–218.
- Brown-Iannuzzi, J. L., Lundberg, K. B., Kay, A. C., & Payne, B. K. (2015). Subjective status shapes political preferences. *Psychological Science*, *26*, 15–26.
- Burkholder, A. R., Elenbaas, L., & Killen, M. (2019). Children's evaluations of intergroup exclusion in interracial and inter-wealth peer contexts. *Child Development*. <https://doi.org/10.1111/cdev.13249>.
- Chen, Y., Zhu, L., & Chen, Z. (2013). Family income affects children's altruistic behavior in the dictator game. *PLoS One*, *8*(11), e80419.
- Chernyak, N., & Sobel, D. M. (2016). Equal but not always fair: Value-laden sharing in preschool-aged children. *Social Development*, *25*, 340–351.
- Côté, S., House, J., & Willer, R. (2015). High economic inequality leads higher-income individuals to be less generous. *Proceedings of the National Academy of Sciences of the United States of America*, *112*, 15838–15843.
- Dahl, A., Gingo, M., Uttich, K., & Turiel, E. (2018). Moral reasoning about human welfare in adolescents and adults: Judging conflicts involving sacrificing and saving lives. *Monographs of the Society for Research in Child Development*, *83*(3, Serial No. 330).
- Dahl, A., & Turiel, E. (2019). Using naturalistic recordings to study children's social perceptions and evaluations. *Developmental Psychology*, *55*, 1453–1460.
- Friedman, O., & Neary, K. R. (2008). Determining who owns what: Do children infer ownership from first possession?. *Cognition*, *107*, 829–849.
- Goodman, E., Maxwell, S., Malspeis, S., & Adler, N. (2015). Developmental trajectories of subjective social status. *Pediatrics*, *136*, e633–e640.
- Hazelbaker, T., Griffin, K. M., Nenadal, L., & Mistry, R. S. (2018). Early elementary school children's conceptions of neighborhood social stratification and fairness. *Translational Issues in Psychological Science*, *4*, 153–164.
- Jiang, Y., Ekono, M., & Skinner, C. (2016). *Basic facts about low-income children: Children under 18 years, 2013*. New York: National Center for Children in Poverty, Columbia University. Retrieved from: [http://www.nccp.org/publications/pdf/text\\_1100.pdf](http://www.nccp.org/publications/pdf/text_1100.pdf).
- Killen, M., & Smetana, J. G. (2015). Origins and development of morality. In M. E. Lamb (Ed.), *Handbook of child psychology and developmental science* (7th ed., pp. 701–749). New York: Wiley-Blackwell.
- Lecce, S., Ronchi, L., Del Sette, P., Bischetti, L., & Bambini, V. (2019). Interpreting physical and mental metaphors: Is theory of mind associated with pragmatics in middle childhood? *Journal of Child Language*, *46*, 393–407.
- Li, V., Spitzer, B., & Olson, K. R. (2014). Preschoolers reduce inequality while favoring individuals with more. *Child Development*, *85*, 1123–1133.
- Harvey, T., & P. R. (2019). Do young children have a subjective social status? Paper presented at the Society for Research in Child Development biennial meeting, Baltimore, MD.
- Mandalaywala, T. M., Tai, C., & Rhodes, M. (2019, January 4). Children's use of race and gender as cues to social status. doi:10.31234/osf.io/3rnej.
- Miller, J. G., Kahle, S., & Hastings, P. D. (2015). Roots and benefits of costly giving: Children who are more altruistic have greater autonomic flexibility and less family wealth. *Psychological Science*, *26*, 1038–1045.
- Mistry, R. S., Brown, C. S., White, E. S., Chow, K. A., & Gillen-O'Neel, C. (2015). Elementary school children's reasoning about social class: A mixed-methods study. *Child Development*, *86*, 1653–1671.
- Mulvey, K. L., Buchheister, K., & McGrath, K. (2016). Evaluations of intergroup resource allocations: The role of theory of mind. *Journal of Experimental Child Psychology*, *142*, 203–211.
- Nancekivell, S. E., & Friedman, O. (2014). Preschoolers selectively infer history when explaining outcomes: Evidence from explanations of ownership, liking, and use. *Child Development*, *85*, 1236–1247.
- Nancekivell, S. E., Van de Vondervoort, J. W., & Friedman, O. (2013). Young children's understanding of ownership. *Child Development Perspectives*, *7*, 243–247.
- Nielsen, M., Haun, D., Kärtner, J., & Legare, C. H. (2017). The persistent sampling bias in developmental psychology: A call to action. *Journal of Experimental Child Psychology*, *162*, 31–38.
- Nucci, L., Turiel, E., & Roded, A. D. (2018). Continuities and discontinuities in the development of moral judgments. *Human Development*, *60*, 279–341.
- Olson, K. R., & Spelke, E. S. (2008). Foundations of cooperation in young children. *Cognition*, *108*, 222–231.
- Paulus, M., Gillis, S., Li, J., & Moore, C. (2013). Preschool children involve a third party in a dyadic sharing situation based on fairness. *Journal of Experimental Child Psychology*, *116*, 78–85.
- Paulus, M., Nöth, A., & Wörle, M. (2018). Preschoolers' resource allocations align with their normative judgments. *Journal of Experimental Child Psychology*, *175*, 117–126.

- Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having less, giving more: The influence of social class on prosocial behavior. *Journal of Personality and Social Psychology*, 99, 771–784.
- Quint, J., Griffin, K. M., Kaufman, J., Landers, P., & Utterback, A. (2018). *Experiences of parents and children living in poverty: A review of the qualitative literature (OPRE Report 2018–30)*. Washington, DC: Office of Planning, Research, & Evaluation.
- Rakoczy, H., Kaufmann, M., & Lohse, K. (2016). Young children understand the normative force of standards of equal resource distribution. *Journal of Experimental Child Psychology*, 150, 396–403.
- Rauscher, E., Friedline, T., & Banerjee, M. (2017). We're not rich, but we're definitely not poor: Young children's conceptions of social class. *Children and Youth Services Review*, 83, 101–111.
- Riedl, K., Jensen, K., Call, J., & Tomasello, M. (2015). Restorative justice in children. *Current Biology*, 25, 1731–1735.
- Rivenbark, J. G., Copeland, W. E., Davisson, E. K., Gassman-Pines, A., Hoyle, R. H., Piontak, J. R., ... Odgers, C. L. (2019). Perceived social status and mental health among young adolescents: Evidence from census data to cellphones. *Developmental Psychology*, 55, 574–585.
- Rizzo, M. T., Elenbaas, L., & Vanderbilt, K. E. (2018). Do children distinguish between resource inequalities with individual versus structural origins?. *Child Development*. <https://doi.org/10.1111/cdev.13181>.
- Rizzo, M. T., & Killen, M. (2016). Children's understanding of equity in the context of inequality. *British Journal of Developmental Psychology*, 34, 569–581.
- Ross, H., Friedman, O., & Field, A. (2015). Toddlers assert and acknowledge ownership rights. *Social Development*, 24, 341–356.
- Rutland, A., & Killen, M. (2017). Fair resource allocation among children and adolescents: The role of group and developmental processes. *Child Development Perspectives*, 11, 56–62.
- Saegert, S. C., Adler, N. E., Bullock, H. E., Cauce, A. M., Liu, W. M., & Wyche, K. F. (2007). *Report of the APA Task Force on Socioeconomic Status*. Washington, DC: American Psychological Association. Retrieved from: <https://www.apa.org/pi/ses/resources/publications/task-force-2006.pdf>.
- Schmidt, M. F. H., Rakoczy, H., & Tomasello, M. (2013). Young children understand and defend the entitlements of others. *Journal of Experimental Child Psychology*, 116, 930–944.
- Smetana, J. G., & Ball, C. L. (2019). Heterogeneity in children's developing moral judgments about different types of harm. *Developmental Psychology*, 55, 1150–1163.
- Sommerville, J. A. (2018). Infants' understanding of distributive fairness as a test case for identifying the extents and limits of infants' sociomoral cognition and behavior. *Child Development Perspectives*, 12, 141–145.
- Ulber, J., Hamann, K., & Tomasello, M. (2015). How 18- and 24-month-old peers divide resources among themselves. *Journal of Experimental Child Psychology*, 140, 228–244.
- U.S. Census Bureau. (2017). American community survey. Retrieved from: <https://factfinder.census.gov/>.
- Wainryb, C., Brehl, B. A., Matwin, S., Sokol, B. W., & Hammond, S. (2005). Being hurt and hurting others: Children's narrative accounts and moral judgments of their own interpersonal conflicts. *Monographs of the Society for Research in Child Development*, 70(3, Serial No. 281).
- Wilkinson, R. G., & Pickett, K. E. (2017). The enemy between us: The psychological and social costs of inequality. *European Journal of Social Psychology*, 47, 11–24.
- Williams, W. R. (2019). Considering Carnegie's legacy in the time of Trump: A science and policy agenda for studying social class. *Journal of Social Issues*, 75, 356–382.
- Xu, F., & Spelke, E. S. (2000). Large number discrimination in 6-month-old infants. *Cognition*, 74, B1–B11.