

ABSTRACT

Title of Dissertation: INTERGROUP INEQUALITY AND FAIR
ALLOCATION IN CHILDHOOD AND
ADOLESCENCE

Laura Marie Elenbaas, Doctor of Philosophy,
2017

Dissertation directed by: Professor Melanie Killen, Human Development
and Quantitative Methodology

Understanding children's perceptions of social inequalities is essential, as attitudes established in childhood can continue into adulthood, sustaining a damaging cycle of exclusion. This study examined 8-14 year-olds' perceptions of economic disparities in access to opportunities, decisions about whether to correct or perpetuate these inequalities, and expectations for whether others would do the same. In order to place these issues in a familiar context, participants ($N = 342$) decided whom to admit to an educational summer camp opportunity when access had been restricted in the past based on economic status. Three central findings emerged.

First, in contrast to pervasive assumptions about wealth and merit, children who were aware of economic inequalities were more likely to choose low-wealth peers when they had the chance to decide whom to admit to a special opportunity. Building on the theoretical foundation of the social reasoning development model (Killen, Elenbaas, & Rutland, 2015), these findings provide evidence for how awareness of intergroup

relations can contribute to moral judgments in childhood. However, children interpreted inequality through the lens of their own economic background, exhibiting more concern for peers who were more economically similar to them. These socioeconomic differences have implications for peer relations in childhood and adolescence, and may have implications for social stratification later in life.

Second, in contrast to their own decisions, between childhood and adolescence children increasingly expected others to seek access to opportunities for themselves. Further, children from higher-income families expected more self-serving tendencies than children from lower-income families. There are likely several mechanisms underlying higher-income children's perceptions, potentially including exposure to competitive stereotypes from peers.

Third, children held stereotypes about economic groups, and were increasingly likely to reference these stereotypes between childhood and adolescence. Stereotypes about the wealthy were similar to those observed in adults (e.g., competitive, entitled, selfish). Surprisingly, stereotypes about low-wealth peers were benevolent (e.g., kind, grateful, generous). However, "positive" stereotypes like these can be used to rationalize existing inequalities. These results have broader implications for educators and policy-makers interested in designing programs that encourage consideration of economic inequality and fairness in development.

INTERGROUP INEQUALITY AND FAIR ALLOCATION IN CHILDHOOD AND
ADOLESCENCE

by

Laura Marie Elenbaas

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2017

Advisory Committee:

Professor Melanie Killen, Chair

Assistant Professor Lucas Butler

Professor Natasha Cabrera

Associate Professor Geetha Ramani

Associate Professor Richard Shin, Dean's Representative

© Copyright by
Laura Marie Elenbaas
2017

Acknowledgements

I would like to express my heartfelt thanks to my family, friends, mentors, and colleagues. First, thank you to my parents, Debra and Gregg Elenbaas, for their foundation of strength and perseverance. Thank you to my sister, Barbra Elenbaas, for her keen insights and care. I would like to thank my partner, Evan Westra, for his extraordinary understanding and encouragement. Thank you to Diana Kinser and Jamie Enger for their empathy and true friendship.

I am grateful to Melanie Killen for her exceptional mentorship and guidance. I can only hope to share with others the same dedication and generosity that she has shown me. Thank you to Aline Hitti, Kelly Lynn Mulvey, Shelby Cooley, Michael Rizzo, Jeeyoung Noh, Amanda Burkholder, and Alexander D'Esterre for their support in the good times and the difficult times. Thank you to my dissertation committee members Lucas Butler, Geetha Ramani, Richard Shin, Natasha Cabrera, and Allan Wigfield, for their thoughtful contributions to this project. I would like to acknowledge Adam Rutland and Silvia Guerrero for their willing intellectual engagement. Special thanks to Victoria Daley and Ria Datta for their research assistance, and to all of the teachers, administrators, parents, and participants who contributed to this study.

Table of Contents

Acknowledgements	ii
Table of Contents	iii
List of Tables	vi
List of Figures	vii
Chapter 1: Study Rationale, Aims, and Impact.....	1
Allocation of Resources	2
Allocation of Opportunities	3
The Current Study	5
Theoretical Overview: Social Reasoning Developmental Model.....	6
SRD model and inequality.	7
Children’s Judgments about Access to Opportunities	8
Implications of inequality.	8
Support for correcting inequality.	9
Children’s Perceptions of Group Distribution Norms	10
Economic Status and Distribution of Opportunities	12
Recognizing associations between economic status and opportunities.	13
Does awareness support correcting or perpetuating?.....	14
Role of child economic status in allocation decisions.	16
Group economic status and allocation expectations.	18
Specific Aims.....	19
Study Design.....	21
Hypotheses.....	23
Outcomes, Impact, and Contribution	25
Distributive justice.	26
Moral development in intergroup contexts.	26
Subjective group dynamics and norms.	26
Applied contributions.....	27
Chapter 2: Literature Review.....	28
Overview of the Literature Review.....	29
Social Reasoning Developmental Model.....	35
Social domain theory.	35
Developmental social identity theories.	36
Developmental subjective group dynamics.	36
SRD model and children’s allocation decisions.	37
Children Consider Multiple Moral Concerns when Making Distribution Decisions ...	38
Emergence of moral concerns.....	39
Potential developmental mechanisms.	40
Distributive justice and procedural justice.....	41
Resource allocation and sharing.	42
Fairness depends on the implications for recipients.	43
Moral Concerns about Access to Opportunities	45
Denial of access to opportunities.	45
Rights to resources and opportunities.	46

Distribution in Intergroup Contexts: Children Balance Moral and Group Concerns ...	47
Ingroup bias and preferential allocation.	48
Stereotypes and differential allocation.....	49
Intergroup attitudes and inequality.	50
Awareness of intergroup relations can promote fair decisions.	52
Unequal Access to Opportunities based on Group Membership	55
Denial of opportunities based on group membership.	55
Differential access as discrimination.	57
Group Norms and Children's Allocation Decisions	59
Group and individual perspectives on fairness.	60
Perceptions of allocation norms.....	62
Group status and competing expectations.....	63
Economic Status and Allocation Decisions	65
Recognizing associations between economic status and opportunities.	66
System-justifying beliefs.	68
System-critiquing beliefs.	70
Impact of child economic status on allocation decisions.....	73
The Current Study	76
Chapter 3: Methodology	80
Participants.....	80
Design	81
Procedure	83
Measures	83
Experimental conditions.	84
Opportunity Allocation Task.	85
Allocation Norms Task.	86
Reasoning coding.....	86
Inequality Perceptions Task.	87
Chapter 4: Results	88
Children's Perceptions of Opportunity Inequality	89
Children's Judgments about Access to Opportunities	90
Judgments of allocation strategies.	91
Allocation strategy choice.....	93
Children's Expectations for Others' Decisions.....	96
Expectations for groups' allocation preferences.....	97
Chapter 5: Discussion	102
Awareness of Economic Inequality Supports Moral Judgments	102
Participant Economic Status and Differential Judgments.....	103
Reasoning about Wellbeing	104
Fairness versus Impartiality	105
Expectations for Own-Group Benefit	106
Stereotypes about Economic Groups	107
Participant Economic Status and Differential Expectations	109
Future Directions and Conclusions	110
Tables	114
Figures.....	118

Appendices.....	122
Appendix A: Institutional Review Board Approval	122
Appendix B: Parent Consent Form	124
Appendix C: Survey.....	126
References.....	140

List of Tables

Table 1. Condition Assignment, by Grade and Family Income

Table 2. List of Dependent Measures Included in Each Task

Table 3. Coding Scheme for Participants' Open-Ended Reasoning

Table 4. Children's Reasoning for their Expectations Differs by Group (High-Wealth,
Low-Wealth)

List of Figures

Figure 1. Children's judgments of four ways of distributing opportunities to high-wealth and low-wealth peers differ by their perceptions of economic inequality.

Figure 2. Children's judgments of four ways of distributing opportunities to high-wealth and low-wealth peers are moderated by condition and family income.

Figure 3. Increasing expectations for own-group benefit between childhood and adolescence.

Figure 4. Children's expectations for groups' preferences by family income.

Chapter 1: Study Rationale, Aims, and Impact

Children's decisions about how to distribute, share, and exchange resources are considered a central context for investigating moral development (Damon, 1975; Piaget, 1932; Turiel, 1983). Recent studies have documented the origins of many moral concepts (e.g., equality, merit, need) when children distribute resources like toys and snacks (see Killen, Elenbaas, Rizzo, & Rutland, 2016). Important moral issues also arise, however, with regard to the distribution of intangible, but valuable, *opportunities*.

Disparities in access to opportunities, like educational opportunities, are pervasive (Duncan & Murnane, 2011), raising moral concerns for fairness among children and adults (Wainryb, Smetana, & Turiel, 2008). In fact, some research indicates that children reason about the *denial* of opportunities in terms of discrimination and rights (e.g., Brown, 2006; Helwig & Jasiobedzka, 2001), reflecting consideration of the long-term impact of restricting access.

Decisions about access to opportunities often occur in intergroup contexts where stereotypes and prejudice can influence decision-making. Negative attitudes towards excluded groups can persist into adulthood and translate into discrimination (Abrams & Killen, 2014; Lott, 2012). Thus, understanding whether children perceive inequalities in access to opportunities as justified is a crucial step towards reducing biases in development. Extending research on resource allocation in intergroup contexts, this study investigated children's perceptions, judgments, and expectations regarding everyday economic inequalities in access to educational opportunities.

Allocation of Resources

Resource allocation decisions can be multifaceted, involving moral concerns for fairness as well as social concerns about group expectations. The majority of research in this area has focused on early childhood, investigating the emergence of moral concerns for equality, merit, and need between 3 and 8 years of age when children allocate resources (e.g., Paulus, 2014; Rizzo, Elenbaas, Cooley, & Killen, 2016; Schmidt, Svetlova, Johe, & Tomasello, 2016). The majority of research on children's consideration of social group factors when allocating resources has also focused on early childhood, demonstrating young children's ingroup bias when allocating more resources to racial, gender, and minimal ingroup members than to outgroup members (e.g., Benozio & Diesendruck, 2015; Dunham, Baron, & Carey, 2011; Renno & Shutts, 2015).

Resource type and allocation norms. Recently, research in this area has expanded to include more nuanced investigations of children's capacity to take into consideration factors like the type of resource being allocated (e.g., Chernyak & Sobel, 2016) and pre-existing norms regarding resource allocation (e.g., Olson, Dweck, Spelke, & Banaji, 2011) when making distribution decisions. For example, by 6-8 years of age children distinguish between resources like candy and toys versus resources that are necessary to ensure others' wellbeing when making allocation decisions (Rizzo et al., 2016). Likewise recent work has demonstrated how, moving beyond the investigation of ingroup bias in, older children use their social knowledge about group membership and allocation norms in society to rectify inequalities for disadvantaged groups (Elenbaas & Killen, 2016b; Hughes & Bigler, 2011). Further, some recent work has begun to examine how children's perceptions of the allocation norms that groups hold differ as a factor of

group status (e.g., whether the group is well-resourced or under-resourced) (Elenbaas & Killen, 2016c; Mulvey, Hitti, Rutland, Abrams, & Killen, 2014).

Building on these recent advances, the current study investigated children's decisions regarding the distribution of opportunities that entailed moral concerns for recipients' welfare as well as social concerns regarding allocation norms in society. The social reasoning developmental (SRD) model guided this study (Killen, Elenbaas, et al., 2015; Rutland, Killen, & Abrams, 2010). This model draws on social domain theory for identifying when children consider moral, societal, and personal concerns when making judgments and decisions about the allocation of resources, as well as developmental subjective group dynamics theory for identifying how children perceive and respond to group allocation norms. A central aim of the current study was to examine how awareness of economic inequality contributes to children's judgments about how opportunities should be allocated and perceptions of the allocation norms that advantaged and disadvantaged groups hold.

Allocation of Opportunities

Inequality of opportunity based on group membership constitutes a real and pressing social and moral concern (Duncan & Murnane, 2011). Interestingly, while most research on resource allocation has focused on early childhood, most research on developing knowledge about inequality of opportunity has focused on adolescence, examining, for example, conceptions of fair government and freedoms (Helwig, Ruck, & Peterson-Badali, 2014), political and social involvement (Diemer, Rapa, Voight, & McWhirter, 2016), explanations for economic inequality (Flanagan et al., 2014), and perceptions of how wealth is distributed (Arsenio, Preziosi, Silberstein, & Hamburger,

2013). Less is known regarding children's awareness of broader inequalities in access to opportunities.

However, between early and middle childhood, children are increasingly able to make connections between resource inequality and broader disparities in society (e.g., Elenbaas & Killen, 2016a). Likewise, older children and adolescents recognize that access to opportunities is constrained by individuals' economic status (e.g., Goodman et al., 2000; Mistry, Brown, White, Chow, & Gillen-O'Neel, 2015; White, 2009). Building on these recent contributions, the current study bridged related work in childhood and adolescence in order to examine judgments, reasoning, and expectations regarding the allocation of familiar educational opportunities in a context of inequality based on economic status.

Decisions about how to fairly allocate educational opportunities, in particular, have serious implications for recipients' future wellbeing. In fact, related research on children's judgments about the *denial* of educational opportunities has revealed that such situations invoke children's and adolescents' concerns for discrimination and rights (Brown, 2006; Helwig & Jasiobedzka, 2001; Horn, 2003; Killen, Lee-Kim, McGlothlin, & Stangor, 2002). However, judging the denial of educational opportunities to be wrong is different from actively allocating access to an opportunity in a context of previous inequality. The former issue entails a negative evaluation of a situation in which needs are not met, whereas the latter issue requires children to weigh fairness and group concerns to determine the best course of action. How children weigh these issues and make these decisions was the central focus of this study.

The Current Study

This study examined children's judgments, reasoning, and expectations regarding the allocation of educational opportunities (i.e., attendance at an educational summer camp) in a context of inequality based on economic status. This is a previously unexplored, but highly salient, fairness issue in children's everyday lives. Extending research investigating children's judgments about the *denial* of educational opportunities (e.g., Brown, 2006; Elenbaas, Rizzo, Cooley, & Killen, 2016), this study examined how children reason that such opportunities *should* be allocated.

Recent research from the SRD perspective has revealed that, between early and middle childhood, children integrate their knowledge about race and resource inequality in society with their moral judgments about inequality to rectify disparities for disadvantaged groups (Elenbaas & Killen, 2016b, 2017). Building on this foundation, the current study examined whether children's perceptions of economic inequalities in access to opportunities were related to their decisions about fair access to educational opportunities for high- and low-wealth peers.

Further, while previous research has shown that older children and adolescents define group membership in terms of shared norms (Abrams & Rutland, 2008), less is known about children's expectations regarding the exact norms that groups may hold, or whether these differ by group status (Elenbaas & Killen, 2016c). This study examined children's expectations for others' allocation preferences. Children's recognition that others perspectives differ from their own when it comes to the allocation of opportunities has the potential to reveal important information regarding developing knowledge about how opportunities move through social systems (Arsenio, 2015).

Understanding children's reasoning regarding these issues, and how they change between middle childhood and early adolescence, provides important information about moral development as it pertains to economic exclusion and fair access. Further, determining whether children and adolescents view inequality of opportunity as worthy of rectifying provides important information for researchers, practitioners, and policymakers alike.

In short, the proposed study examined: (1) how children and adolescents allocate opportunities in a context of inequality based on economic status; (2) children's expectations for how high-wealth and low-wealth groups would allocate opportunities in the same context; and (3) the role of recipient group and participant economic status on children's judgments, decisions, and reasoning. Each of these foci represents one of the three specific aims of this study, which are outlined in greater detail in below. First, the next section will introduce the theoretical rationale for the current study, in order to situate this work within the existing literature on moral development and intergroup relations in childhood and adolescence.

Theoretical Overview: Social Reasoning Developmental Model

As mentioned above, this study drew on Killen and Rutland's social reasoning developmental (SRD) model (Killen, Elenbaas, et al., 2015; Rutland et al., 2010) to frame the design and hypotheses. The SRD model integrates the social domain theory perspective on moral development (Smetana, Jambon, & Ball, 2014; Turiel, 2006) with developmental social identity theories (Nesdale, 2004; Verkuyten, 2007) and theories of group dynamics in childhood (Abrams & Rutland, 2008). This model proposes that, when children make decisions in social contexts, they reason about multiple moral and social

group considerations, weighing their moral concerns for fairness with their developing knowledge about how groups function. More information on the component theories of the SRD model is provided in Chapter 2: Literature Review.

SRD model and inequality. The SRD model's dual focus on moral (e.g., fairness) and group dynamics (e.g., norms and expectations) concerns is especially applicable for this study on children's and adolescents' perspectives on economic exclusion and access to opportunities. Notably, most research on intergroup relations in development focuses on the negative aspects of intergroup attitudes (e.g., stereotypes, biases, conformity, or discrimination). However, when a group has been excluded from access to an opportunity, as in the current study, taking group membership into account is necessary for ensuring fair access in the future.

A key, unique, prediction of the SRD model is that knowledge about intergroup relations (in this case, knowledge about economic inequalities in access to opportunities) can contribute to, rather than impede, the promotion of fairness (Elenbaas & Killen, 2016b, 2017). That is, children's increasing understanding of group processes, combined with increasingly sophisticated moral judgments, can actually help them to counter – rather than replicate– unfair allocation norms.

The next three sections provide a review of recent research, leading up to the three novel aims of the current study. Each segment provides an overview of key findings in pertinent areas, and frames the research questions of the current study in terms of the literature to date.

Children's Judgments about Access to Opportunities

Determining how to allocate access to educational opportunities entails consideration of the implications of inequality for recipients' wellbeing. In fact, related research on children's judgments regarding the *denial* of educational opportunity indicates that, when groups have been explicitly denied access, children and adolescents reason about broader issues of discrimination, restriction of development, and rights.

Implications of inequality. For instance, children and adolescents judge it wrong for authority figures to deny educational opportunities (e.g., participation in a science fair) on the basis of social group membership (e.g., ethnicity, gender) and reason about fairness, rights, and the wrongfulness of discrimination (Brown, 2006; Helwig & Jasiobedzka, 2001; Horn, 2003; Killen et al., 2002). Interestingly, one recent study drawing on the SRD model found that 10-11 year-olds who attributed an observed inequality of resources between peers of different racial backgrounds to preferential treatment judged the inequality more negatively than children attributed it to other causes, revealing a link between awareness of discrimination and rejection of social inequalities (Elenbaas & Killen, 2017).

Thus, unequal access to educational opportunities based on group membership is a salient issue invoking concerns for fairness among children and adolescents. Further, related work on children's conceptions of nurturance rights also indicates that by age 9-11 years, children support their own and others' rights to quality education (Peterson-Badali, Morine, Ruck, & Slonim, 2004), and between 8 and 16 years, children increasingly reference education as a right that children have (Ruck, Keating, Abramovitch, & Koegl, 1998).

Support for correcting inequality. Less is known, however, about whether children or adolescents support rectifying inequalities in access to educational opportunities. As previously mentioned, judging the denial of educational opportunities to be wrong is different from actively allocating access in a context of previous inequality. How children allocate opportunities, and whether they take into account past disparities, was a central focus of this study.

The results of a small number of recent investigations provide evidence for the possibility that, in this context, children may support access for those who have been excluded in the past. As one example, in a recent study drawing on the SRD model to examine children's allocation of hospital supplies (e.g., bandages, thermometers), Elenbaas and colleagues (2016b) found evidence for the joint roles of moral judgment and knowledge about intergroup relations in children's resource allocation decisions. 10-11 year-olds' awareness of broader associations between race and wealth predicted their support for rectifying a resource inequality between racial groups. Similarly, Hughes and Bigler (2011) investigated 14-17 year-olds' perceptions of a proposed program that would provide interested graduating African-American and Latino students with free in-school assistance in completing college applications. Support for the program was greater among adolescents who perceived higher levels of racial disparities in society and attributed those disparities to racism. Further, recent research has emphasized that it is awareness of social inequality in particular (not support for equality in general) that motivates adolescents' and young adults' decisions to engage in political action on behalf of marginalized groups (e.g., protest, joining a political party, writing to a representative) (Diemer & Rapa, 2016).

Together, these findings underscore the combined roles of moral reasoning and awareness of inequality in predicting children's and adolescents' support for corrective allocation, in line with the parameters of the SRD model (Killen, Elenbaas, et al., 2015). Children must be aware of inequalities *and* evaluate them as wrong in order to respond with corrective action. Awareness of discrimination is an important first step, but awareness alone is not enough. Moral judgments and reasoning support children's capacity to critique disparities and determine fair ways of distributing resources and opportunities when they have the chance to do so.

Drawing on this recent work, the current study will determine whether, and in what ways, children take a past history of unequal access on the basis of economic status into account when allocating new opportunities, and whether they expect others to do the same, revealing important information about their social and moral development and conceptions of fair access.

Children's Perceptions of Group Distribution Norms

While children themselves may support fair access to opportunities, they may, at the same time, expect others to adhere to unfair allocation norms, perhaps particularly if those norms benefit their group. In fact, by middle childhood, children recognize that groups are bound by norms and expectations (Abrams & Rutland, 2008), and may not have the same perspective on inequality as they do. Understanding children's expectations for how others would allocate opportunities provides information about developing conceptions of how opportunities move through social systems (Arsenio et al., 2013; Wainryb & Recchia, 2014).

Older children and adolescents define group identity in terms of a set of shared attitudes, beliefs, and behaviors (Abrams, Rutland, Cameron, & Marques, 2003; Abrams, Rutland, Pelletier, & Ferrell, 2009), and expect individuals to endorse these shared norms in order to maintain their group membership (Abrams, Rutland, Ferrell, & Pelletier, 2008; Mulvey & Killen, 2015). Children's developing understanding that social groups may hold a different perspective from their own personal view is related to their increasing social experience with an ever-widening range of social groups and increasing capacity for social perspective taking (Abrams et al., 2009; Abrams, Van de Vyver, Pelletier, & Cameron, 2015; FitzRoy & Rutland, 2010; Jugert, Noack, & Rutland, 2011; Nesdale, 2013). Older children recognize, for example, that given the choice, groups often advocate for more resources for their group while children themselves would prefer equality (Cooley & Killen, 2015; Mulvey et al., 2014). Yet less is known about the allocation norms that children *expect* groups to adhere to in the first place.

While some studies indicate that children expect groups to seek more resources for themselves (DeJesus, Rhodes, & Kinzler, 2014; Paulus & Moore, 2014), other studies suggest that, in a context of inequality between groups, children's expectations for others' allocation decisions hinge on their expectations for how others would judge the inequality (Elenbaas & Killen, 2016c). Building on this recent work, the current study investigated children's expectations for how groups would allocate educational opportunities in a context of inequality based on economic status, and whether these assumptions about the norms that groups hold vary by group wealth. These measures examined children's developing knowledge of intergroup dynamics, how inequalities between groups are

exacerbated, and who might be expected to reinforce an unequal status quo versus rectify a disparity.

Economic Status and Distribution of Opportunities

Notably, the research described above has mainly focused on children's responses to the exclusion of racial or gender groups from access to educational opportunities. Less is known regarding children's conceptions of fair access when groups differ in *economic status*. Economic disparities are a primary form of inequality. That is, while economic inequalities in access to opportunities, including educational opportunities, often map on to other group categories like race, ethnicity, gender, sexual orientation, (dis)ability, religion, and immigrant status, economic inequalities are a form that underlies or reinforces inequality in most other group-based domains (Carter & Reardon, 2014; Saegert et al., 2007). Thus, they are of great importance when considering how opportunities are, and should be, distributed, and they constituted the intergroup focus for the current study.

Like other intergroup contexts, allocation to individuals or groups that vary in wealth may invoke intergroup biases for children (i.e., preferential allocation to the ingroup), but it is very likely that this context would also invoke strong moral concerns for others' welfare and needs (e.g., Ongley, Nola, & Malti, 2014; Shutts, Brey, Dornbusch, Slywotzky, & Olson, 2016) as well as strong assumptions about entitlement (e.g., Sigelman, 2012; Woods, Kurtz-Costes, & Rowley, 2005) that are less readily assessed in other intergroup contexts. Awareness of the relation between economic status and access to educational opportunities is also a part of children's everyday lives.

Recognizing associations between economic status and opportunities.

Economic status is a salient and relevant social consideration in children's everyday lives and peer interactions. From as early as the preschool years, children have a basic awareness that higher wealth is associated with possession of more or better resources (Enesco & Navarro, 2003; Ramsey, 1991; Shutts et al., 2016). In late childhood and early adolescence, children also begin to recognize the connection between economic status and access to opportunities. By 8-10 years of age, for instance, children note that some peers participate in after-school clubs or travel to summer camps or vacation destinations while others do not, and that this varies by family wealth and income (Mistry et al., 2015; White, 2009).

Older children and adolescents are able to identify their own families' economic status relative to other families in their neighborhood or school (Adler, Epel, Castellazzo, & Ickovics, 2000; Goodman, Maxwell, Malspeis, & Adler, 2015; Mistry et al., 2015), and both high-SES and low-SES adolescents report having more same-SES than cross-SES friends (Crosnoe & Schneider, 2010; Grewal, 2013; Weinger, 2000). Further, approximately one in five adolescents has been teased (by peers) about their family's financial situation (Bucchianeri, Eisenberg, & Neumark-Sztainer, 2013).

In addition to increased attention to economic status in social life, older adolescents demonstrate greater awareness of the role of education (the opportunity represented in the current study) in determining wealth and income in adulthood (Arsenio et al., 2013; Flanagan et al., 2014; Goodman et al., 2000). Together, these findings point to the relevance of economic status in children's and adolescents' everyday lives, and suggest that late childhood and early adolescence is a time when awareness of the links

between economic status and access to education increases. Accordingly, the age range of 8-14 years was chosen for the current study in order to capture changes in children's judgments, reasoning, and expectations regarding the allocation of educational opportunities during a time in development when inequality in this context becomes increasingly salient for children.

Does awareness support correcting or perpetuating? Children's increasing awareness of the links between economic status and access to opportunities may have a positive or a negative impact on their decisions about how to provide opportunities for high- and low-wealth peers.

Potential negative impact. One possibility is that children may infer that inequality of opportunity based on economic status is justified, and determine that groups who have received more access in the past remain entitled to their advantaged position. Supporting this possibility, adults often rationalize or legitimize existing social arrangements, fulfilling a psychological need to understand the status quo as good, fair, natural, desirable, and inevitable (Jost & Banaji, 1994), and find ways of justifying and maintaining status quo economic disparities between groups (Jost, Banaji, & Nosek, 2004; Kay & Jost, 2003). Some research suggests that children, too, perceive some group-based resource inequalities to be deserved, and assume that the way things are is the way that they are supposed to be (Horwitz, Shutts, & Olson, 2014; McGillicuddy-De Lisi, Daly, & Neal, 2006; Olson et al., 2011).

Further, adults often hold stereotypes about individuals in poverty as unmotivated, unintelligent, and lacking in self-control (Cuddy, Fiske, & Glick, 2007; Lott, 2012; Saegert et al., 2007). Essentially, adults tend to assume that affluence is earned and

poverty is the result of a lack of effort. From early childhood through late adolescence children, too, endorse more positive attributes (e.g., smart, hardworking) about the rich and more negative attributes (e.g., dumb, lazy) about the poor (Mistry et al., 2015; Roussos & Dunham, 2016; Shutts et al., 2016; Sigelman, 2012; Woods et al., 2005).

Thus, between childhood and adolescence, children are increasingly aware that greater wealth affords greater access to many important opportunities. However, one possibility is that children may view such economic inequality as justified, and believe that they would be justified in directing more resources and opportunities toward (deserving) advantaged groups.

Potential positive impact. Conversely, if children view inequality of educational opportunities based on economic status as the unjust result of social processes, their interest in directing more opportunities towards disadvantaged groups is likely to be high. As outlined above, older children and adolescents increasingly recognize the importance of access to education in relation to later income (e.g., Arsenio et al., 2013; Flanagan et al., 2014). Additionally, several studies indicate that children and adolescents judge restriction of educational opportunities on the basis of other types of group membership negatively (e.g., Brown, 2006; Elenbaas et al., 2016).

Thus, a second possibility is that children may reason that inequality of educational opportunity based on economic status is unfair, and that groups with less access in the past should receive more access in the present. Further supporting this possibility, research in social domain theory indicates that individuals evaluate, critique, and sometimes try to change norms that they judge to be unfair (Turiel, 2014; Wainryb & Recchia, 2014). When allocating resources, for example, older children take inequality

into account, distributing more items to a disadvantaged individual (Kienbaum & Wilkening, 2009; Li, Spitzer, & Olson, 2014; Paulus, 2014; Rizzo & Killen, 2016).

Importantly, this possibility coincides with recent research drawing on the SRD model (Elenbaas & Killen, 2016b, 2017); when they make distribution decisions that bear on familiar inequalities in society, children do not necessarily replicate what they have observed. Rather, they often take advantage of the opportunity to equalize access to important resources. From this perspective, considering recipients' economic status is actually necessary for the promotion of fairness. In fact, children must recognize that some groups have been *unfairly* disadvantaged *and use that information* when they have the opportunity to address inequalities. This same reasoning may apply with respect to children's allocation of educational opportunities in a context of inequality based on economic status, but this possibility has not yet been tested.

Role of child economic status in allocation decisions. Considerable important research has examined the effects of family socioeconomic status on numerous developmental outcomes (Duncan, Magnuson, & Votruba-Drzal, 2015; McLoyd, Mistry, & Hardaway, 2014). However, the exact role of children's economic status on their decisions about how resources or opportunities should be distributed remains an open question.

One possibility is that higher-income children and adolescents may be more likely to judge that other high-income children should receive access to opportunities. In general, higher-income adults are often more independent and self-focused than lower-income adults (Kraus, Piff, & Keltner, 2009; Piff, Kraus, Côté, Cheng, & Keltner, 2010; Stephens, Markus, & Townsend, 2007). These tendencies have been attributed to

differences in the amount of control and personal choice that individuals with more or fewer resources experience in their lives (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). In fact, there is some evidence that higher-income adults simply feel more entitled and deserving (in general) than others (Piff, 2014). Further, higher-income adults are less generous in donation contexts (Piff et al., 2010), less egalitarian in sharing contexts (Bratanova, Loughnan, Klein, & Wood, 2016), and more utilitarian in resource allocation contexts (Côté, Piff, & Willer, 2013).

These findings suggest that higher-income children and adolescents, too, may be especially likely to believe that other high-income peers are entitled to opportunities. However, notably, differences in the generosity of lower- versus higher-income adults may only emerge in societies with a high level of economic inequality, or a high level of perceived inequality (Côté, House, & Willer, 2015). This further highlights the relevance of children's *perceptions* of inequality in society for their judgments about how opportunities should be distributed.

Another complementary possibility is that lower-income children and adolescents may be more aware of economic inequalities than their higher-income peers, and thus more likely to judge that other low-income children should receive access to opportunities. In regards to educational opportunities in particular, low-income older adolescents are conscious of potential barriers to their educational achievement (Arsenio et al., 2013; Diemer & Li, 2012; McWhirter & McWhirter, 2015; Taylor & Graham, 2007). Likewise, stress related to family financial constraints contributes negatively to adolescents' academic achievement, school engagement, and attitudes about education (Benner & Wang, 2014; Crosnoe, 2009; Mistry, Benner, Tan, & Kim, 2009).

Interestingly, low-income adults are more likely to reference barriers to opportunities (e.g., discrimination, political influence) when describing the causes of wealth and poverty (Kluegel & Smith, 1986; Kraus et al., 2009). These findings suggest that lower-income children may be more aware of economic disparities than their higher-income peers. Whether or not this means that they would also make different moral judgments about fair access to educational opportunities, however, remains untested.

A third possibility is that children may provide more opportunities for peers from their own economic background, particularly when they perceive an unmet need. Over and above ingroup bias in allocation decisions, children and adolescents are more attuned to the needs of members of their social ingroups than members of social outgroups (Abrams et al., 2015; Sierksma, Thijs, & Verkuyten, 2015; Weller & Lagattuta, 2013, 2014). This suggests that, rather than an across-the-board support for or rejection of economic inequalities in access to opportunities, children's decisions may be moderated by their perceptions that someone at least somewhat similar to them has been denied an opportunity in the past, entitling them to greater access in the present.

Group economic status and allocation expectations. As mentioned above, children hold stereotypes about wealth and merit. Yet, when the question pertains to how groups might distribute resources, rather than how groups obtained their resources, other stereotypes may apply. Specifically, alongside perceptions of competence (i.e., hardworking, intelligent), adults perceive the wealthy as less warm (i.e., more competitive) (Cuddy et al., 2007; Fiske, Cuddy, Glick, & Xu, 2002). Children, too, may view high-wealth peers as more aggressive or competitive in seeking more resources for their own group.

However, one recent study found that 6 and 10-year-olds viewed “rich people” as both smarter *and* nicer than “poor people” (Roussos & Dunham, 2016). That is, unlike adults, children had difficulty entertaining the notion of a highly competent group that was not also high in warmth. These findings suggest the opposite possibility; children may expect high-wealth peers to be more generous than low-wealth peers when deciding how resources should be distributed.

Taken together, the studies discussed in the preceding section (‘Children’s expectations for how groups allocate opportunities’) strongly suggest that, between early and middle childhood, children increasingly expect preferential allocation to ingroups as a general normative behavior in intergroup contexts. The studies outlined in the current section further indicate that they may also perceive different norms for under-resourced groups (reducing inequality) and well-resourced groups (maintaining their advantaged position).

Specific Aims

Many questions in social life revolve around who will or will not receive access to valuable opportunities. When determining how to respond to an inequality of opportunity based on group membership, children and adolescents must integrate their moral conceptions of fairness with their social awareness of intergroup relations. The proposed study had three main aims designed to extend previous research in moral development and intergroup relations in three key ways.

Aim 1: How children allocate opportunities in a context of economic inequality. First, this study focused on children’s and adolescents’ allocation of educational opportunities to peers of high- and low-wealth status. This is a previously

unexplored, but highly salient, social context. Access to opportunities constitute a meaningful fairness issue in children's everyday lives (e.g., Brown, 2006; Horn, 2003), and older children and early adolescents are increasingly aware that economic status is related to disparities in this area (e.g., Arsenio et al., 2013; Flanagan et al., 2014). Yet, very little is known regarding how children and adolescents reason about how educational opportunities *should* be allocated, particularly in a context of pre-existing group-based inequality.

Aim 2: Children's expectations for how others would allocate in the same context. Second, this study extended previous work at the intersection of moral development and developmental subjective group dynamics by identifying the allocation norms that children and adolescents expect high- and low-wealth groups to adhere to. By middle childhood, children define groups in terms of shared attitudes, beliefs, and behaviors (Abrams & Rutland, 2008). Yet less is known about children's expectations for how others would allocate opportunities, especially in a context of pre-existing inequality when moral and group concerns may "pull" expectations in different directions (Elenbaas & Killen, 2016c).

Aim 3: Role of recipient group and participant economic status in judgments and expectations. Third, this study tested a key, unique, prediction stemming from the SRD model (Killen, Elenbaas, et al., 2015), that knowledge about economic inequalities in access to opportunities could contribute to, rather than impede, the promotion of fairness in a context of intergroup inequality. Further, this study tested whether participant economic status would interact with recipient economic status to influence children's decisions about whom to include in an educational opportunity.

Study Design

As outlined in the three specific aims (above), this project investigated how children and adolescents respond to inequality of opportunity between economic groups. The sample included children ages 8-14 years old, evenly divided by gender, racially/ethnically representative of the mid-Atlantic region of the United States, and representing a range of economic backgrounds (details are provided in Chapter 3: Methodology).

The age range of 8-14 years was chosen for several reasons. First, it is in late childhood and early adolescence that children begin to be able to integrate their awareness of social norms with their moral judgments about inequality in order to act on behalf of disadvantaged groups (Diemer & Rapa, 2016; Elenbaas & Killen, 2016b; Hughes & Bigler, 2011). Second, during this time children increasingly reason about discrimination, restriction of development, and rights when judging situations in which groups have been denied access to educational opportunities in particular (Brown, 2006; Helwig & Jasiobedzka, 2001; Horn, 2003; Killen et al., 2002; Peterson-Badali et al., 2004; Ruck et al., 1998). Third, older children and adolescents expect individual members of groups to adhere to shared group norms (Abrams et al., 2003, 2008, 2009), and are increasingly aware that groups often act in their own interest (DeJesus et al., 2014; Elenbaas & Killen, 2016c).

General design and procedure. The central aims of the study pertained to children's judgments, reasoning, and expectations in response to inequality of opportunity based on economic status. Chapter 3: Methodology provides details on the measures, including exact descriptions, questions, and response options. Broadly, this

study used an experimental vignette survey methodology successfully applied in previous studies on children's decisions about resource allocation (Killen, Elenbaas, et al., 2015). The study entailed a between-subjects and within-subjects design. All participants completed three tasks (within-subjects): the *Opportunity Allocation Task*, the *Allocation Norms Task*, and the *Inequality Perceptions Task*. Please note that the entire survey (both versions) is available in Appendix C (Protocol).

Economic Inequality Condition was the between-subjects factor. This referred to which group (high- or low-wealth) participants saw being excluded from access to the opportunity in the past. In one version of the protocol (randomized between participants) peers from families with “a little money” had not benefitted from the opportunity in the past, and in the other version peers from families with “a lot of money” had not benefitted from the opportunity in the past.

All other factors were within-subjects. In the *Opportunity Allocation Task*, participants read about a special opportunity, described as both fun and educational, to which access has been restricted in the past based on wealth status. Then, participants learned that there was limited availability for the opportunity at present, and that children from both wealth backgrounds were interested in gaining access. Following this, participants made a series of judgments and decisions regarding possible ways to determine who should gain access to this opportunity.

In the *Allocation Norms Task*, participants gave their expectations for how the two groups (high-wealth and low-wealth group) would prefer the opportunities to be allocated. Options included those represented in the previous task. In the *Economic*

Knowledge Task, participants reported their awareness of broader relations between wealth status and access to opportunities outside of the experimental paradigm.

Hypotheses

This study was designed to test hypotheses pertaining to each of the three aims outlined above. This section highlights the key hypotheses. Because Aim 3 relates back to Aims 1 and 2, this section is organized in terms of the predictions for children's own allocation decisions followed by the predictions for their expectations for others' allocation decisions.

Children's decisions. We predicted that children's decisions about how access to an opportunity should be distributed would differ according to their awareness of broader economic inequalities in access to opportunities (H1). One possibility was that children who were more aware of economic inequality could evaluate admitting low-wealth peers more positively, reflecting concerns for fairness (Elenbaas & Killen, 2016b; Hughes & Bigler, 2011), and aligning with the predictions of the SRD model. However, another possibility was that children who were more aware of inequality could evaluate admitting high-wealth peers more positively, reflecting assumptions about wealth status and deservingness (Sigelman, 2012; Woods et al., 2005).

We also predicted that children's decisions would differ as a function of the camp's past history of exclusion based on wealth group membership (H2), and that this effect would further depend on children's own economic background (H3). When they have to give up something to help others, children are more likely to help members of their social ingroups than members of social outgroups (Abrams et al., 2015; Sierksma et

al., 2015; Weller & Lagattuta, 2014). This may also be the case in current study, where the situation is complex and more than one option may be perceived as appropriate.

Finally, we tested whether children would prefer an impartial (“group blind”) approach over a more proactive one that guaranteed a given distribution of peers at the camp, but predicted that children would perceive that fairness in a context of inequality requires taking into consideration what one knows about intergroup relations (H4). This provided a further test of the prediction of the SRD model (fairness requires more than impartiality). We predicted, however that children who preferred the impartial strategy would be concerned with appearing unbiased and avoiding conflict (Grocke, Rossano, & Tomasello, 2015; Shaw & Olson, 2014).

Children’s expectations. We predicted that, between middle childhood and early adolescence, children would increasingly expect the high- and low-wealth groups to prefer the approach that provided them the opportunity to attend the camp (over other approaches like equality) (H5). Due to their greater experience with social groups and greater social perspective taking abilities, older children are able to recognize that groups’ perspectives may differ from their own (Abrams et al., 2015; Nesdale, 2013). Further, older children expect others to share preferentially with ingroup members (DeJesus et al., 2014; Elenbaas & Killen, 2016c). This suggests that, between middle childhood and early adolescence, children may also expect others to provide opportunities preferentially to members of their own social groups.

However, we predicted that children would perceive different underlying motivations for the high- and low-wealth groups’ preferences (H6). While both groups could be interested in benefitting their own group, children might view also the low-

wealth group as secondarily concerned with addressing broader economic inequalities (Elenbaas & Killen, 2016c).

Further, we predicted that family income would be related to children's expectations for others' allocation preferences (H7). Lower-income adolescents perceive barriers to their own access to opportunities (Arsenio et al., 2013; Taylor & Graham, 2007), suggesting that lower-income children might be more likely to believe that others would attempt to gain access to opportunities for themselves. However, some research indicates that higher-income adults are, on average, more self-focused (Kraus et al., 2009; Piff, 2014; Stephens et al., 2007), suggesting that higher-income children may be more likely to believe that others would attempt to gain access to opportunities for themselves alone. Thus, two potential patterns of association were possible.

In the context of predicting others' behavior, children were expected to express stereotypes about both the high-wealth and low-wealth groups (H8). Most research has focused on children's stereotypes about the wealthy as smart or hardworking and the poor as lacking these traits (Sigelman, 2012; Woods et al., 2005). On the other hand, adults hold stereotypes about the wealthy as greedy, selfish, or entitled (Fiske et al., 2002). Thus, a range of positive and negative stereotypes were expected.

Outcomes, Impact, and Contribution

This study was the first to examine children's and adolescents' judgments and reasoning regarding the allocation of opportunities to peers in a context of economic inequality. The results provide important information about moral development and conceptions of fairness regarding everyday intergroup disparities associated with economic status. Building on the theoretical foundation of the SRD model (Killen,

Elenbaas, et al., 2015), this study provided evidence for how children weigh awareness of inequality with moral reasoning about fairness when deciding how best to address everyday issues of unequal access to opportunities based on economic status. Chapter 4: Results, provides details on the findings. Overall, this study made four key contributions to the literature on moral development and intergroup relations.

Distributive justice. First, this study extended prior work in distributive justice by focusing on the allocation of educational opportunities based on economic status, a previously unexplored, but highly salient, social context. Access to educational opportunities based on economic status constitute a meaningful fairness issue in children's everyday lives. Building on recent studies indicating that children judge the denial of educational opportunities based on group membership to be wrong (e.g., Brown, 2006; Helwig & Jasiobedzka, 2001), this study provided important evidence for how children reason that such opportunities *should* be allocated.

Moral development in intergroup contexts. Second, the results of this study provided evidence for children's recognition that, in a context of inequality, fairness requires more than impartiality. Rather, ensuring fair access to opportunities requires consideration of a past history of exclusion based on economic status. Extending recent research drawing on the SRD model (Elenbaas & Killen, 2016b, 2017), results from this study highlighted how knowledge about intergroup relations (in this case, knowledge about economic inequalities in access to opportunities) can contribute to the promotion of fairness in development.

Subjective group dynamics and norms. Third, this study extended previous work at the intersection of moral development and developmental subjective group

dynamics by identifying the allocation norms that children expect others to adhere to. While previous work has shown that older children define group membership in terms of shared norms (Abrams & Rutland, 2008), less is known about children's or adolescents' expectations regarding allocation norms, or whether these differ by group status (Elenbaas & Killen, 2016c). Children's recognition that others perspectives differ from their own when it comes to the allocation of opportunities reveals their developing knowledge about how inequality is perpetuated.

Applied contributions. Fourth, beyond the implications of this study for understanding children's social and moral development, the results have broader implications for educators and policy-makers interested in designing curricula and intervention programs that encourage consideration of economic inequality and fairness in development. Economic disparities in access to educational opportunities are a real and pressing social and moral concern (Duncan & Murnane, 2011). Findings from this study provided valuable foundational knowledge regarding children's and adolescents' everyday understanding of these issues, as well as their reasoning about exclusion and fair access. Determining whether children and adolescents view inequality of opportunity as worthy of rectifying provides important information for researchers, practitioners, and policymakers alike.

Chapter 2: Literature Review

In their everyday lives, children and adolescents make many decisions that involve concerns for fairness. In fact, reasoning about what is fair constitutes a core aspect of human morality throughout the lifespan (Killen & Smetana, 2015). Denial of resources has long been considered a central moral issue that invokes consideration of fairness, rights, and others' welfare. In fact, children as young as 3 years of age recognize that denial of resources (e.g., monopolizing all the toys) is unfair (Smetana et al., 2014; Turiel, 1983).

Along these same lines, the fair allocation of resources –or distributive justice– is considered a central context for investigating children's moral development (Damon, 1975; Piaget, 1932). Whereas children judge the *denial* of resources to be unfair from very early in development, children's conceptions of the fair way to *allocate* resources undergo considerable developmental change. Many recent studies in this area have documented the origins and development of different moral concerns (e.g., equality, merit, need) when children allocate resources (see Killen et al., 2016 for a review).

The concept of distributive justice is not, however, limited to the question of how to allocate tangible items between individuals. Important moral issues also arise with regard to the distribution of intangible, but valuable, *opportunities* (Wainryb et al., 2008). In fact, the unequal distribution of important opportunities constitutes a real and pressing social and moral concern, invoking issues of equality, rights, and fairness for adults and children (e.g., Brown, 2006; Helwig & Jasiobedzka, 2001).

Importantly, decisions about how to distribute resources and opportunities often occur in intergroup contexts, where issues of bias and prejudice can influence decision-

making throughout development (Killen et al., 2016). In these contexts, children must balance potentially competing concerns regarding fairness and the impact of different distribution decisions on recipients, as well as group norms and the importance of maintaining cohesion and a unified group identity (Killen et al., 2016).

This review will outline theory and research on children's decisions about the allocation of resources and opportunities. In particular, the review will highlight how children make these decisions in intergroup contexts, balancing social concerns for group norms against moral concerns for the fair treatment of others. Throughout, the focus will be on current research at the intersection of moral development and intergroup relations, emphasizing recent advances in this area and pointing to important topics for further investigation. The following section provides a brief overview of the aims of the review before moving into an analysis of the literature.

Overview of the Literature Review

As mentioned above, denial of resources has long been considered a central moral issue that invokes consideration of fairness. In fact, research in social domain theory has established that children as young as 3 years of age recognize that denial of resources is unfair, alongside other fundamental moral issues including the wrongfulness of inflicting physical or psychological harm on others (Smetana et al., 2014; Turiel, 1983). But how do children judge that resources should be allocated? Deeming the denial of resources to be wrong is different from proactively distributing them. This distinction has moral implications. The former issue entails a negative evaluation of a situation in which needs are not met, whereas the latter requires children to weigh multiple concerns to determine

the best course of action. The latter issue –children’s decisions regarding the distribution of resources and opportunities– is the focus of this review.

Resources and opportunities. Many recent studies have investigated children’s decisions about the allocation of resources from a moral development perspective, resulting in important advances in understanding the origins and development of different fairness concerns (e.g., equality, merit) when children allocate items between peers. However, children’s decisions regarding the allocation of *opportunities* are an equally important topic for investigation.

In many cases, concerns for fairness in the distribution of resources and the distribution of opportunities overlap. Both contexts can involve consideration of equality, for example. However, allocating opportunities may invoke moral concerns for children that are not often observed in contexts where tangible resources are being distributed. Decisions about how to fairly allocate opportunities often have important implications for recipients’ future wellbeing, requiring serious consideration of the implications of inequality for recipients. In fact, research on children’s judgments and reasoning about the *denial* of opportunities has revealed that such situations can invoke concerns for discrimination and rights for children and adolescents (e.g., Brown, 2006; Helwig & Jasiobedzka, 2001). These more abstract moral concepts reflect children’s consideration of the long-term impact of unfairly restricting access to opportunities.

The majority of research in the area of *resource* allocation in development has focused on early childhood, investigating the emergence of moral concerns for equality, merit, and need between 3 and 8 years of age when children allocate resources (e.g., Baumard, Mascaro, & Chevallier, 2012; Rizzo et al., 2016; Schmidt et al., 2016). By

contrast, most research on developing knowledge about inequality of *opportunity* has focused on adolescence, examining, for example, conceptions of fair government and freedoms (Helwig et al., 2014), political and social involvement (Diemer et al., 2016), explanations for economic inequality (Flanagan et al., 2014), and perceptions of how wealth is distributed in the United States (Arsenio et al., 2013). Less is known regarding children's knowledge of broader inequalities in access to opportunities, or perceptions of how opportunities should be distributed.

Yet, with increasing social experience, children are able to make connections between resource inequality and broader group-based disparities in society (e.g., Elenbaas & Killen, 2016a; Mistry et al., 2015). Thus, these two issues –allocation of resources and allocation of opportunities– have many moral foundations in common, but also invoke unique concerns for fairness that warrant investigation. This review will pinpoint where the results of studies on the allocation of resources and the allocation of opportunities diverge and where they converge, with the aim of highlighting key areas for further investigation.

Fairness, equity, and concerns for others' welfare. Further, distribution decisions in childhood have often been examined with regard to the allocation of certain types of familiar and desirable resources (e.g., candy, toys). However, recent research indicates that older children distinguish between resources like these versus resources that are necessary for ensuring wellbeing when making allocation decisions (Rizzo et al., 2016). When allocating necessary resources, older children consider issues of others' welfare and rights, in addition to concerns for equality and fairness (Elenbaas & Killen, 2016b). This review will outline what is known about the allocation of familiar and

desirable resources (e.g., stickers, snacks), and point to new and important directions for future research with regard to the allocation of different types of goods and opportunities with stronger implications for recipients' wellbeing.

Intergroup contexts. Importantly, allocation decisions in intergroup contexts involve additional social considerations, beyond those moral concerns invoked in within-group allocation decisions (Killen et al., 2016). Distribution decisions can be multifaceted, involving moral concerns for fairness as well as social concerns about norms and expectations. For example, in intergroup contexts children must navigate potentially competing concerns regarding fair treatment with attitudes about others based on their ingroup or outgroup membership (e.g., Elenbaas et al., 2016; Olson et al., 2011).

In fact, considerable research at the intersection of allocation and intergroup attitudes has focused on the negative aspects of intergroup attitudes (e.g., conformity, prejudice). Many studies have revealed young children's ingroup bias when allocating, for example, more resources to members of their racial and gender ingroups than to racial and gender outgroup members (e.g., Dunham et al., 2011; Renno & Shutts, 2015).

However, in some cases, awareness or knowledge about intergroup relations can contribute to, rather than impede, the promotion of fairness in childhood (e.g., Diemer & Rapa, 2016; Elenbaas & Killen, 2016b; Hughes & Bigler, 2011). This review will examine both sides of the issue by outlining research indicating that consideration of group membership promotes preferential or unfair allocation, usually to benefit ingroup members, as well as research indicating that, in some cases, consideration of group membership is useful for achieving a fair allocation. This second perspective is fairly new to the field, thus attention will be given to reporting and interpreting recent studies

demonstrating that, when children have knowledge about *unfair* intergroup relations in the past, they can use that knowledge to advocate for *fair* relations between groups in the present.

Norms and expectations. Along these same lines, this review will stress the need for more research on children's awareness of the allocation norms that groups hold. Children's awareness of norms and expectations around the distribution of resources and opportunities, and particularly intergroup allocation norms, are powerful predictors of their own allocation decisions (McGuire, Rutland, & Nesdale, 2015). Further, changing local and peer group norms about resource and opportunity distribution can impact children's own distribution decisions (Cooley & Killen, 2015; Mulvey et al., 2014). These findings suggest that children are susceptible to fair and unfair norms around intergroup allocation. But few studies have investigated the actual norms that children expect groups to hold. Children's knowledge of group allocation norms has the potential to reveal their developing awareness of how resources and opportunities move through social systems, and who might be expected to benefit (or not benefit) as a result (Elenbaas & Killen, 2016c).

Economic status and fair distribution. Finally, but importantly, while several studies have focused on intergroup allocation contexts involving the social categories of race and gender, less is known regarding children's decisions about the allocation of resources and opportunities between individuals and groups that differ in economic status. Economic status is, however, a highly salient type of group membership in children's everyday lives (Mistry et al., 2015). Notably, economic status is closely related to actual access to resources and opportunities in childhood and adulthood, and older

children and adolescents recognize this connection (Chafel & Neitzel, 2005; Flanagan et al., 2014).

This review argues that, despite receiving little attention in the distributive justice literature to date, economic status is a highly relevant type of group membership for investigation with regard to children's allocation decisions. Like other intergroup contexts, allocation to individuals or groups that vary in wealth may invoke intergroup biases (e.g., preferential allocation to the ingroup) for children, but it may also invoke strong concerns for inequality and need (e.g., Ongley et al., 2014; Shutts et al., 2016), as well as strong assumptions about entitlement (e.g., Sigelman, 2012; Woods et al., 2005) that are less readily assessed in other intergroup contexts.

Overview. Children draw on their developing moral concerns for fairness, as well as developing social concerns for group norms and expectations, when making allocation decisions. There are times when these different concerns may be in conflict, and thus an integrative theoretical model is helpful for understanding children's distribution decisions in intergroup contexts. Killen and Rutland's social reasoning developmental (SRD) model (Killen, Elenbaas, et al., 2015; Rutland et al., 2010) has guided several recent studies in this area. Bridging research on children's social development and moral development, this model provides a framework for interpreting what is known about distribution decisions in intergroup contexts thus far, and for identifying relevant issues for investigation regarding children's everyday distribution decisions. This next section introduces the social reasoning developmental (SRD) model as a guide for the subsequent analysis of research in this area.

Social Reasoning Developmental Model

Killen and Rutland's social reasoning developmental (SRD) model (Killen, Elenbaas, et al., 2015; Rutland et al., 2010) integrates the social domain theory perspective on moral development (Smetana et al., 2014; Turiel, 2006) with developmental social identity theories (Nesdale, 2004; Verkuyten, 2007) and theories of group dynamics in childhood (Abrams & Rutland, 2008). This model proposes that, when children make decisions –including distribution decisions– in social contexts, they reason about multiple moral and social considerations, weighing their moral concerns for fairness with their developing knowledge about how groups function.

Social domain theory. Research in developmental psychology from the perspective of social domain theory (Nucci, 1981; Turiel, 1983) has provided evidence that, when reasoning about social contexts, events, and interactions, children consider three central domains of knowledge: moral, societal, and personal. The moral domain pertains to issues of fairness, justice, and rights. The societal domain pertains to issues of norms, conventions, and expectations. The personal domain pertains to issues of individual prerogative, choice, or preference. Extensive research has demonstrated that these forms of knowledge are central to social life, and are reflected in the reasoning of adults and children considering both straightforward and complex social contexts (Smetana et al., 2014).

When determining how to allocate resources or opportunities in intergroup contexts, children must weigh moral concerns about fairness with societal concerns about group norms and expectations as well as personal prerogatives. Children care about

equity and justice, and there are many instances in which they adhere to these principles rather than using group stereotypes or negative assumptions to guide allocation decisions.

Developmental social identity theories. Research in social psychology from the perspective of social identity theory (Tajfel & Turner, 1979) has long held that individuals are motivated to view their ingroup (i.e., members of the social group(s) that they belong to) favorably, and that this can lead to biases against or dislike of members of relevant outgroups. Children also exhibit preference for ingroup members, seek to present a positive image of themselves to their ingroup, and sometimes bolster their sense of group identity by allocating resources preferentially to ingroup others (Nesdale, 2004; Verkuyten, 2007).

Preference for one's ingroup does not always lead to dislike or denial of resources for relevant outgroups, however. Whether or not children exhibit biases against relevant outgroups varies as a function of how strongly they identify with their ingroup, whether or not they feel that their ingroup is being threatened, and their perceptions of group norms and expectations around prejudicial treatment of outgroup members (FitzRoy & Rutland, 2010; Nesdale, Griffiths, Durkin, & Maass, 2007; Nesdale, Maass, Durkin, & Griffiths, 2005; Rutland, Cameron, Milne, & McGeorge, 2005).

Developmental subjective group dynamics. Group norms have also been a focus of research in the area of developmental subjective group dynamics (Abrams & Rutland, 2008). This work has demonstrated that, beginning around 8 years of age, children begin to define group membership and identity in terms of a set of shared norms, traditions, and histories, in addition to external, observable characteristics (e.g., skin color for race, hair length for gender) (Abrams et al., 2003, 2009). Older children and

adolescents expect individuals to endorse these shared norms in order to ensure the smooth functioning of the group, and in order to sustain their group membership (Abrams et al., 2008), as non-adherence to a group norm can be considered grounds for exclusion (Mulvey & Killen, 2015).

Yet, while many studies have examined children's evaluations of individuals who deviate from established group norms, including some work on norms about resource allocation, less is known regarding the actual norms that children expect groups to hold. When determining how others (e.g., individual members of social groups) would allocate resources or opportunities, children must consider how others may be bound by group expectations that differ from children's own personal views.

SRD model and children's allocation decisions. The SRD model's dual focus on moral (e.g., fairness) and group (e.g., norms and expectations) concerns is especially applicable for research on children's and adolescents' perspectives on access to and distribution of resources and opportunities in intergroup contexts. Notably, most research on intergroup relations in development focuses on the emergence of stereotypes, biases, conformity, or discrimination (i.e., the negative aspects of intergroup attitudes). However, when a group has been excluded from access to a resource or opportunity, taking group membership into account can be necessary for ensuring fair access in the future.

In fact, one key, unique, prediction of the SRD model is that, in some contexts, knowledge about intergroup relations can contribute to, rather than impede, the promotion of fairness (Killen, Elenbaas, et al., 2015). That is, as children gain awareness of group processes, their social knowledge about norms and expectations combined with

their increasingly sophisticated moral judgments, can actually help them to counter – rather than replicate– unfair allocation norms.

The following sections will reference these three central theories (social domain theory, developmental social identity theories, and developmental subjective group dynamics), as well as their integrated application in the SRD model, in order to interpret foundational and current research revealing the implications of social and moral concerns when children make allocation decisions in within-group and intergroup contexts.

Children Consider Multiple Moral Concerns when Making Distribution Decisions

Research on allocation decisions in childhood has focused primarily on the emergence and development of moral concerns for equality, merit, and need when distributing resources between individuals who do not vary in social group membership (i.e., within-group contexts). This section outlines what is known about the development of children's concerns for equality, merit, and need when allocating resources. Further, distribution decisions have often been examined with regard to the allocation of certain types of familiar and desirable resources (e.g., candy, toys). However, recent research indicates that, when making distribution decisions, older children distinguish between resources like these versus resources that are necessary for ensuring wellbeing (Rizzo et al., 2016). When allocating more necessary resources, older children consider issues of others' welfare and rights, in addition to issues of equality and fairness (Elenbaas & Killen, 2016b). Thus, this section points to new directions for research with regard to the allocation of different types of goods and opportunities.

Importantly, whereas early research in this area focused on children's allocation decisions in contexts where recipients had competing claims over resources (e.g., merit

versus need) in order to measure how children prioritize one claim over another (Damon, 1975, 1980; Enright et al., 1984), recent studies have focused on children's consideration of individual claims in isolation, in order to identify the earliest origins of children's concern for single issues, like merit, when allocating resources.

Emergence of moral concerns. Concerns for equality, merit, and need all emerge early in development when children allocate resources. For example, children as young as 3 years of age reward those who work harder with a larger share of resources like candy or stickers (Baumard et al., 2012; Kanngiesser & Warneken, 2012; Liénard, Chevallier, Mascaro, Kiura, & Baumard, 2013). Likewise children as young as 4 years of age give more resources like toys and snacks to those who have less to begin with (Li et al., 2014; Paulus, 2014; Rizzo & Killen, 2016).

Some research suggests that concern for equality in resource allocation emerges as early as the second year of life (Geraci & Surian, 2011; Sloane, Baillargeon, & Premack, 2012; Sommerville, Schmidt, Yun, & Burns, 2013; Ulber, Hamann, & Tomasello, 2015), while classical and contemporary findings converge to suggest that preference for equality is strong from early childhood through adolescence (Damon, 1975; Enright et al., 1984; Fehr, Bernhard, & Rockenbach, 2008; Rochat et al., 2009; Shaw & Olson, 2012; Sigelman & Waitzman, 1991). Further, older children are able to balance competing merit and need claims when allocating limited resources, and seek ways to “even out” inequalities while also recognizing hard work (Carson & Banuazizi, 2008; Kienbaum & Wilkening, 2009; Sigelman & Waitzman, 1991).

Overall, between early childhood and early adolescence, children demonstrate awareness of which claims to resources are legitimate moral claims (e.g., based on merit

or need) and which are not. As one example, whereas 3 year olds generally allocate resources equally between recipients, 5 year-olds give more to a recipient with a claim to a resource than a recipient with no claim, and 8 year-olds distinguish between different types of claims, allocating more resources to a meritorious or needy individual than to an individual who merely stated that they wanted more resources (Schmidt et al., 2016). Importantly, around 6 years of age concerns for merit and need more clearly take priority over concerns for equality in children's allocation decisions (Rizzo & Killen, 2016; Shaw & Olson, 2013). That is, older children choose to allocate based on merit or need even when they could distribute equally, demonstrating their capacity to prioritize these more complex moral claims. These studies highlight the early emergence and continued development of children's consideration of multiple moral concerns when allocating resources.

Potential developmental mechanisms. Generally, research in this area has been concerned with charting the earliest origins of, and age-related changes in, children's decisions about how to distribute resources. However, some research has also directly investigated the social-cognitive and socioemotional mechanisms underlying these developmental changes. Age-related changes in children's decisions about resource distribution between early and middle childhood have been attributed to increases in social-cognitive competencies including Theory of Mind (Brown, 2006; Fu, Xiao, Killen, & Lee, 2014; Killen, Mulvey, Richardson, Jampol, & Woodward, 2011; Mulvey, Buchheister, & McGrath, 2016; Rochat et al., 2009; Takagishi, Kameshima, Schug, Koizumi, & Yamagishi, 2010; Wu & Su, 2014) and social perspective taking (Abrams et al., 2015; Sierksma, Thijs, Verkuyten, & Komter, 2014), as well as increases in socio-

emotional understanding including empathy (Abrams et al., 2015; Piff et al., 2010; Sierksma et al., 2015; Sierksma, Thijs, & Verkuyten, 2014), sympathy (Daniel, Dys, Buchmann, & Malti, 2016; Malti, Gummerum, Keller, & Buchmann, 2009; Ongley & Malti, 2014; Ongley et al., 2014), and attributions of negative emotions to those who are denied resources and those who deny resources to others (Arsenio et al., 2013; Gummerum, Hanoch, Keller, Parsons, & Hummel, 2010; LoBue, Nishida, Chiong, DeLoache, & Haidt, 2011; Ongley & Malti, 2014; Weller & Lagattuta, 2013, 2014; Williams, O'Driscoll, & Moore, 2014).

Many of these same social-cognitive and socio-emotional competencies are also relevant to children's decisions about resource allocation in intergroup contexts. Throughout this review, potential mechanisms for developmental change in children's coordination of fairness and social group concerns in intergroup distribution contexts will be discussed.

Distributive justice and procedural justice. While distributive justice (or resource allocation) often focuses on the final distribution of items between recipients, an appreciation for procedural justice entails consideration of the means by which resources are allocated. When all recipients have equal claims to resources, but there are not enough resources to allocate equally to everyone, children as young as 5-6 years of age prefer to use procedures that allow for equality of opportunity (Grocke et al., 2015; Shaw & Olson, 2014). That is, young children recognize that some inequality between recipients is acceptable, so long as the procedure that generated it was impartial (e.g., spinning a wheel in which each recipient has an equal chance of receiving the most prizes).

Importantly, by 8 years of age, however, children prioritize merit and need claims over employing an impartial or random allocation procedure (Shaw & Olson, 2014). That is, older children are better able to balance the need for procedural justice and distributive justice, determining that correcting inequalities, for example, takes precedence over using an impartial or allocation procedure. Similar to the findings above on children's developing ability to weigh multiple moral concerns when allocating resources, these studies illustrate older children's capacity to consider fairness in terms of both methods and outcomes. Moving beyond judgments of which *way* is fairest, older children recognize which *end state* is fairest, and moderate their allocation decisions accordingly.

Resource allocation and sharing. Although this review focuses on third party resource allocation decisions from the perspective of moral development, it is important to note that related research has examined allocation decisions from a cooperative or evolutionary perspective, focusing on when children share resources with others. This work has shown that young children share resources equally with those who collaborate with them (Warneken, Lohse, Melis, & Tomasello, 2011), but not with those who do not contribute to the resource acquisition effort (Melis, Altrichter, & Tomasello, 2013). Young children also share resources with others proportional to the amount of work that each party contributed (Hamann, Bender, & Tomasello, 2014; Kanngiesser & Warneken, 2012), even when they could monopolize resources for themselves (Brownell, Svetlova, & Nichols, 2009).

Linking this research on sharing with the moral developmental perspective on fairness in third party judgments, children also reward others who are prosocial (i.e., who demonstrate helping behavior towards others) with a greater share of resources than those

who are antisocial from as early as 4 years of age (Kenward & Dahl, 2011). These findings suggest that young children distinguish between fair and unfair treatment when evaluating other people's behavior, and moderate their own distribution decisions accordingly.

Likewise, when they have the option to give some of their resources to another person, preschoolers respond to others' needs, choosing to give a sticker or snack, for example, to a recipient in need rather than keeping it for themselves (Chernyak & Kushnir, 2013; Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Engelmann, Herrmann, Rapp, & Tomasello, 2016; Malti et al., 2015), and soliciting assistance from another person when they have few resources to give (Paulus, Gillis, Li, & Moore, 2013). Thus, not only do young children judge it fair to address others' needs in third party allocation contexts, in some cases they are also willing to give up their own resources in order to do so. Complementing these findings, older children evaluate other individuals who give away a greater proportion of their own resources to others as "nicer" (McCrink, Bloom, & Santos, 2010; Ng, Heyman, & Barner, 2011).

Fairness depends on the implications for recipients. Recently, research in this area has expanded to include more nuanced investigations of children's capacity to take into consideration factors like the value (Shaw & Olson, 2013), desirability (Blake & Rand, 2010), or rarity (Chernyak & Sobel, 2015) of the resource being distributed when making third party allocation decisions. As one example, recent studies by Rizzo and colleagues (2016) have demonstrated that, by 6-8 years of age, children distinguish between familiar and desirable resources like candy and toys versus resources that are necessary for ensuring recipients' wellbeing (e.g., items like food and medicine) when

making allocation decisions. That is, by 6-8 years of age, children distinguish between resources described as luxuries and resources described as necessities, allocating more of the former to a recipient who worked hard, allocating the latter equally between recipients, and reasoning about others' wellbeing when allocating resources described as necessary (Rizzo et al., 2016). These findings spotlight children's developing capacity to take into consideration the impacts of different distribution decisions on the wellbeing of resource recipients, weighing merit and others' welfare when determining how best to distribute different types of resources.

Building on this approach, recent studies drawing on the SRD model have revealed that, when allocating important resources including school and medical supplies, older children reference the wrongfulness of preferential treatment and the importance of equal access to these types of resources (Elenbaas & Killen, 2016b, 2017). While children do reference issues of fairness and equality when allocating resources like treats and stickers, children's conceptions of fair allocation broaden to include larger issues, including rights to resources, when they allocate items with stronger implications for recipients' wellbeing. For example, Elenbaas and colleagues found that 10-11 year-olds often referenced preferential treatment when reasoning about the causes of an inequality of school supplies between groups (Elenbaas & Killen, 2017), and increasingly referenced children's rights to adequate medical care when deciding how to allocate hospital supplies in the context of a group-based inequality (Elenbaas & Killen, 2016b).

Thus, children are aware that unfair distribution of certain types of resources can have a detrimental impact on recipients' welfare from the early elementary years (e.g., Engelmann et al., 2016; Malti et al., 2015), and by the end of the elementary years they

are aware that different types of resources can and should be allocated differently, depending on the implications of these decisions for recipients (Elenbaas & Killen, 2016b, e.g., 2017; Rizzo et al., 2016). These studies provide further evidence for how children coordinate different moral concerns (e.g., others' welfare and the wrongfulness of preferential treatment), particularly when allocating resources that invoke these more long-term fairness considerations.

Moral Concerns about Access to Opportunities

As mentioned above, less is known regarding children's decisions and reasoning about the fair distribution of opportunities (relative to the fair distribution of resources). However, interestingly, many of the aforementioned moral concerns (e.g., others' rights, the wrongfulness of discrimination) also emerge in children's reasoning about the wrongfulness of *denying* opportunities to individuals or groups.

Denial of access to opportunities. Much of the research in this area to date has focused on children's judgments about the denial of access to extra educational opportunities (e.g., the opportunity to be class leader or participate in a science fair). Denial of educational opportunities, in particular, reflects a pervasive social inequality (Duncan & Murnane, 2011) that raises important moral questions about justice and rights for children and adults (Wainryb et al., 2008). For example, references to discrimination and the importance of obtaining knowledge have been observed in 5-10 year-olds reasoning about the denial of educational opportunities (Brown, 2006; Helwig & Jasiobedzka, 2001), and references to children's rights to education have been observed in 9-17 year-olds' reasoning in similar contexts (Horn, 2003; Killen et al., 2002).

Parallel to the research on children's distribution of necessary resources (e.g., food, medical supplies) described above, findings from studies of children's judgments about the denial of educational opportunities reveal the emergence and development of more complex and multifaceted moral concerns in distribution contexts. Adolescents are able to reason about such abstract social and moral issues as fair government and freedoms (Helwig et al., 2014) and the institutional causes of economic inequality (Arsenio et al., 2013; Flanagan et al., 2014). Yet, reasoning about these complex issues is built on a foundation of understanding fairness in childhood. Indeed, the research reviewed above reveals that children are aware that important opportunities are distributed unequally from as early as the elementary years (Brown, 2006; Elenbaas & Killen, 2017; Helwig & Jasiobedzka, 2001). Yet much more research is needed in order to understand what children know about broader inequalities in access to opportunities and how children perceive that opportunities should be allocated.

Rights to resources and opportunities. Focusing on these types of resources and opportunities (e.g., school supplies, access to education) raises the relevance of related work on children's understanding of rights in everyday life. Research in this area indicates that children often endorse their own nurturance rights, or rights to adequate care including emotional support from parents and protection from physical harm, as well as self-determination rights including the right to autonomous decision-making, from as early as 9-10 years of age (Ruck, Tenenbaum, & Willenberg, 2011). Understanding of individuals' and groups' rights to societal resources in a broader sense, including the detrimental impact of violating such rights, develops in middle childhood and adolescence (Helwig et al., 2014). By 9-11 years of age, for example, children support

their own and others' rights to quality education (Peterson-Badali et al., 2004), and between 8 and 16 years, children increasingly reference education when asked what rights children have (Ruck et al., 1998).

While most research in this area has focused on the extent to which children and adolescents endorse their own and other's rights, such as the right to visit a doctor when ill, or the right to go to school, understanding rights like these can be linked back to children's own decisions about the allocation of resources (Elenbaas & Killen, 2016b). The responsibility to provide children with access to societal resources like medical care and education does not rest on parents alone. Accordingly, children's decisions regarding how to provide resources and opportunities to others and their stated support of their own and others' rights in such contexts may be related, as both pertain to moral conceptions of equity and justice.

Distribution in Intergroup Contexts: Children Balance Moral and Group Concerns

In intergroup contexts children must navigate potentially competing concerns for fairness and group dynamics when distributing resources or opportunities. That is, children must balance moral concerns regarding the treatment of others (broadly) with social group concerns regarding the treatment of others based on their ingroup or outgroup membership (Killen et al., 2016). Many studies at the intersection of resource allocation and intergroup attitudes have focused on the negative aspects of intergroup attitudes (e.g., conformity, prejudice). But, in some cases, awareness or knowledge about intergroup relations can contribute to, rather than impede, the promotion of fairness in childhood. This section will examine both sides of the issue, outlining research indicating that consideration of group membership promotes preferential or unfair allocation, as

well as research indicating that, in some cases, consideration of group membership is in fact essential for achieving a fair allocation. When children have knowledge about *unfair* intergroup relations in the past, for example, they can use that knowledge to advocate for *fair* relations between groups in the present.

Ingroup bias and preferential allocation. Most of the research examining social group concerns in children's allocation decisions has focused on young children's preferential allocation to ingroup members. For instance, preschoolers allocate more resources like snacks, toys, and stickers to their friends than to strangers (McGillicuddy-De Lisi, Watkins, & Vinchur, 1994; McGuigan, Fisher, & Glasgow, 2016; Moore, 2009; Olson & Spelke, 2008; Paulus & Moore, 2014), and to members of their racial (Monteiro, de França, & Rodrigues, 2009; Renno & Shutts, 2015; Zinser, Rich, & Bailey, 1981), gender (Dunham et al., 2011; Renno & Shutts, 2015), linguistic (Kinzler, Dupoux, & Spelke, 2007), school (Fehr et al., 2008), and minimal (Abrams et al., 2015; Benozio & Diesendruck, 2015; Dunham et al., 2011; Rhodes, Leslie, Saunders, Dunham, & Cimpian, 2017; Spielman, 2000) ingroups than to racial, gender, linguistic, school, and minimal outgroup members.

A predominant interpretation of children's tendency to allocate more resources to members of their social group hinges on the assumption that children prefer members of their own social groups. Although few studies directly measure relations between social group preference and resource allocation decisions, there is evidence that children's preferential allocation to friends (McGuigan et al., 2016), gender ingroup members (Renno & Shutts, 2015), and minimal ingroup members (Dunham et al., 2011) is related to their explicit preference for members of these social groups. One study even found that

3-6 year-olds allocated more stickers to their friends than to disliked peers who had almost no stickers (Paulus, 2016). Further, children's expectations for how others will allocate resources are related to their perceptions that others prefer members of their own social group (Elenbaas & Killen, 2016c).

Stereotypes and differential allocation. These examples of ingroup bias (preferential distribution of resources to benefit one's ingroup) are corroborated by young children's use of group stereotypes to determine who should or should not be granted the opportunity to join social groups and share group resources. For example, gender stereotypes about play preferences are prevalent in early childhood, and preschoolers use these stereotypes to determine whether a boy or a girl should be allowed to join a gender-stereotypic activity (e.g., including a boy or girl to play with dolls) (Killen, Pisacane, Lee-Kim, & Ardila-Rey, 2001; Theimer, Killen, & Stangor, 2001). Thus, many children are denied opportunities (by other children) because of stereotypes about social group membership.

Unfortunately, stereotypes can take subtle forms that result in unfair treatment of others, even in children who are not explicitly aware of their biases. For instance, one study found that European-American 9-10 year-olds allocated more money to a needy recipient depicted as European-American than to a needy recipient depicted as African-American (McGillicuddy-De Lisi et al., 2006), and another study found that 11-12 year-olds allocated more money to a needy recipient depicted as a friend than to a needy recipient depicted as a stranger (McGillicuddy-De Lisi et al., 1994). These findings suggest that older children may "give the benefit of the doubt" to certain social groups

(e.g., European-Americans, friends) who are in need, distributing more resources to them than to other social groups in the same circumstances.

Thus, in addition to explicitly distributing more resources to an ingroup member over an outgroup member, group-related biases in older children's and adolescents' distribution decisions can be subtle, reflecting a lack of attention to the resource needs of outgroup members rather than a clear cut denial of resources on the basis of group membership. Further, some work indicates that mere observation of a resource inequality between racial groups or novel groups can lead younger and older children to assume that the disparity is legitimate or deserved, and to perpetuate it themselves by allocating more goods to a member of an advantaged group (Horwitz et al., 2014; Li et al., 2014; Olson et al., 2011).

Intergroup attitudes and inequality. Together, these findings reveal how negative intergroup attitudes are pervasive throughout childhood and adolescence, and often result in biased or preferential allocation decisions. The impact of stereotypes and assumptions about deservingness on children's distribution decisions cannot be overstated. Preferential allocation of resources or opportunities on the basis of group membership is a form of discrimination and a foundation of social inequality (Killen, Hitti, Cooley, & Elenbaas, 2015). As these biases emerge in childhood, it is imperative that future studies address the question of how intergroup contexts and intergroup relations impact children's allocation decisions, as attitudes and behaviors established in childhood can continue in adulthood, perpetuating a damaging cycle of exclusion and disadvantage (Abrams & Killen, 2014; Rutland & Killen, 2015).

Fortunately, there is some evidence that, under certain circumstances, ingroup biases in children's resource allocation decisions can decrease in later childhood and adolescence, as children recognize the impact of differential allocation on recipient's wellbeing (Elenbaas et al., 2016; Jordan, McAuliffe, & Warneken, 2014). For example, Elenbaas and colleagues (2016) investigated 5-6 and 10-11 year-olds' judgments about how educational resources should be allocated following familiarization with an inequality of school supplies between peers of different racial backgrounds. Younger children's responses to the inequality reflected a form of ingroup bias; they only corrected the disparity when their racial ingroup was at a disadvantage, demonstrating more mixed responses when the outgroup was at a disadvantage. Older children, however, reasoned about the importance of equal access to school supplies and correcting past disparities. These 10-11 year-olds judged the inequality negatively, allocated more school supplies to the group that they had seen receiving fewer supplies, and supported the actions of others who did the same, regardless of whether their ingroup or the outgroup was disadvantaged.

This study highlights the emergence of children's concern for equality where access to education and educational resources is concerned, bridging research on resource allocation and rights. Along these same lines, related research indicates that 8-13 year-olds help both friends and strangers who are hurt or ill (Sierksma et al., 2015), donate money to families of their own nationality or another nationality who have experienced a natural disaster (Sierksma, Thijs, & Verkuyten, 2014), and evaluate the refusal to help as wrong regardless of whether the peer in need is an ethnic ingroup or outgroup member (Sierksma, Thijs, Verkuyten, et al., 2014).

What these studies have in common is a focus on high-stakes (or necessary) resources like educational or medical supplies (Elenbaas & Killen, 2016b; Elenbaas et al., 2016) or high-need recipients who are hurt, ill, or afraid (Sierksma et al., 2015; Sierksma, Thijs, Verkuyten, et al., 2014). This suggests that, for older children (whose understanding of others' emotions and of the consequences of lacking a resource are more developed) moral concerns can outweigh social group affiliations when the consequences of unfair allocation are especially severe. Nevertheless, more research is needed in order to determine how allocation decisions in intergroup contexts change between childhood and adolescence as a function of the resource being allocated. Studies approaching the same intergroup issues have sometimes revealed contrasting results (see, for example Elenbaas et al., 2016; Olson et al., 2011), indicating that, when making allocation decisions in these contexts, children consider many more factors than previously anticipated.

Awareness of intergroup relations can promote fair decisions. As reviewed above, in many contexts, negative intergroup attitudes promote preferential allocation and the maintenance of unfair inequalities. However, recent studies drawing on the SRD model have revealed that, in some cases, awareness or knowledge about intergroup relations can contribute to, rather than impede, the promotion of fairness in childhood (Elenbaas & Killen, 2016b, 2017).

For instance, in a recent study drawing on the SRD model to examine children's allocation of hospital supplies (e.g., bandages, thermometers), Elenbaas and colleagues (2016b) found evidence for the joint roles of moral judgment and knowledge about intergroup relations in children's resource allocation decisions. Between early and middle

childhood, children judged an inequality of hospital supplies between African-American and European-American children increasingly negatively. At the same time, they demonstrated increasing awareness of broader links between race and wealth outside of the experimental context (see also Elenbaas & Killen, 2016a). These changes in moral judgments and social knowledge mediated the relation between age (5-6 versus 10-11 years) and children's increasing support for rectifying the hospital supply inequality, specifically when African-American groups were being denied resources.

In this example, older children recognized which social groups were the habitual targets of certain forms of discrimination and inequality, including, in this case, restricted access to quality medical care due to economic disparities. Importantly, when they had the opportunity to address discriminatory resource inequalities, older children in this study used their social knowledge to take corrective action, responding to inequalities in a way that promoted the welfare and wellbeing of others.

Likewise, related research has demonstrated how awareness of inequality in past intergroup relations can promote adolescents' support for corrective policies regarding opportunities. For example, Hughes and Bigler (2011) investigated 14-17 year-olds' perceptions of a potential educational policy that could be implemented at their high school. In this study, adolescents heard about a proposed program that would provide all interested graduating African-American and Latino students, a historically under-represented population, with free in-school assistance in completing college applications. Overall, adolescents were neutral to supportive of the policy. Support was greater among adolescents who knew more about historical racism, and for older adolescents support

was greater among those who perceived higher levels of racial disparities in society and attributed those disparities to racism.

Thus, adolescents' support for a program aimed at rectifying inequalities in access to opportunities was stronger among those who identified past disparities as wrong and discriminatory. More detail on related research examining children's and adolescents' social-cognitive capacity to detect discrimination and its role in children's decisions about fair allocation is provided in the section 'differential allocation as a form of discrimination' (below).

Further, recent research has emphasized that it is awareness of inequality in particular (not support for equality in general) that motivates adolescent's decisions to engage in political action on behalf of marginalized groups. For example Diemer and Rapa (2016) examined relations between support for equality (e.g., "All ethnic and racial groups should have equal chances at jobs"), perceived inequality (e.g., "Children from poor families have fewer chances than others to get a good high school education"), and several forms of political action with a sample of low-income African-American and Latino 14-15 year-olds. While support for equality predicted few types of political behavior, perceiving a high level of inequality strongly predicted plans for political protest in the future (e.g., occupying public buildings, blocking traffic). Perceived inequality also predicted conventional forms of political action (e.g., joining a political party, writing to a representative) for African-American adolescents.

This example highlights how perceiving inequality in society reflects some analysis and critique of systematic patterns, above and beyond a general belief that society ought to be more equal. Awareness of inequality also motivated adolescents to

work towards social change, revealing a link between awareness of inequality and support for fair relations between groups in the future.

Together, the results of these three studies underscore the combined roles of moral reasoning and social awareness of inequality in predicting children's and adolescents' support for corrective allocation of resources and opportunities. These findings suggest that children must be aware of inequalities *and* evaluate them as wrong in order to respond with corrective action. Awareness of the existence of discrimination (in the past or present) is an important first step in determining how to respond to inequality of opportunity, but awareness alone is not enough (also see Diemer et al., 2016). Moral judgments and reasoning support children's capacity to critique disparities and determine fair ways of distributing resources and opportunities when they have the opportunity to do so.

Unequal Access to Opportunities based on Group Membership

Closely related research on children's and adolescents' judgments regarding the restriction of opportunities –especially educational opportunities– on the basis of group membership reveals similar concerns about discrimination and rights among older children and adolescents.

Denial of opportunities based on group membership. For instance, one study found that 5-10 year-olds negatively judged a teacher's decision to deny ethnic minority students the opportunity to be class leader or participate in a science fair, reasoning about such actions as preferential treatment and discrimination (Brown, 2006). Similarly, one study found that 6-10 year-olds negatively judged laws prohibiting the teaching of math to blue-eyed children, reasoning about the importance of obtaining knowledge (Helwig &

Jasiobedzka, 2001). Parallel to the research on children's distribution of necessary resources (e.g., medical supplies) described above, findings from these studies reveal the emergence of more complex and abstract moral concerns, like the wrongfulness of restricting development, when children consider the implications of denying important opportunities on the basis of group membership.

In intergroup contexts regarding the distribution of opportunities, in particular, concerns for discrimination emerge among older children and adolescents. For instance, one study found that 9-16 year-olds judged it wrong for a town to prohibit girls or ethnic minority children from going to school, reasoning about fairness issues including children's rights to education (Killen et al., 2002), and another study found that 14-17 year-olds judged it wrong to deny a student the opportunity to participate in a leadership trip or receive a scholarship on the basis of their membership in a stereotypically academically disengaged peer group, reasoning about moral issues including fairness, harm, and rights (Horn, 2003).

Interestingly, one recent study drawing on the SRD model found that older children's responses to an inequality of educational or medical resources between racial groups differed as a function of whether or not they perceived the inequality to be discriminatory. Elenbaas and Killen (2017) measured 10-11 year-olds' spontaneous explanations for disparities of educational or medical resources between schools or hospitals serving African-American and European-American children. Participants most frequently explained disparities in terms of institutions' differing financial resources, revealing their awareness that economic inequalities often underlie groups' differential access to resources. Further, children attributed inequalities to preferential treatment more

often when they witnessed African-Americans at a disadvantage than when they witnessed European-Americans at a disadvantage, demonstrating awareness that racial minority groups are more likely than racial majority groups to experience restricted access to resources. Finally, children who reasoned about preferential treatment judged resource inequality, and actions that perpetuated inequality, more negatively than children who thought that disparities were based on institutions' differing needs, revealing a link between awareness of discrimination and rejection of social inequalities.

Thus, unequal access to resources and opportunities, especially those with long-term implications for others' wellbeing like educational and medical supplies, based on group membership is a salient issue invoking concerns for justice and rights among children and adolescents. These findings further emphasize how both social knowledge about inequality in intergroup relations *and* moral concerns about discrimination are important predictors of children's support for fair allocation, in line with the parameters of the SRD model (Killen, Elenbaas, et al., 2015).

Differential access as discrimination. Focusing on preferential allocation based on group membership as a type of discrimination raises the relevance of related work on children's awareness of stereotypes and detection of other types of discrimination in everyday life. By the end of the elementary years, children are able to infer others' stereotypes (McKown & Strambler, 2009; McKown & Weinstein, 2003), and are especially likely to identify differential treatment as group-relevant (e.g., racial or gender discrimination) if the perpetrator has an established history of biased behavior (Bigler, Arthur, Hughes, & Patterson, 2008; Brown, 2006; Brown & Bigler, 2004) or makes a decision that advantages an ingroup member rather than an outgroup member (Mills &

Grant, 2009). This social-cognitive ability to interpret behavior targeting a certain social group in terms of others' biases has important implications for children's responses to inequality of resources or opportunities (e.g., Elenbaas & Killen, 2017)

For example, by 10-13 years of age, children are aware that, in many contexts, members of racial and ethnic minority groups are more likely to be the targets of discrimination than European-Americans (Brown, Mistry, & Bigler, 2007; Hughes, 2011; McKown & Strambler, 2009). Further, early adolescents draw progressively stronger connections between their own daily experiences and overarching societal biases against certain social groups. When evaluating the social exclusion of an African-American child from a group of European-American peers, for example, African-American adolescents reason about the wrongfulness of this action in the larger context of society by elaborating on the negative consequences of discrimination (Killen et al., 2002).

Likewise, many adolescents (particularly adolescents of African-American and Latino background) report increasing personal experiences with discrimination from teachers, peers, and strangers, with reports ranging from wrongful discipline in school to being hassled by store clerks to teasing and online harassment (Fisher, Wallace, & Fenton, 2000; Rivas-Drake, Hughes, & Way, 2009; Umaña-Taylor, Tynes, Toomey, Williams, & Mitchell, 2015). While this review focuses on children's judgments and decisions with regard to the allocation of resources and opportunities to others, it is notable that some work has examined relations between children's own experiences of exclusion and discrimination and their decisions regarding social group inclusion and exclusion (an issue that is conceptually related to decisions regarding access to opportunities). Some research in this area has demonstrated that children who identify

highly with their cultural group and perceive that others view their group negatively are more exclusive in their friendship choices, perhaps as a result of rejection in everyday interactions (Cooley, Elenbaas, & Killen, 2016).

This related research exemplifies how, particularly in late childhood and early adolescence, children's own social experiences lead to the development of complex awareness of intergroup relations and histories, knowledge of which groups are typically the targets of exclusion from opportunities and resources, and understanding of connections between societal biases and their own everyday experiences. As mentioned above, awareness of discrimination is an essential first step for determining how to allocate resources and opportunities between groups in the future (Diemer & Rapa, 2016; Elenbaas & Killen, 2016b; Hughes & Bigler, 2011). This is because fairness does not always entail impartiality or disregard for group factors. In many cases, ensuring fair access requires intentional consideration of a past history of exclusion based on group membership.

Group Norms and Children's Allocation Decisions

As reviewed thus far, children must balance moral concerns for others' welfare with social group expectations when allocating resources and opportunities in intergroup contexts (Killen, Elenbaas, et al., 2015). Children's awareness of norms and expectations around the distribution of resources and opportunities, and particularly intergroup allocation norms, contribute to their own allocation decisions (Abrams et al., 2015; McGuire et al., 2015; Sierksma, Thijs, & Verkuyten, 2014). For example, 4-5 year-olds who hear that their peers have been "selfish" give fewer pieces of candy to a partner (McAuliffe, Raihani, & Dunham, 2017), and young children's preferential giving to

ingroup members is related to the extent to which they expect ingroup members to behave prosocially towards them (Dunham et al., 2011; Renno & Shutts, 2015). In the opposite sense, exposure to an anti-discrimination norm can lead 9-10 year-olds to allocate more money to an out-group member (Monteiro et al., 2009). Thus, children's perceptions of the distribution norms that groups hold can impact their own decisions about how to allocate resources.

Group and individual perspectives on fairness. At the same time, older children are able to recognize that groups' perspectives on resource distribution may differ from their own (Abrams & Rutland, 2008). Older children and adolescents define groups and group identity in terms of a set of shared attitudes, beliefs, and behaviors (Abrams et al., 2003, 2009), and expect individuals to endorse these shared norms in order to sustain their group membership (Abrams et al., 2008). Children's developing understanding that social groups may hold a different perspective from their own personal view is related to their increasing social experience with an ever-widening range of social groups (Abrams et al., 2009; Jugert et al., 2011) and increasing capacity for social perspective taking (Abrams et al., 2009, 2015; FitzRoy & Rutland, 2010; Jugert et al., 2011; Nesdale, 2013).

Groups may, for instance, advocate for more resources for their group, while children themselves would prefer equality. Children are aware of this distinction from fairly early in development (Cooley & Killen, 2015; Mulvey et al., 2014). As one example, drawing on the SRD model, Cooley and Killen (2015) found that 5-6 year-olds expected an advantaged group that traditionally received more resources to be less approving of an individual member advocating for equal distribution between groups

than would 3-4 year-olds. Likewise, 5-6 year-olds personally evaluated this advocate for equality positively, but recognized that an advantaged group would not like an individual seeking to change the norm. These same differential evaluations were also found in older children's expectations about an after-school club's opinion of an individual who advocated for equal allocation of money between clubs when the usual approach was to seek more for the ingroup (Killen, Rutland, Abrams, Mulvey, & Hitti, 2013; Mulvey et al., 2014). In these studies, adolescents justified their evaluations of the group's reaction with references to issues of group functioning (e.g., "The group would like her because she's trying to get more money for them"), demonstrating their increasing awareness of group processes and pressures.

Thus, between early childhood and adolescence, children build their capacity to distinguish what is fair from what is expected. Children's expectations for how groups will react to members who want to change established allocation norms shed light on the origins of knowledge about group dynamics (Cooley & Killen, 2015; Mulvey et al., 2014). They do not, however, answer the question of what children expect group allocation norms to be in the first place. Determining what children believe these norms to be has the potential to reveal important information about their developing knowledge concerning how inequalities are exacerbated (Elenbaas & Killen, 2016c).

Few studies, however, have investigated the actual allocation norms that children expect groups to hold. The next section will outline what is known about children's expectations for how others would allocate resources and opportunities, and accent the need for more research in this area. Studies on children's expectations for how others would allocate provide information about developing conceptions of how resources and

opportunities can and should move through social systems (Arsenio et al., 2013; Wainryb & Recchia, 2014).

Perceptions of allocation norms. Some evidence has emerged to suggest that children begin to expect others to share preferentially with ingroup members in early childhood. For example, one study found that 5 year-olds (but not 3 year-olds) expected a protagonist to share equally with their friends approximately 90% of the time, but only expected equal sharing with disliked peers approximately 40% of the time (Paulus & Moore, 2014). Likewise, one study found that, between 4 and 10 years of age, children increasingly expected members of school groups in competition to allocate more cookies to their ingroup rather than dividing equally (from 40% of 4 year-olds to 80% of 8 year-olds) (DeJesus, Rhodes, & Kinzler, 2014).

Related work has also shown that 6-10 year-olds (but not 3-5 year-olds) expect individuals from a minimal group to help members of their own group more than members of another group (Rhodes, 2012), and 5-13 year-olds predict that others would feel better helping racial and gender ingroup peers in need, and happier ignoring the needs of racial and gender outgroup peers (Weller & Lagattuta, 2013, 2014). Together these findings suggest that, soon after children begin to distribute resources preferentially to their own ingroup members, they begin to expect others to do the same.

By contrast, when there are no group-based differences between allocator and recipients (e.g., in same-group contexts), some studies indicate that children anticipate equal distribution norms to take precedence. For instance, 3-8 year-olds expect pennies to be shared equally between two recipients after they collaborated to earn them (Ng et al., 2011), and expect strangers to share stickers equally with them (Smith, Blake, & Harris,

2013). This indicates that expectations for equality, in addition to expectations for ingroup biased preferential allocation, are also present from early in development. In fact, research on resource allocation in the first years of life indicates that infants may expect adults to allocate equally to third parties before they even have the motor skills to enact such equal allocations themselves (Geraci & Surian, 2011; Sloane et al., 2012; Sommerville et al., 2013).

These findings reveal a coexistence of expectations for equality and expectations for ingroup preference in young children's perceptions of the allocation norms that others hold. In fact, these expectations emerge quite early in development, parallel to children's own use of equal allocation strategies in within-group contexts and demonstration of ingroup biases in between-group allocation decisions (see the preceding sections for details). Yet, as this is a relatively new area of research, many questions remain open for investigation.

Group status and competing expectations. One relevant question is whether children expect others to allocate resources differently depending on the status of their group (well-resourced or under-resourced). For example, in a recent study drawing on the SRD model, Elenbaas and colleagues (2016c) found that, in a context of resource inequality between groups, 3-6 year-olds' expectations for others' allocation decisions hinged on their expectations for how others would judge the inequality. Specifically, children expected a member of an under-resourced group to reduce the inequality between groups when that person evaluated the inequality negatively, and a member of a well-resourced group to increase the disparity when that person evaluated the inequality positively. Surprisingly, this study revealed only one set of circumstances in which young

children expected another individual to reduce a resource inequality between groups (the member of the under-resourced group who evaluated the inequality negatively). The well-resourced group member, however, was frequently expected to adhere to allocation norms that sustained the inequality between groups.

Children's expectations for how others would allocate resources or opportunities may also reflect stereotypes about the behavior of well-resourced and under-resourced groups. As discussed in more detail below, whether or not children equate resource inequality (how many units of a given resource an individual possesses) with economic inequality (how much wealth or income an individual possesses) is yet unknown. However, children's stereotypes about high-wealth and low-wealth peers may be relevant to their expectations for the behavior of well-resourced and under-resourced groups in a context of limited resources.

Specifically, children hold stereotypes that low-wealth peers are not hardworking or intelligent and that high-wealth peers have these qualities (Mistry et al., 2015; Shutts et al., 2016; Sigelman, 2012; Woods et al., 2005). Essentially, children, like adults, tend to assume that affluence is earned, and poverty is the result of a lack of effort or responsibility. Yet, when the question pertains to how to distribute resources, rather than how one obtained ones resources, other stereotypes may apply. Besides being perceived as competent (i.e., hardworking and intelligent), adults perceive the wealthy as less warm (i.e., more competitive) (Cuddy et al., 2007; Fiske et al., 2002). Children, too, may view high-wealth peers as more aggressive or competitive in seeking more resources for their own group.

However, one recent study found that 6 and 10-year-olds viewed “rich people” as both smarter and nicer than “poor people” (Roussos & Dunham, 2016). That is, unlike adults, children had difficulty entertaining the notion of a highly competent group that was not also high in warmth. These findings suggest the opposite possibility, that children may expect high-wealth peers to be more generous than low-wealth peers when deciding how resources should be distributed.

Taken together, the studies discussed in the preceding section strongly suggest that, between early and middle childhood, children increasingly expect preferential allocation to ingroups as a general normative behavior in intergroup contexts. The studies outlined in this section further indicate that they may perceive different norms for under-resourced groups (reducing inequality) and well-resourced groups (maintaining advantaged position). One implication is that this recognition may have a detrimental impact on children’s own motivation to correct disparities. Given that inequality in many societies around the world has increased steadily in recent years (Isaacs, Sawhill, & Haskins, 2008), further research on children’s perceptions of how resources *are* allocated, as well as judgments regarding how they *should* be allocated, is needed in order to understand developing notions of how group status relates to power and control over resources and opportunities.

Economic Status and Allocation Decisions

Following on this point, economic disparities are a central form of resource and opportunity inequality between individuals and groups. Reflecting the focus of research in this area to date, the studies reviewed in the preceding sections have primarily focused on children’s distribution decisions in intergroup contexts based on race or gender. Less

is known regarding children's conceptions of fair allocation when groups differ in wealth. Economic disparities are, however, a primary form of inequality. That is, while inequalities in access to opportunities and resources often map on to other group categories like race, ethnicity, gender, sexual orientation, (dis)ability, religion, and immigrant status, economic inequalities are a form that underlies or reinforces inequality in most other group-based domains (Carter & Reardon, 2014; Saegert et al., 2007). Thus, they are of great importance when considering how resources and opportunities are, and should be, distributed.

This section argues that, despite receiving little attention in the distributive justice literature to date, economic status is a highly relevant type of group membership for investigation with regard to children's allocation decisions. Like other intergroup contexts, allocation to individuals or groups that vary in wealth may invoke intergroup biases for children (i.e., preferential allocation to the ingroup), but it is very likely that this context would also invoke strong moral concerns for others' welfare and needs (e.g., Ongley et al., 2014; Shutts et al., 2016) as well as strong assumptions about entitlement (e.g., Sigelman, 2012; Woods et al., 2005) that are less readily assessed in other intergroup contexts.

Recognizing associations between economic status and opportunities.

Economic status is a salient and relevant social consideration in children's everyday lives and peer interactions, beginning at least in the early elementary years. From as young as 5 years of age, children identify individuals as "rich" or "poor" based on their clothing and possessions (Enesco & Navarro, 2003; Ramsey, 1991; Shutts et al., 2016). During the early elementary years, children also reference material possessions (e.g., houses, cars)

when distinguishing between wealth and poverty (Chafel & Neitzel, 2005). Thus, from an early age, children have a basic awareness that greater wealth is associated with possession of more or better resources.

In late childhood, children also begin to recognize the connection between economic status and access to opportunities (in addition to resources). By 8-10 years of age, for instance, children note that some peers participate in after-school clubs or travel to summer camps or vacation destinations while others do not, and that this varies by family economic status (Mistry et al., 2015; White, 2009). Older children may also be aware that their lower-income peers are sometimes passed up for classroom opportunities, as observational studies indicate that middle-SES students request and receive help from teachers more frequently than their lower-SES peers (Calarco, 2011; Streib, 2011).

In early adolescence, economic status becomes an increasingly relevant factor in children's daily social interactions. Older children and adolescents are able to identify their own families' economic status relative to other families in their neighborhood or school (Adler et al., 2000; Goodman et al., 2001; Goodman, Huang, Schafer-Kalkhoff, & Adler, 2007; Goodman et al., 2015; Mistry et al., 2015; Singh-Manoux, Marmot, & Adler, 2005), and both high-SES and low-SES adolescents report having more same-SES than cross-SES acquaintances, friends, and close friends (Crosnoe & Schneider, 2010; Grewal, 2013), and preferring to befriend peers of the same SES (Weinger, 2000). Further, many adolescents report having been teased about their family's financial situation; in one study, 17-23% of low-SES 10-14% of middle-SES and 5-18% of high-SES middle and high school students reported experiencing this type of teasing

(Bucchianeri et al., 2013). By adulthood, many Americans live in economically segregated communities (Reardon & Bischoff, 2011).

In addition to increased attention to economic status in social life, older adolescents demonstrate greater awareness of the role of education (an important opportunity) in determining wealth and income in adulthood (Goodman et al., 2000). Leahy's early studies in this area first demonstrated increases between early childhood and late adolescence in awareness of the impact of social factors, such as lack of jobs and training, on poverty (Leahy, 1981, 1983), and subsequent work provides converging evidence that, between 12 and 18 years of age, adolescents are increasingly likely to explain poverty in terms of societal causes including lack of job or educational opportunities (Arsenio et al., 2013; Flanagan et al., 2014).

Together these findings point to the relevance of economic status in children's and adolescents' everyday lives, and pinpoint late childhood and early adolescence as a time when awareness of the links between economic status and access to resources and opportunities increases. This growing awareness may have a positive or a negative impact on children's allocation decisions in intergroup contexts. However, research on allocation decisions and recipient economic status is scarce. The next part of this section will draw on related research to suggest two primary possibilities regarding the impact of recipient economic status on children's distribution decisions.

System-justifying beliefs. Research has revealed that adults often rationalize or legitimize existing social arrangements, fulfilling a psychological need to understand the status quo as good, fair, natural, desirable, and inevitable (Jost & Banaji, 1994). Accordingly, adults often find ways of psychologically justifying and maintaining

economic disparities between groups (Jost et al., 2004). Some research suggests that children, too, perceive certain group-based resource inequalities to be deserved, and assume that the way things are is the way that they are supposed to be (Horwitz et al., 2014; McGillicuddy-De Lisi et al., 2006; Olson et al., 2011).

For example, Olson and colleagues (2011) investigated children's resource allocation decisions when groups had a history of advantage or disadvantage. In this study, 3-11 year-olds witnessed a series of unequal allocations of cookies between recipients representing different racial or novel groups. Then participants were shown a new set of representative recipients, given three cookies, and asked to give each child "what he deserves". Children most often adhered to the established norm by giving more cookies to the target from the advantaged group. Olson and colleagues interpreted children's allocation decisions as evidence of their endorsement of the unequal status quo, in line with system justification theory (Jost & Banaji, 1994).

Further, adults often hold negative assumptions about individuals in poverty as lazy, unintelligent, and lacking in self-control (Cuddy et al., 2007; Lott, 2012; Saegert et al., 2007). These explanations for economic inequality place the focus on the individual. Attaining a high income, for example, is inferred to be the result of hard work and intelligence alone. Children and adolescents, too, make assumptions about income and individual merit or deservedness. Leahy's early work in this area documented a greater emphasis on intelligence, education, and effort among children aged 11 and older, as well as a greater tendency to justify economic inequality on the basis of these attributions (Leahy, 1981, 1983). Likewise more recent research has found that 10-12 year-olds endorse more positive attributes (e.g., smart, hardworking) about the rich and the middle

class than about the poor, and more negative attributes (e.g., dumb, lazy) about the poor than about the middle class or the rich (Mistry et al., 2015). 6-14 year-olds have also been found to hold stereotypes about poverty and lack of intelligence or lack of academic ability (Roussos & Dunham, 2016; Shutts et al., 2016; Sigelman, 2012; Woods et al., 2005).

Thus, older children and adolescents are aware that greater wealth affords greater access to many important resources and opportunities. However, one possibility is that children view economic inequality as the “natural” result of individual differences in effort or intelligence, infer that such inequality is justified, and that they would be justified in perpetuating it by directing more resources and opportunities toward deserving advantaged groups.

System-critiquing beliefs. Conversely, if children view economic inequality as the unjust result of social processes, their interest in directing more resources or opportunities towards disadvantaged groups is likely to be high. As outlined above, older children demonstrate some awareness of the role of access to opportunities in determining wealth and income later in life (e.g., Arsenio et al., 2013; Flanagan et al., 2014). Older children and adolescents are able to explain poverty in terms of societal causes including lack of educational and job opportunities (Flanagan et al., 2014; Goodman et al., 2000), and one study even found that adolescents frequently mention extra opportunities (e.g., SAT prep courses) as examples of how economic inequality is unfair (Arsenio et al., 2013).

Additionally, several studies indicate that children and adolescents judge the denial of resources and opportunities on the basis of other types of group membership

negatively (e.g., Brown, 2006; Elenbaas et al., 2016). These attributions for inequality place the focus on social or societal contributors. Having a low income, for example, is attributed to situational constraints like lack of job opportunities or access to education, rather than individual failings like laziness or lack of academic ability.

Thus, a second possibility is that older children may reason that inequality of resources or opportunities based on economic status is unfair, and that groups with less access in the past should receive increased or equal access in the present. Further supporting this possibility, research in social domain theory indicates that individuals evaluate, critique, and sometimes try to change norms that they judge to be unfair (Turiel, 2014; Wainryb & Recchia, 2014). When allocating resources, for example, older children take inequality into account, distributing more to an individual with fewer resources (Kienbaum & Wilkening, 2009; Rizzo & Killen, 2016).

However, whether or not resource inequality (how many units of a given resource a recipient already possesses) can be equated with economic inequality (how much wealth or income a recipient possesses) is yet unknown. Interestingly, early research in the area of resource allocation typically asked children to divide up small sums of money between peers who worked hard (i.e., a merit-based claim) and peers who were depicted as poor (i.e., a poverty-based claim) (Damon, 1975, 1980; Enright et al., 1984). More recent work has revealed that 5-6 year-olds allocate resources approximately equally between recipients in such situations, while 9-10 and 13-14 year-olds recognize the relevance of both merit and poverty, favoring the poor recipient specifically in contexts designed to invoke concerns for charity, and reasoning about needs (Sigelman & Waitzman, 1991).

Very little research, however, has examined economic status as a central claim to resources (rather than in contrast with other claims, including merit). Three exceptions include an older investigation by Zinser and colleagues and two recent studies, one by Ongley and colleagues and one by Shutts and colleagues. Ongley and colleagues (2014) found that, even when they could keep all of their stickers for themselves, 8 year-olds donated more stickers to “poor children” (pictured as economically disadvantaged) than did 4 year-olds (8 year-olds donated over half of their stickers whereas 4 year-olds donated less than a third). Interestingly, children in this study who used moral reasoning when explaining how another child would feel when denied a resource (cupcake) or opportunity (to learn a song) also donated more stickers to poor children. Further, Shutts and colleagues (2016) found that, even though 5-9 year-olds reported a preference for befriending a hypothetical peer described as living with ample finances, they distributed more toys to a hypothetical peer described as living with limited finances (in a vignette including references to resources, lifestyle, and family purchasing power). Interestingly Zinser and colleagues (1976; 1975) found that even 4-6 year-olds shared more candy with a low-wealth peer than a high-wealth peer in a context designed to invoke concerns for charity.

Building on the research reviewed above indicating that, by the elementary years, children are aware of the relation between economic status and access to resources and opportunities, these studies suggest that, when allocating resources between recipients who differ in wealth, children seek to correct inequalities in a broad sense, distributing more items to low-wealth recipients (Ongley et al., 2014; Shutts et al., 2016; Sigelman & Waitzman, 1991; Zinser & Lydiatt, 1976; Zinser et al., 1975). Notably, these findings

coincide with research drawing on the SRD model indicating that older children are able to use their knowledge of intergroup relations to take action to reduce inequality (Elenbaas & Killen, 2016b, 2017). That is, when they make distribution decisions that bear on familiar inequalities in society, children do not necessarily replicate what they have observed. Rather, they often take advantage of the chance to equalize access.

Impact of child economic status on allocation decisions. A natural question following from the research described is whether children's allocation decisions to individuals of low- or high-economic status might also differ by participant's own economic status. Considerable important research has examined the effects of child or family socioeconomic status on numerous developmental outcomes (Duncan et al., 2015; McLoyd et al., 2014). However, based on the literature to date, it is difficult to formulate a directional prediction regarding how children's own economic status might impact their judgments about how access to opportunities *should* be allocated.

Most work in this area has focused on SES and children's donation behaviors. For instance, some research indicates that lower-income 3-5 year-olds donate more tokens to a "sick kid" (Miller, Kahle, & Hastings, 2015) while other research indicates that higher-SES 4-9 year olds donate more stickers to an anonymous peer (Benenson, Pascoe, & Radmore, 2007) and higher-income 5-9 year-olds are more likely to allocate toys to a low-wealth peer than a high-wealth peer (Shutts et al., 2016). Still other research indicates no differences in the number of stickers that 4-8 year-olds' donate to low-wealth peers by their parents' level of education (Ongley et al., 2014) and no differences in the proportion of stickers that 5-11 year-olds donate to another kid "just like them" as a function of the number of stickers available to donate (Posid, Fazio, & Cordes, 2015).

These contradictory findings do not resolve in adolescence (Carlo, Padilla-Walker, & Day, 2011). Thus, the exact role of children's own economic status on their decisions about how resources or opportunities should be distributed remains an open question.

One possibility is that higher-income children and adolescents may be more likely than their lower-income peers to judge that other high-income children should receive access to opportunities. In general, higher-income adults are often more independent and self-focused whereas lower-income adults are often more interdependent and other-focused (Kraus et al., 2009; Piff et al., 2010; Stephens et al., 2007). These tendencies have been attributed to differences in the amount of control and personal choice that individuals with more or fewer resources experience in their lives (Kraus et al., 2012). In fact, there is some evidence that many higher-income adults simply feel more entitled and deserving (in general) than others (Piff, 2014). More specifically, higher-income adults are less generous in donation contexts (Piff et al., 2010), less egalitarian in sharing contexts (Bratanova et al., 2016), and more likely to take resources from one person to benefit several others (Côté et al., 2013).

These findings suggest that higher-income children and adolescents, too, may be especially likely to believe that other high-income peers are entitled to opportunities. However, notably, differences in the generosity of lower- versus higher-income adults may only emerge in societies with a high level of economic inequality, or a high level of perceived inequality (Côté et al., 2015). This further highlights the relevance of children's *perceptions* of inequality in society for their judgments about how opportunities should be distributed.

Another complementary possibility is that lower-income children and adolescents may be more aware of economic inequalities than their higher-income peers, and thus more likely to judge that other low-income children should receive access to opportunities. In regards to educational opportunities in particular, low-income older adolescents are conscious of potential barriers to their educational achievement, and some report lower educational expectations than their higher-income peers (Arsenio et al., 2013; Diemer & Li, 2012; McWhirter & McWhirter, 2015; Taylor & Graham, 2007). Likewise, stress related to family financial constraints contributes negatively to academic achievement, school engagement, and attitudes about education in adolescence (Benner & Wang, 2014; Crosnoe, 2009; Mistry et al., 2009).

However, low-income older adolescents and young adults who actively discuss current political and social issues with their peers and parents report a higher level of agency for addressing problems in their communities, including social inequality (Diemer, 2012; Diemer & Li, 2011; Watts & Flanagan, 2007). Further, in adulthood, low-income individuals are more likely to reference barriers to opportunities (e.g., discrimination, political influence) when describing the causes of wealth and poverty (Kluegel & Smith, 1986; Kraus et al., 2009). These findings suggest that lower-income children may be more aware of economic disparities than their higher-income peers. Whether or not this means that they would also make different moral judgments about fair access to educational opportunities, however, remains untested.

A third possibility is that children may provide more opportunities for peers from their own wealth background, particularly when they perceive an unmet need. Over and above ingroup bias in allocation decisions, children and adolescents are more attuned to

the needs of members of their social ingroups than members of social outgroups (Abrams et al., 2015; Sierksma et al., 2015; Weller & Lagattuta, 2013, 2014). For instance, 5-10 year-olds are more likely to help, share with, and comfort a minimal ingroup member than a minimal outgroup member (Abrams et al., 2015), and 8-13 year-olds help a friend in need more than a stranger in the same circumstances (Sierksma et al., 2015). This suggests that, rather than an across-the-board support for or rejection of economic inequalities in access to opportunities, children's decisions may be moderated by their perceptions that someone at least somewhat similar to them has been denied an opportunity in the past, entitling them to greater access in the present.

Research in social psychology includes a long history of important findings regarding adults' endorsement of economic inequality as fair, largely based in meritocratic assumptions about the functioning of society (Jost et al., 2004; Lott, 2012). The findings reviewed above do not preclude the possibility that children, too, might endorse these assumptions and distribute resources and opportunities accordingly. However, the possibility remains that, in a context of economic inequality, knowledge of recipients' group membership (i.e., taking wealth status into account) may promote fair allocation decisions rather than perpetuation of the status quo. In fact, children must recognize that some groups have been *unfairly* disadvantaged in the past *and use that information* in order to determine the fairest way to distribute resources in the present.

The Current Study

Many questions in social life revolve around who will or will not receive access to resources and opportunities. This review has outlined theory and research on children's allocation decisions, focusing on how children balance social concerns for group identity

and group dynamics with moral concerns for fair treatment in these contexts (Killen et al., 2016; Killen, Elenbaas, et al., 2015). As well, this review has provided a background on the study of distributive justice in childhood, outlining key findings from the literature on moral development and highlighting research at the intersection of moral development and intergroup relations.

Throughout this review it has been argued that, although research on children's decisions regarding the allocation of resources has provided valuable information about the development of concern for equity and justice, children's decisions regarding the allocation of *opportunities* are an equally important topic for investigation. Building on the theoretical foundation of the SRD model (Killen, Elenbaas, et al., 2015), this study was the first to examine children's and adolescents' judgments regarding the allocation of opportunities to peers.

Access to opportunities constitute a meaningful fairness issue in children's everyday lives (e.g., Brown, 2006; Mistry et al., 2015), and the denial of opportunities invokes complex moral concerns for children that are not as often observed in contexts where tangible resources are being distributed, such as concerns for discrimination and rights (e.g., Horn, 2003; Hughes & Bigler, 2011). These more abstract moral concepts reflect children's consideration of the long-term impact of unfairly restricting access to opportunities. Thus, this study provided important evidence for how children reason that such opportunities *should be allocated*.

Further, older children make different resource allocation decisions depending on the implications of inequality for recipients (e.g., Rizzo et al., 2016). That is, children are able to moderate their allocation decisions depending on the type of resource available

for allocation, considering multiple moral issues, including others' welfare in addition to fairness and equality. Along these same lines, this study examined children's decisions with regard to the distribution of educational opportunities, in order to understand the development of multiple overlapping moral concerns when children make allocation decisions.

Importantly, allocation decisions in intergroup contexts involve additional social considerations, beyond those moral concerns invoked in within-group distributive contexts (Killen et al., 2016). While considerable research at the intersection of allocation and intergroup attitudes has focused on the negative aspects of intergroup attitudes (e.g., ingroup bias, prejudice), in some cases, awareness or knowledge about intergroup relations can contribute to, rather than impede, the promotion of fairness in childhood (e.g., Diemer & Rapa, 2016; Elenbaas & Killen, 2016b). This is a complex issue. Understanding the origins of behavior that challenges the legitimacy of inequalities between groups, in particular, is essential to creating a more just society. The novel focus of this study on allocation of educational opportunities in an intergroup context demonstrated older children and adolescents' recognition that, in a context of inequality fairness requires more than impartiality. Rather, ensuring fair access to opportunities requires consideration of a past history of exclusion based on economic status.

Similarly, this review emphasized the need for more research on children's awareness of the allocation norms that groups hold. Norms and expectations around the distribution of resources and opportunities, once established, are strong predictors of children's allocation decisions (e.g., Abrams et al., 2015; McGuire et al., 2015; Sierksma, Thijs, & Verkuyten, 2014), but few studies have investigated the actual allocation norms

that children expect groups to adhere to. This study extended previous work at the intersection of resource allocation and developmental subjective group dynamics by identifying the allocation norms that children expect others (and other groups) to hold. Children's knowledge of, and expectations surrounding, allocation, particularly in intergroup contexts, reveal their developing awareness of how social systems *currently* function (i.e., how, when, and by whom resources and opportunities are distributed) as well as how they *should* function (Elenbaas & Killen, 2016c).

Finally, despite receiving little attention in the distributive justice literature to date, economic status is a highly relevant type of group membership for investigation with regard to children's intergroup allocation decisions. Drawing on the SRD model (Killen, Elenbaas, et al., 2015), this study provided evidence for how children weigh past distributive norms with moral reasoning about fairness when deciding how best to address everyday issues of unequal access to opportunities based on economic status. Economic status is a salient type of group membership in children's everyday lives (Mistry et al., 2015). Importantly, economic status is closely related to actual access to resources and opportunities in childhood and adulthood, and older children recognize this connection (Chafel & Neitzel, 2005; Flanagan et al., 2014). Like other intergroup contexts, allocation to individuals or groups that vary in wealth invoke intergroup biases for children, but it also invoke strong concerns for inequality and need that are less readily assessed in other intergroup contexts (Ongley et al., 2014; Shutts et al., 2016). This study examined the role of recipient and participant economic status in children's decisions about how to fairly distribute opportunities and their expectations for the decisions that others would make in the same context.

Chapter 3: Methodology

The central aims of this study pertain to children's judgments, reasoning, and expectations in response to an inequality of opportunity based on economic status. This chapter describes the design and measures, including central questions and response options. Please see Appendix C (Protocol) for copies of the instrument (survey) containing details on the exact stimuli and text that participants viewed.

Participants

The sample included $N = 342$ children ages 8 – 14 years old ($M = 11.63$ years, $SD = 1.87$ years) attending third through eighth grade racially/ethnically diverse majority middle-income schools in the suburbs of a large city in the mid-Atlantic United States. Of these 342 participants, 50% ($n = 171$) evaluated a context in which high-wealth peers had been excluded from an opportunity in the past and 50% ($n = 171$) evaluated a context in which low-wealth peers had been excluded from the same opportunity.

Participants were approximately evenly distributed across the six grade levels: 19% ($n = 67$) 3rd graders, 15% ($n = 52$) 4th graders, 15% ($n = 50$) 5th graders, 17% ($n = 60$) 6th graders, 16% ($n = 55$) 7th graders, 17% ($n = 58$) 8th graders. Participant gender, race and/or ethnicity, and approximate annual family income was obtained by parent report. Gender for the sample was 50% ($n = 171$) boys and 50% ($n = 171$) girls. Race and/or ethnicity for the sample was 43% ($n = 147$) European-American, 22% ($n = 75$) African-American, 7% ($n = 25$) Asian-American, 8% ($n = 28$) Latino/a (not in combination with any other racial group), 13% ($n = 45$) multiracial/multiethnic, and 6% ($n = 22$) declined to provide race/ethnicity information. Approximate annual family income for the sample was 1% ($n = 3$) <30K, 8% ($n = 28$) \$30K-60K, 6% ($n = 22$) \$60-

90K, 13% ($n = 44$) \$90K-120K, 10% ($n = 35$) \$120K-150K, 12% ($n = 41$) \$150K-180K, 27% ($n = 94$) >\$180K, and 22% ($n = 75$) declined to provide family income information. Participant gender and racial/ethnic demographics closely matched those of the general population under 18 years of age in the area of the country where data were collected. Notably, relative to the rest of the United States, the area where data were collected has a high median annual household income (\$98,704) (*US Census Bureau QuickFacts*, 2015).

Assignment to condition did not differ significantly as a function of participant Grade ($\chi^2(5, N = 342) = .45, p = .99$), Gender ($\chi^2(1, N = 342) = .57, p = .45$), Race/Ethnicity ($\chi^2(445, N = 320) = 3.37, p = .50$), or Family Income ($\chi^2(6, N = 267) = 1.97, p = .92$). Please see Table 1 (in the Tables section) for exact details on condition assignment by grade and family income.

Recruitment. Participants were recruited via contact with elementary and middle schools in the suburbs of a large city in the mid-Atlantic United States. First, school principals were contacted with information about the study and an invitation to participate. For interested schools, a Research Coordinator made all necessary arrangements regarding consent form distribution and study participation with the principal or another designated school representative. Written parental informed consent and children's verbal assent were obtained for all participants.

Design

This study entailed a between-subjects and within-subjects design. As displayed in Table 2 (in the Tables section), all participants completed three tasks (within-subjects): the *Opportunity Allocation Task*, the *Allocation Norms Task*, and the *Inequality Perceptions Task*. This study used an experimental vignette survey methodology

successfully applied in previous studies on children's decisions about resource allocation (see Killen et al., 2016 for a review). The entire survey (both versions) is available in Appendix C (Protocol).

Economic Inequality Condition was the between-subjects factor. *Economic Inequality Condition* referred to which economic group (high or low) participants saw being excluded from access to the opportunity in the past. Specifically, in one version of the protocol (randomized between participants) peers from families with “a little money” had not benefitted from the opportunity in the past, and in the other version peers from families with “a lot of money” had not benefitted from the opportunity in the past.

All other factors were within-subjects (as listed in Table 2). In the *Opportunity Allocation Task*, participants read about a special opportunity, described as both fun and educational, to which access has been restricted in the past based on wealth status. Then, participants learned that there was limited availability for the opportunity at present, and that equal numbers of children from both wealth backgrounds were interested in gaining access. Following this, participants made a series of judgments and decisions regarding possible ways to determine who should gain access to this opportunity.

In the *Allocation Norms Task*, participants gave their expectations for how the two groups (high-wealth and low-wealth group) would prefer the opportunities to be allocated. Options included those represented in the previous task. In the *Economic Knowledge Task*, participants reported their awareness of broader relations between wealth status and access to opportunities outside of the experimental context.

Procedure

All components of the vignettes included in the paper survey forms were illustrated with relevant photos and drawings. The entire survey (both versions) is available in Appendix C (Protocol). Participants completed all measures independently, in a communal space at their school (e.g., library), in the company of peers from their grade level (seated far enough away to protect confidentiality) and supervised by trained Research Assistants. The entire survey session took approximately 20 minutes. During the assent process, participants were told that this was not a test, there were no “right or wrong” answers, they could skip questions they did not want to answer or stop participating at any time, and that their responses were confidential and anonymous. After their survey session, before returning to their classroom, each participant spoke to a Research Assistant who asked what they thought of the study and if they had any questions. Though these conversations were not recorded, participants were generally neutral to positive about their experience.

Measures

Participants completed three tasks, as introduced above and summarized in Table 2. The questions included in the *Opportunity Allocation Task* were developed based on previous research in moral development examining children’s resource allocation decisions (e.g., Elenbaas & Killen, 2016b; Grocke et al., 2015; Olson et al., 2011). The questions included in the *Allocation Norms Task* were developed based on previous research in developmental subjective group dynamics examining children’s expectations for groups’ responses to deviance from allocation norms (e.g., Cooley & Killen, 2015; Elenbaas & Killen, 2016c; Mulvey et al., 2014). The questions included in the *Inequality*

Perceptions Task were developed based on previous research investigating children's attributions for economic inequality (e.g., Flanagan et al., 2014; Mistry et al., 2015; Sigelman, 2012). The following sections include descriptions of each task.

Experimental conditions. First, participants were introduced to the groups of high-wealth and low-wealth peers, and the educational summer camp opportunity: "Here are some kids who all live in the same city. Some of these kids' families have a lot of money. They live in houses like this and ride in cars like this. And some of these kids' families have a little money. They live in houses like this and ride in cars like this." Images of children were silhouette outlines pre-tested to reveal no implications about race/ethnicity. There were 10 children in each group. Images of houses and cars are frequently used to depict wealth/income groups, and children spontaneously refer to these items when describing high-wealth and low-wealth peers (e.g., Chafel & Neitzel, 2005; Flanagan et al., 2014; Sigelman, 2012). The images used in this study were taken from a previous measure testing children's perceptions of economic status (Elenbaas & Killen, 2016b).

Next, the opportunity was introduced: "In this city, there is a zoo. Every summer the zoo organizes a special Zoo Summer Camp! Kids can go to Zoo Summer Camp for a whole week for free. Zoo Summer Camp is a special opportunity. It is really fun, and it is also a really important opportunity for kids to learn a lot. Learning about animals helps with science, math, language arts, social studies, and art." The description was accompanied by an image of a zoo entrance.

Next was the between-subjects manipulation: "A lot of kids want to go to Zoo Summer Camp for this special learning opportunity. But there are only a few spaces open

each year. In past years, only kids whose' families have [a little OR a lot] of money have gone to Zoo Summer Camp. So kids from those families got to learn a lot. Kids whose families have [a lot of OR a little] money have not gone. So kids from those families didn't get to learn a lot."

Then, the first task: "This year, there are 20 new kids who want to go to Zoo Summer Camp. But there are only 10 spaces! Here are 10 of the kids who want to go. They are from families with a little money [images]. And here are 10 of the kids who want to go. They are from families with a lot of money [images]. The Zoo Summer Camp has to decide what to do. Let's hear what you think!"

Opportunity Allocation Task. Participants made judgments about how "okay or not okay" it would be to divide up opportunities in different ways, determined which option they thought was the best overall, and gave their reasoning for their decisions.

First, on a scale of 1 = Really Not Okay to 6 = Really Okay, participants evaluated the following approaches: (1) Equal: "How okay or not okay would it be if, this year, the Zoo Summer Camp gave 5 spaces to [low-wealth peers] and 5 spaces to [high-wealth peers]?", (2) Impartial: "How [...] put all the new kids' names in a bag and pulled out 10 names without looking and gave the 10 spaces to those kids, (3) Low-Wealth Only: "How [...] gave all 10 spaces to [low-wealth peers]?", (4) High-Wealth Only: "How [...] gave all 10 spaces to [high-wealth peers]?"

Then, participants chose (circled) which of the four options (Equal, Impartial, Low-Wealth Only, High-Wealth Only) they thought was the best overall, and gave their reasoning for their decision: "The Zoo Summer Camp has to make a choice now. They

could... [list of all four options]. Which way do you think is the best? Please explain why that way is the best.”

Allocation Norms Task. Next, participants gave their expectations for what the two groups (high-wealth and low-wealth) would prefer the Zoo Summer Camp to do: “Here are the 10 kids from families with [a lot of/a little money]. What would *these* kids want the Zoo Summer Camp to do? [list of all four options]” As in the *Opportunity Allocation Task*, the four options were Equal, Impartial, Low-Wealth Only, High-Wealth Only. For both the high- and low-wealth groups, participants indicated which option each group would prefer, and gave their reasoning for their decision: “Please explain why they would want the Zoo Summer Camp to do that”.

Reasoning coding. Participants’ open-ended reasoning in the *Opportunity Allocation Task* and the *Allocation Norms Task* was coded for analyses into one of nine conceptual categories expected based on previous research on distributive justice or perceptions of economic inequality and confirmed by pilot testing for this study. Responses that did not fit into one of the conceptual categories were coded as “Other”. Table 3 (in the Tables section) provides the coding scheme, including conceptual categories, definitions, examples of participants’ reasoning, and a notation as to whether the category was observed in children’s reasoning for the *Opportunity Allocation Task*, the *Allocation Norms Task*, or both.

The coding of open-ended reasoning responses was conducted by two coders blind to the hypotheses of the study. Interrater reliability was determined using a subset of 23% of the data ($n = 80$ participant responses); Cohen’s $\kappa = .89$ for interrater reliability.

Inequality Perceptions Task. Finally, participants completed a short measure of their perceptions of the relations between economic status and access to learning opportunities other than those viewed in the experimental paradigm.

First, participants were reminded of the two wealth groups: “You just heard about a city where some families have a lot of money and some families have a little money. The kids whose families have a lot of money [...]. And the kids whose families have a little money [...].” Then, for both groups: “How often do these kids get extra learning opportunities, other than Zoo Summer Camp?”, on a 5-point Likert-type scale from 1 = Never to 5 = All The Time.

Participant personal interest in the opportunity. At the end of the survey participants were asked one question about how much they would personally want to attend a zoo summer camp; this was used as a control variable in the analyses.

Chapter 4: Results

This section is comprised of three sub-sections. The first sub-section, *Children's Perceptions of Opportunity Inequality*, provides an initial analysis confirming that children were aware of economic inequalities in access to opportunities outside of the context of this study (i.e., in broader society). The second sub-section, *Children's Judgments about Access to Opportunities*, addresses our hypotheses about how awareness of inequality relates to children's judgments and decisions about how access to opportunities should be distributed between high- and low-wealth groups. The third sub-section, *Children's Expectations for Others' Access Preferences*, addresses our hypotheses about changes in children's expectations for how these groups would prefer access to be allocated between middle childhood and early adolescence.

The analyses reported below include only the $N = 267$ participants (of 342 total) whose parents provided family income information. For some analyses, participants were divided into two age groups: the younger group included $n = 135$ children ($M_{Age} = 10.03$ years, $SD = 1.02$ years, grades 3-5); the older group included $n = 132$ children ($M_{Age} = 13.23$ years, $SD = .93$ years, grades 6-8). For these same analyses, participants were likewise divided into two income groups based on a median split for the data set: the lower-income group (annual family income $< \$150K$) included $n = 132$ children and the higher-income group (annual family income $> \$150K$) included $n = 135$ children. Note that these are groupings were not absolute (low/high) but relative (lower/higher). Relative to the rest of the United States, the area where these data were collected has a high median annual household income (\$99,435) (*US Census Bureau QuickFacts*, 2015). There was no relation between income group and age group, $\chi^2(1, N = 267) =$

1.98, $p = .16$. Of the younger children 45% ($n = 61$) were lower-income and 55% ($n = 74$) were higher-income; of the older children 54% ($n = 71$) were lower-income and 46% ($n = 61$) were higher-income.

Children's Perceptions of Opportunity Inequality

To determine whether children were aware of economic inequalities in access to opportunities other than the summer camp context presented in the study, we conducted a 2 (Excluded Group: Low-Wealth, High-Wealth) x 2 (Age: Younger, Older) x 2 (Family Income: Lower, Higher) x 2 (Perceived Opportunities: High-Wealth Peers, Low-Wealth Peers) ANOVA with repeated measures on the last factor. This analysis revealed a significant effect for Perceived Opportunities, $F(1, 254) = 210.28, p < .001, \eta_p^2 = .45$. Children perceived that high-wealth peers had significantly more opportunities ($M = 4.06, SD = 1.07$) than low-wealth peers ($M = 2.45, SD = 1.09$). A significant interaction of Perceived Opportunities x Excluded Group also emerged, $F(1, 254) = 54.25, p < .001, \eta_p^2 = .18$; we conducted follow-up comparisons using Bonferroni correction for multiple comparisons. Children in the low-wealth excluded condition perceived that high-wealth peers had more opportunities ($M = 4.44, SD = .71$) and low-wealth peers had fewer opportunities ($M = 2.00, SD = .76$) than children in the high-wealth excluded condition ($M = 3.69, SD = 1.22$ and $M = 2.88, SD = 1.18$, respectively), both $ps < .001$.

Thus, children who witnessed high-wealth peers being excluded from the summer camp perceived a smaller disparity in access to opportunities between these two wealth groups than did children who witnessed low-wealth peers being excluded from the same opportunity. However, importantly, children in both conditions still perceived that high-

wealth peers had significantly more opportunities than low-wealth peers (both $ps < .001$). There were no significant effects for Age or Family Income.

For the next set of analyses (below) testing relations between perceptions of an opportunity disparity and judgments about access to opportunities, a difference score was created by subtracting participants' ratings for the low-wealth group from their ratings for the high-wealth group. This established a scale ranging from -4 to +4, for which higher scores indicated perception of larger opportunity disparity in favor of the high-wealth peers. For analyses, participants were split into two groups; those with a difference score of 2 or lower comprised the "Low" perceived disparity group ($n = 161$) while those with a difference score of 3 or higher comprised the "High" perceived disparity group ($n = 101$).

Children's Judgments about Access to Opportunities

As detailed in Chapter 1 (Rationale), we predicted that children's decisions about how access to an opportunity should be distributed would differ according to their awareness of broader economic inequalities in access to opportunities (H1). We also predicted that children's decisions would differ as a function of the camp's past history of exclusion based on wealth group membership (H2), and that this effect would further depend on children's own economic background (H3). Finally, we tested whether children would prefer an impartial ("group blind") approach over a more proactive one that guaranteed a given distribution of peers at the camp, but predicted that children would perceive that fairness in a context of inequality requires taking into consideration what one knows about intergroup relations (H4).

Judgments of allocation strategies. To test our hypotheses about children's judgments of the four different means of determining whom to admit to the educational summer camp, we conducted a 2 (Perceived Disparity: Low, High) x 2 (Excluded Group: Low-Wealth, High-Wealth) x 2 (Age: Younger, Older) x 2 (Family Income: Lower, Higher) x 4 (Strategy Judgments: Equal, Impartial, Low-Wealth Only, High-Wealth Only) ANOVA with repeated measures on the last factor, controlling for children's own interest in attending a zoo summer camp. Four effects were significant: a main effect for Strategy Judgments and interaction effects for Strategy Judgments x Perceived Disparity, Strategy Judgments x Excluded Group, and Strategy Judgments x Excluded Group x Family Income. There were no significant effects for Age. All follow-up comparisons on interactions (reported below) were conducted with Bonferroni correction for multiple comparisons.

The effect for Strategy Judgments, $F(3, 708) = 8.10, p < .001, \eta_p^2 = .03$ revealed that, overall, children judged Equal ($M = 4.84, SD = 1.09$) more positively than any other strategy (all $ps < .001$), did not differ significantly in their judgments of Impartial ($M = 3.92, SD = 1.44$) and Low-Wealth Only ($M = 4.05, SD = 1.57$) ($p = 1.00$), and judged High-Wealth Only ($M = 2.51, SD = 1.37$) more negatively than any other strategy (all $ps < .001$). Thus, overall, children supported access to the camp for peers of both wealth backgrounds. However, supporting H1, the interaction of Strategy Judgments x Perceived Disparity, $F(3, 708) = 5.27, p = .001, \eta_p^2 = .02$, indicated that children's judgments differed as a function of their perceptions of economic inequality in broader society (see Figure 1 in the Figures section).

Specifically, children who perceived a high disparity judged Low-Wealth Only more positively ($p = .003$) while children who perceived a low disparity judged High-Wealth Only more positively ($p = .04$). Further, children who perceived a high disparity judged Low-Wealth Only just as positively as Equal ($p = .17$), and judged Impartial less positively than Equal ($p < .001$). By contrast, children who perceived a low disparity judged Equal the most positively (all $ps < .001$). All children judged Impartial and Low-Wealth Only equally positively (all $ps > .05$) and judged High-Wealth Only most negatively (all $ps < .001$). Thus, children who perceived a large economic gap in access to opportunities were more likely to grant access to low-wealth children when they had the chance to choose who to admit to a special opportunity. By contrast, children who perceived a smaller disparity were more accepting of admitting high-wealth peers only.

Further, the interactions of Strategy Judgments x Excluded Group, $F(3, 708) = 12.77, p < .001, \eta_p^2 = .05$, and Strategy Judgments x Excluded Group x Family Income, $F(3, 708) = 2.81, p = .04, \eta_p^2 = .01$, indicated that children also took into consideration how access to the camp had been restricted in the past when determining whom to admit (supporting H2). However, in line with H3, children interpreted previous exclusion through the lens of their own economic background (see Figure 2 in the Figures section).

Specifically, all children judged Low-Wealth Only more positively when low-wealth peers had been excluded in the past (all $ps < .001$). However, higher-income children ($p = .001$), but not lower-income children ($p = .78$), judged High-Wealth Only more positively when high-wealth peers had been excluded in the past, and more positively than lower-income children in the same condition ($p = .03$). Judgments of Equal and Impartial did not differ based on condition or family income (all $ps > .05$).

Thus, when low-wealth peers had been excluded, children were especially likely to support including low-wealth peers in the future, but only higher-income children were more supportive of admitting high-wealth peers when that group had been excluded in the past.

Further, when low-wealth peers had been excluded in the past, all children judged Equal and Low-Wealth Only equally positively (all $ps = 1.00$), and judged High-Wealth Only the most negatively (all $ps < .001$). However, lower-income children ($p = .009$), but not higher-income children ($p = .08$) judged Low-Wealth Only more positively than Impartial. This indicates that lower-income children who heard that low-wealth peers had been excluded in the past were especially concerned with ensuring access for these peers in the future.

Further, when high-wealth peers had been excluded in the past, all children judged Equal most positively (all $ps < .05$), and Impartial just as positively as Low-Wealth Only (all $ps > .05$) but more positively than High-Wealth Only (all $ps < .05$). However, lower-income children judged Low-Wealth Only more positively than High-Wealth Only ($p = .003$) whereas higher-income children judged both strategies equally positively ($p = .19$). This indicates that the effects for higher-income children were more subtle. Although higher-income children were more supportive of admitting high-wealth peers when this group had been excluded in the past, Equal was the preferred strategy in this condition.

Allocation strategy choice. Overall 56% ($n = 148$) of participants chose Equal at the “best” strategy, 24% ($n = 63$) chose Low-Wealth Only, 19% ($n = 50$) chose Impartial, and 1% ($n = 3$) chose High-Wealth Only, $\chi^2(3, N = 264) = 166.03, p < .001$.

To test our hypotheses about children's strategy choices, we used a multinomial logistic regression to model the effects of Perceived Disparity (Low, High), Excluded Group (Low-Wealth, High-Wealth), Age (Younger, Older), and Family Income (Lower, Higher) on Strategy Choice (Equal, Impartial, Low-Wealth Only, High-Wealth Only), controlling for children's own interest in attending a zoo summer camp. Addition of the predictors resulted in a significant improvement in model fit, LR $\chi^2(15, N = 257) = 33.67$, Nagelkerke $R^2 = .14$, $p = .004$. The effect for Excluded Group was significant, $\chi^2(3, N = 257) = 16.57$, $p = .001$. There were no effects for Perceived Disparity, Age, Family Income, or interactions for these predictors.

Due to some small cell sizes (i.e., no participants chose High-Wealth Only after hearing that low-wealth peers had been excluded) we used a Fishers' exact test and follow-up z tests with Bonferroni correction for multiple comparisons to examine this effect; Fisher's exact = 18.28, $p < .001$. Children were more likely to choose Low-Wealth Only when low-wealth peers had been excluded in the past (.35 versus .13), and more likely to choose Equal when high-wealth peers had been excluded (.63 versus .49). Thus, providing further support for H2, when low-wealth peers had been excluded children were especially likely to support including them in the future, and when high-wealth peers had been excluded Equal was the preferred strategy, indicating that children's decisions about who should receive access to the camp opportunity differed as a function of the camp's specific past history of exclusion. The proportion of children choosing Impartial (.22 versus .16) and High-Wealth Only (.02 versus 0) did not differ significantly by condition.

Reasoning for allocation strategy choice. Overall, 39% of participants ($n = 101$) reasoned about Ensuring Equal Representation, 15% ($n = 40$) reasoned about Ensuring

Access to Learning, 15% ($n = 40$) reasoned about Avoiding Biased Decisions, 12% ($n = 32$) reasoned about Addressing Economic Inequality, 11% ($n = 27$) reasoned about Rectifying Access Inequality, and 8% ($n = 20$) reasoned about Avoiding Conflict Between Groups.

To test our hypotheses about children's reasoning for their strategy choice we used a multinomial logistic regression to model the effects of Excluded Group, Perceived Disparity, Age, Family Income, and Strategy Choice on children's Reasoning (six conceptual categories). Addition of the predictors resulted in a significant improvement in model fit, LR $\chi^2(35, N = 257) = 290.77$, Nagelkerke $R^2 = .70$, $p < .001$. The effects for both Strategy Choice, $\chi^2(15, N = 257) = 253.11$, $p < .001$, and Perceived Disparity, $\chi^2(5, N = 257) = 11.70$, $p = .04$, were significant. Given the complexity of the model, we tested for main effects only. We used Fisher's exact tests and follow-up z tests with Bonferroni correction for multiple comparisons to examine differences in children's reasoning based on Strategy Choice and Perceived Disparity.

For the effect of Perceived Disparity Fisher's exact = 17.39, $p = .004$. Children who perceived a high disparity were more likely to reason about Rectifying Access Inequality ($M_{High} = .16$ versus $M_{Low} = .07$) and Ensuring Access to Learning ($M_{High} = .23$ versus $M_{Low} = .11$), whereas children who perceived a low disparity were more likely to reason about Ensuring Equal Representation ($M_{Low} = .45$ versus $M_{High} = .29$). Thus, providing further support for H1, children who perceived a large economic gap in access to opportunities were more likely to reason about correcting past disparities and ensuring access to learning opportunities. Reasoning about Addressing Economic Inequality ($M_{High} = .14$ versus $M_{Low} = .10$), Avoiding Biased Decisions ($M_{Low} = .17$ versus $M_{High} = .13$), and

Avoiding Conflict Between Groups ($M_{Low} = .10$ versus $M_{High} = .05$) did not differ significantly as a function of perceived disparity.

For the effect of Strategy Choice Fisher's exact = 302.25, $p < .001$. Children who chose Low-Wealth Only were the most likely to reason about Addressing Economic Inequality ($M_{LW} = .37$ versus $M_E = .05$, $M_I = .02$, $M_{HW} = 0$), children who chose Equal were the most likely to reason about Ensuring Equal Representation ($M_E = .68$ versus $M_{LW} = .02$, $M_{HW} = 0$, $M_I = 0$), children who chose Impartial were the most likely to reason about Avoiding Biased Decisions ($M_I = .75$ versus $M_E = .03$, $M_{LW} = 0$, $M_{HW} = 0$). Thus, children who chose to admit low-wealth peers to the camp were the most likely to reason about broader economic inequalities. Further, in line with H4, while children who chose Equal reasoned about ensuring the representation of both groups at the camp, children who chose Impartial reasoned about avoiding bias in the decision-making process. Children who choose Low-Wealth Only and children who chose High-Wealth Only were also more likely to reason about Rectifying Access Inequality ($M_{LW} = .24$, $M_{HW} = .67$) and Ensuring Access to Learning ($M_{LW} = .34$, $M_{HW} = .33$) than children who chose Equal (Rectifying: $M_E = .05$; Learning $M_E = .11$) or Impartial (Rectifying: $M_I = .04$; Learning $M_I = .04$). References to Avoiding Conflict Between Groups did not differ significantly by Strategy Choice ($M_I = .15$, $M_E = .08$, $M_{LW} = .03$, $M_{HW} = 0$).

Children's Expectations for Others' Decisions

As detailed in Chapter 1 (Rationale) we predicted that, between middle childhood and early adolescence, children would increasingly expect the high- and low-wealth groups to prefer the approach that provided them the opportunity to attend the camp (over other approaches like equality or impartiality) (H5). However, we predicted that children

would perceive different underlying motivations for the high-wealth and low-wealth groups' preferences (H6). Further, we predicted that family income would be related to children's expectations for others' allocation preferences (H7). In the context of predicting others' behavior, children were expected to express stereotypes about both the high- and low-wealth groups (H8).

To better reflect our hypotheses about this measure, we recoded the dependent variable Strategy Choice so that it reflected own-group-benefitting or other-group-benefitting decisions. That is, choices of "High-Wealth-Only" and "Low-Wealth-Only" were recoded so that they reflected the match between the group and their choice. For example, if a participant expected the high-wealth group to choose "High-Wealth Only", that response was recoded to "Benefit Ingroup".

Expectations for groups' allocation preferences. To test our hypotheses about children's expectations for how the two groups would prefer that access to the summer camp be determined, we first ran two multinomial logistic regression models examining the effects of Age, Family Income, and Excluded Group (Low-Wealth, High-Wealth) on Strategy Choice Expectations (Benefit Ingroup, Equal, Impartial, Benefit Outgroup), one for the high-wealth group and one for the low-wealth group.

High-wealth group. Overall 55% ($n = 145$) of participants expected the high-wealth group to prefer the approach that benefitted their group alone, 26% ($n = 69$) expected a preference for equality, 11% ($n = 28$) expected a preference for impartiality, and 8% ($n = 23$) expected a preference for admitting the other group, $\chi^2(3, N = 265) = 144.04, p < .001$. The overall model was a significant improvement in fit, $\chi^2(9, N = 261) = 29.38, \text{Nagelkerke } R^2 = .12, p = .001$. The effect for Age was significant, $\chi^2(3, N = 261)$

= 27.50, $p < .001$. Specifically (H5), with increasing age, participants were more likely to expect the high-wealth group to want to admit their group alone over equality, $\beta = .41$, $\chi^2(1) = 21.42$, $p < .001$, $\text{Exp}(B) = 1.50$, 95% CI [1.26, 1.78], and over impartiality, $\beta = .35$, $\chi^2(1) = 8.81$, $p = .003$, $\text{Exp}(B) = 1.42$, 95% CI [1.13, 1.80]. There were no significant effects for Family Income or Excluded Group, and no significant interactions.

Low-wealth group. Overall 56% ($n = 146$) of participants expected the low-wealth group to prefer the approach that benefitted their group alone, 32% ($n = 84$) expected a preference for equality, 10% ($n = 26$) expected a preference for impartiality, and 2% ($n = 7$) expected a preference for admitting the other group, $\chi^2(3, N = 263) = 179.54$, $p < .001$. The overall model was a significant improvement in fit, $\chi^2(9, N = 259) = 33.86$, Nagelkerke $R^2 = .14$, $p < .001$. The effect for Age was significant, $\chi^2(3, N = 261) = 28.19$, $p < .001$. Specifically (H5), with increasing age, participants were more likely to expect the low-wealth group to want to admit their group alone over equality, $\beta = .41$, $\chi^2(1) = 23.53$, $p < .001$, $\text{Exp}(B) = 1.50$, 95% CI [1.27, 1.77], and over impartiality, $\beta = .31$, $\chi^2(1) = 6.56$, $p = .01$, $\text{Exp}(B) = 1.37$, 95% CI [1.08, 1.73]. There were no significant effects for Family Income or Excluded Group, and no significant interactions.

Together, these results indicate that, between middle childhood and early adolescence, children increasingly expected both groups to prefer access to the camp for themselves, even if that mean no access, or even shared access, for the other group.

Expectations for own-group benefit. To take advantage of the repeated-measures design, we next used a generalized linear mixed model (with a binomial probability distribution and a logit link function) to examine children's expectations for own-group-benefitting choices (i.e., the Benefit Ingroup strategy) over any of the other strategies.

The GLMM, tested how children's expectations differed as a function the between-subjects variables Age, Family Income, and Excluded Group (Low-Wealth, High-Wealth), as well as the within-subjects variable Allocating Group (High-Wealth, Low-Wealth). Comparison of the AIC and BIC fit indices (both based on the -2 log pseudo likelihood) indicated that a model containing the predictors fit the data better than a null model. The effects for both Age and Family Income were significant. Specifically, with increasing age (H5), participants were more likely to expect own-group-benefitting preferences, $\beta = .35$, $t(261) = 6.57$, $p < .001$, $\text{Exp}(B) = 1.41$, 95% CI [1.27, 1.57]; see Figure 3 (in the Figures section). Further, with increasing family income (H7), participants were more likely to expect own-group-benefitting preferences, $\beta = .13$, $t(261) = 2.45$, $p = .02$, $\text{Exp}(B) = 1.14$, 95% CI [1.03, 1.27], see Figure 4 (in the Figures section). There were no significant effects for Excluded Group or Allocating Group, and no significant interactions.

These results confirmed that, between middle childhood and early adolescence, children increasingly expected both groups to prefer access to the camp for themselves at the expense of the other group (in line with H5). Further, the higher children's family income, the more they expected the groups to seek access for themselves alone.

Reasoning about expectations. To test our hypotheses about children's reasoning for their expectations (coded into eight conceptual categories: Rectifying Access Inequality, Addressing Economic Inequality, Ensuring Equal Representation, Avoiding Biased Decisions, Ensuring Access to Learning, Maintaining Camp Traditions, Benefitting Own Group, Group Stereotypes), we used χ^2 and correlation analyses.

Differences by group economic status. First, we examined differences in children's reasoning for their expectations as a function of Group (High-Wealth or Low-Wealth) using a McNemar chi square, $\chi^2(27, N = 255) = 49.96, p = .005$. Children were more likely to say (H6) that the low-wealth group would be concerned with addressing economic inequality ($M_{LW} = .12, M_{HW} = .05$) and ensuring access to learning ($M_{LW} = .08, M_{HW} = .04$), whereas the high-wealth group would be concerned with benefitting their own group ($M_{HW} = .31, M_{LW} = .26$). Children were also more likely to refer to stereotypes ($M_{HW} = .19, M_{LW} = .10$) when describing their expectations for the high-wealth group. Thus, while children expected both groups to seek access for themselves, they viewed the high-wealth group as also motivated by stereotypic attributes (like greed and selfishness), whereas the low-wealth group was also concerned with broader economic inequalities.

References to rectifying past access inequality ($M_{LW} = .15, M_{HW} = .12$), ensuring equal representation of both groups at the camp ($M_{LW} = .18, M_{HW} = .16$), avoiding biased decision-making ($M_{LW} = .08, M_{HW} = .07$), and maintaining the camp's traditions ($M_{HW} = .06, M_{LW} = .03$) did not differ significantly for the high-wealth versus the low-wealth group. Table 4 (in the Tables section) provides the individual *ns* and proportions for each comparison.

Differences by age. Next, we examined differences in children's reasoning for their expectations for the high-wealth and low-wealth groups as a function Age, Family Income, and Excluded Group (High-Wealth or Low-Wealth). Age was correlated with increasing references to stereotypes (H8) and decreasing references to ensuring equal representation for both the high-wealth (stereotypes: $r = .21, p < .01$; equal: $r = -.19, p < .01$) and low-wealth (stereotypes: $r = .21, p < .01$; equal: $r = -.12, p < .05$) groups. Thus,

between middle childhood and early adolescence, children were increasingly likely to make stereotypic generalizations about both groups. Notably, however, stereotypes about low-wealth peers typically pertained to generosity and compassion (e.g., “Growing up in a family that’s poor, they tend to think of others”) whereas stereotypes about high-wealth peers typically pertained to selfishness and entitlement (e.g., “They think since they’re rich they can get what they want, and that they deserve everything”). Age was also correlated with increasing references to benefitting one’s own group ($r = .12$ $p < .05$) and decreasing references to avoiding biased decisions ($r = -.13$ $p < .05$) in regards to the low-wealth group.

Differences by income. Family Income was positively associated with references to benefitting one’s own group ($r = .13$ $p < .05$) and negatively associated with references to avoiding biased decisions ($r = -.14$ $p < .05$) in regards to the low-wealth group. There were no associations with Family Income and reasoning about the high-wealth group.

Differences by past exclusion. Children were more likely to say that either group would be concerned with correcting the past history of access inequality when their group had been excluded in the past (low-wealth group when low-wealth peers excluded: $r = .20$ $p < .01$; high-wealth group when high-wealth peers excluded: $r = .22$ $p < .01$), highlighting their awareness of a secondary motivation for seeking access for one’s group alone (concerns for fairness stemming from past exclusion). Further, when high-wealth peers had been included in the past children were more likely to say that the high-wealth group would be concerned with maintaining the camp’s traditions ($r = .18$ $p < .01$) and avoiding biased decisions ($r = .11$ $p < .05$), whereas the low-wealth group would be less concerned with equality ($r = -.11$ $p < .05$). Thus, although references to the conventions

of the camp were rare, they were most likely to emerge in children's expectations for high-wealth peers' responses to a situation in which they were typically advantaged.

Chapter 5: Discussion

Awareness of Economic Inequality Supports Moral Judgments

Building on the theoretical foundation of the SRD model (Killen, Elenbaas, et al., 2015), this study provided evidence for how awareness of intergroup relations (i.e., awareness of economic inequality) can contribute to moral judgments in childhood. Specifically, children who were aware of economic inequalities were more likely to choose low-wealth peers when they had the chance to decide whom to admit to an educational opportunity. By contrast, children who were less aware of broader inequality were more accepting of admitting high-wealth peers to the educational opportunity.

While these results are surprising given pervasive assumptions about wealth and deservedness (Sigelman, 2012; Woods et al., 2005), they do align with recent studies indicating that children and adolescents who know more about racial and ethnic inequalities are more likely to take action on behalf of marginalized groups (Diemer & Rapa, 2016; Elenbaas & Killen, 2016b; Hughes & Bigler, 2011). Above and beyond egalitarian principles, children who were aware of economic inequalities were the most likely to judge that low-wealth peers should have access to an opportunity that they might not otherwise experience.

Further, children who chose to admit low-wealth peers were the most likely to reason about broader economic inequalities (e.g., "The kids with little money don't have the same opportunities as the kids with lots of money"). This indicates that children who decided to include low-wealth peers were able to apply their knowledge about typical

economic inequalities to a new context. Rather than replicating the usual pattern, they opted to change it.

Thus, many children used their awareness of inequality in broader society when making decisions about who should have access to this special opportunity (in line with the predictions of the SRD model). Still, children also took into consideration a specific past history of exclusion. In this study, participants made decisions about access to an educational summer camp that traditionally only accepted children of high-wealth backgrounds or children of low-wealth backgrounds (between subjects). Participants were more likely to support admitting low-wealth peers when they had direct evidence that low-wealth peers had been excluded in the past. This provides a secondary test of the predictions of the SRD model: not only were highly aware children more supportive of access for low-wealth peers, but children who were given clear information about economic exclusion were as well.

A number of participatory action interventions with older adolescents and young adults have proven effective at enhancing participants' agency to navigate and challenge the constraints faced by marginalized groups (see Diemer et al., 2016 for a recent review). These findings suggest that similar work may be effective with younger children, particularly when the context is familiar and relevant to their everyday lives.

Participant Economic Status and Differential Judgments

Importantly, the effect of a past history of exclusion on children's decisions about access to the camp opportunity was also dependent on children's own economic background. Lower-income children who heard that low-wealth peers had been excluded were especially concerned with ensuring access for these peers in the future. The effects

for higher-income children were more subtle; although they were more supportive of admitting high-wealth peers when this group had been excluded in the past, they still judged equality the most positively in this context.

These findings cannot be attributed to income-related differences in perceptions of economic inequalities; all children were aware of such disparities. Instead, the most straightforward explanation is that children interpreted the camp's traditions through the lens of their own economic background, exhibiting more concern for righting a pattern of exclusion that harmed peers who were more similar to them, as has been shown in related work with other types of social groups (Abrams et al., 2015; Sierksma et al., 2015; Weller & Lagattuta, 2014). These findings are surprising, however, given that participants themselves were not especially wealthy or poor (relative to their regional community).

Given the differences in the amount of control and personal choice that higher- and lower-income adults experience in their lives (Kraus et al., 2012), and related associations with feelings of entitlement (Piff, 2014), future research should pay close attention to emerging socioeconomic differences children's decisions about access to opportunities. This study gave children the choice of whom to include in a special opportunity. Not all children will continue to exercise such freedom of choice in adulthood when their decisions may have far-reaching consequences for the welfare of others.

Reasoning about Wellbeing

Wealth disparities in access to educational opportunities are pervasive (Duncan & Murnane, 2011), raising important moral questions about justice and rights for children

and adults (Wainryb et al., 2008). Notably, children who perceived a high opportunity disparity often reasoned about ensuring access to learning (e.g., “They need to get out of that poverty cycle and the only way to do that is to learn”). By contrast, children who perceived a low disparity focused on ensuring equal representation of both groups at the camp.

Participants ages 8-14 years were selected for this study in part because older children demonstrate awareness of the links between wealth status and access to opportunities, including educational opportunities (Arsenio et al., 2013; Flanagan et al., 2014; Goodman et al., 2000). These findings provide new evidence that the larger the economic disparity participants perceived the more likely they were to explicitly articulate their concerns about ensuring fair access to education.

Fairness versus Impartiality

Finally, we tested whether children would prefer an impartial (“group blind”) approach to deciding who should receive access to the opportunity over one that guaranteed a given distribution of peers at the camp. Children evaluated the impartial strategy neutrally to positively. But when choosing the “best” way to determine who should receive access to the opportunity, children preferred a more proactive approach to ensuring equal access for peers from both wealth backgrounds (e.g., “It’s the fairest because it’s 50/50”). These findings provided evidence for the broadest proposition of the SRD model: children judged that, in this context, fairness required more than impartiality. Rather, it required intentionally taking into consideration what one knows about intergroup relations.

Related research indicates that children view inequality as acceptable so long as the procedure that generated it was impartial (Grocke et al., 2015; Shaw & Olson, 2014). Along these same lines, children who chose the impartial approach reasoned about the importance of avoiding bias in the decision-making process (e.g., “It’s a random choice, no one is choosing because of money or favoritism”). However, most children determined that, in a context of intergroup inequality, taking group membership into account was important for ensuring fair access to opportunities in the future.

Expectations for Own-Group Benefit

In contrast to children’s own decisions about who should have access to opportunities, between middle childhood and early adolescence children increasingly expected both groups to prefer access for themselves alone (over other options like equality). The difference was dramatic; approximately 20% of 8 year-olds predicted these preferences in contrast to approximately 80% of 14 year-olds.

Due to their greater experience with social groups, older children are able to recognize that groups’ perspectives may differ from their own (Abrams et al., 2015; Nesdale, 2013). Further, findings from this study fit well with related work indicating that older children expect others to share preferentially with ingroup members (DeJesus et al., 2014; Elenbaas & Killen, 2016c). However, children perceived different underlying motivations for the high- and low-wealth groups’ preferences about who should receive access to the special opportunity.

Specifically, children were more likely to say that the low-wealth group would be concerned with both addressing economic inequality and ensuring access to learning, and more likely to say that the high-wealth group would be concerned with benefitting their

own group. Thus, while children expected both groups to seek access for themselves, they perceived the low-wealth group as also concerned with addressing broader economic inequalities.

Stereotypes about Economic Groups

Along these same lines, between middle childhood and early adolescence, children were increasingly likely to make stereotypic generalizations about both economic groups. However, children's stereotypes about low-wealth peers typically pertained to generosity and compassion (e.g., "Growing up in a family that's poor, they tend to think of others") whereas their stereotypes about high-wealth peers often pertained to selfishness and entitlement (e.g., "They think since they're rich they can get what they want, and that they deserve everything"). Children were also more likely to refer to stereotypes when describing their expectations for the high-wealth group (19%) than when describing their expectations for the low-wealth group (10%).

Most research has focused on children's stereotypes about the wealthy as intelligent or hardworking and the poor as lacking these traits (Sigelman, 2012; Woods et al., 2005). Yet this study found that, when considering how groups might *distribute* resources rather than how they *obtained* their resources, very different assumptions emerged. That is, children hold different stereotypes about the preferences of high- and low-wealth peers in a context of limited access to opportunities. While unique in the developmental literature, these stereotypes do bear some similarities with those observed in related research with adults.

For instance, in addition to perceiving wealthy individuals as competent (i.e., intelligent), adults perceive the wealthy as less warm (i.e., competitive) (Cuddy et al.,

2007; Fiske et al., 2002). Many of the stereotypes that children expressed about high-wealth peers in this study are similar to these assumptions. For example: “They think they’re better than everyone else”, “They take things for granted with their big ego”, “They have a lot of money and are probably selfish about it”. To our knowledge, this is the first study to find such explicitly negative stereotypes about the wealthy in a young sample (for instance, see Roussos and Dunham (2016) for an example of how 6 and 10-year-olds viewed “rich people” as both smart *and* nice).

Further, to our knowledge, this is the first study to find such explicitly benevolent stereotypes about low-wealth peers (e.g., “Kids with little money are grateful for the things they have”, “They’re kind, and want to be with other people like them”). At first these generalizations seem complimentary. However, the fact that children hold positive stereotypes about low-wealth peers does not mean that they do not also hold negative stereotypes about the same group that may emerge under different circumstances. Some research suggests that mixed or compensatory narratives about the poor that emphasize positive qualities (e.g., “poor but happy” or “poor but honest”) are related to justification of status quo inequalities in adults (Kay & Jost, 2003).

Thus, these findings are complementary to previous work. Children have stereotypes about the norms of economic groups in a context of limited access to opportunities (e.g., selfish or generous) alongside stereotypes about how people acquired their economic status (e.g., hardworking or lazy). Both sets of assumptions are inherently detrimental because they are based on group membership alone and not the characteristics of individuals.

Participant Economic Status and Differential Expectations

Further, the higher children's family income, the more they expected the members of both economic groups to seek access to the opportunity for themselves. These expectations may have negative implications for peer relations in both higher- and lower-income children. There are a number of possible reasons for this relation.

First, as noted above, approximately 1 in 5 children expressed negative stereotypes about the high-wealth group depicted in the study (e.g., entitled, greedy). It is possible that higher-income children in the sample had heard such statements from their peers before, and began to internalize some of these beliefs (e.g., "everyone is just out for themselves"). Another possibility is that higher-income participants may have been exposed to competitive norms about economic groups held by the higher-income adults in their lives. There is some evidence that higher-income adults in economically unequal societies are, under some circumstances, less generous (Piff et al., 2010), less egalitarian (Bratanova et al., 2016), and more utilitarian (Côté et al., 2013) in resource allocation contexts. Higher-income children's expectations may be similar to those of the adults in their lives, who may perceive a state of tension between economic groups. Research indicates that those at the top of social hierarchies are more motivated to maintain them (Fiske, 2010), and in general, children exposed to competitive norms about intergroup relations are less inclusive (McGuire et al., 2015; Nesdale & Lawson, 2011; Rutland, Hitti, Mulvey, Abrams, & Killen, 2015).

There are likely several mechanisms underlying higher-income children's greater perceptions of self-serving preferences in others. The causes and consequences of

socioeconomic differences in children's perceptions of competitive norms around access to opportunities should be a fruitful area for future research.

Future Directions and Conclusions

While these findings represent an important step towards understanding both children's perceptions of economic inequality and how children apply their knowledge when making moral judgments about access to opportunities, many questions remain.

First, this study focused on children's moral judgments about access to educational opportunities in a context of economic inequality. This is a previously unexplored, but highly salient, social context. However, children's intergroup attitudes are effected by the nature of the personal contact that they have with individuals of different backgrounds (Pettigrew & Tropp, 2006). For example, children who have more everyday opportunities to interact with peers of a racial or ethnic background other than their own have fewer stereotypes about peers of that background (see Cooley et al., 2016 for a recent review). The participants in this study attended schools with peers from lower-middle to upper-middle income backgrounds, and lived in an area of the United States with a considerable amount of socioeconomic variability. Future research examining children's awareness of economic inequality, moral judgments about access to opportunities, or expectations about norms surrounding access, may find variability as a function of children's economic environment.

Second, this study extended previous research at the intersection of moral development and developmental subjective group dynamics by identifying the allocation norms that children and adolescents expect high- and low-wealth groups to adhere to. As mentioned above, however, future research should pay close attention to emerging

socioeconomic differences in children's decisions about and perceptions of economic inequalities in access to opportunities. There may be several reasons for higher-income children's greater expectations for self-serving preferences in others, potentially including exposure to stereotypes from peers and competitive norms from adults. Likewise participants in the current study were not especially high- or low-income relative to their regional communities. Although we observed variability in the extent to which children expected exclusive norms between economic groups as a function of family income, it is possible that these perceptions may differ even more for children who are farther up or farther down the income spectrum.

Along these same lines, there are many ways to define economic groups and many ways to measure participant economic status. This study defined economic groups in terms of relative wealth (i.e., having "a lot of" or "a little" money) and used visual cues (i.e., houses, cars) that signal economic status to children (e.g., Shutts et al., 2016). Likewise, participant economic status was measured in terms of approximate annual family income. This approach was consistent with many other studies in this area of research, and appropriate for the aims of the study. However, it is important to note that other possibilities exist, and future research may benefit from a multifaceted approach to representing economic status. For example, in addition to wealth and/or income, information about education (i.e., the educational attainment of the members of the economic groups represented or the educational attainment of participants' parents) may be relevant. Further, by 8-10 years of age children are aware of their own families' economic status relative to other families in their neighborhood or school (Goodman et al., 2001, 2015; Mistry et al., 2015), thus future research may benefit from asking

children directly about their perceptions of their own economic status in addition to measuring objective indicators of family income.

Additionally, this study revealed that children hold a wide array of stereotypes about high-wealth and low-wealth peers. Of particular interest are children's negative stereotypes about the wealthy (e.g., selfish, greedy) and positive stereotypes about the poor (e.g., generous, grateful). Few studies have uncovered stereotypes like these in development, and while they confirm that children and adolescents are highly attuned to others' economic status, they also reveal a wide range of potentially damaging assumptions about others based on their group membership alone (Cuddy et al., 2007; Kay & Jost, 2003).

Finally, beyond the implications of this study for understanding children's social and moral development, the results have broader implications for educators and policy-makers interested in designing curricula and intervention programs that encourage consideration of economic inequality and fairness in development. For instance, recent participatory action interventions with older adolescents and young adults have proven effective at enhancing participants' agency to critique and navigate the constraints faced by marginalized groups (Diemer et al., 2016). Findings from this study indicate that similar work may be effective with younger children, provided that the context is familiar and relevant to their everyday lives.

Overall, this study found that awareness of economic inequality was a positive predictor of children's support for low-wealth peers when deciding whom to admit to a special opportunity. However, children exhibited more concern for righting a pattern of exclusion that harmed peers who were more economically similar to them. Further, in

contrast to their own decisions, between middle childhood and early adolescence children increasingly expected others to seek access to opportunities for themselves, and the higher their family income the more self-serving tendencies children expected. Finally, children held both positive and negative stereotypes about economic groups, and were increasingly likely to reference these stereotypes between middle childhood and early adolescence.

Tables

Table 1

Condition Assignment, by Grade and Family Income

Grade	Family Income	Low-Wealth Peers Excluded	High-Wealth Peers Excluded	Grade Total
3 rd	< \$30K	0	1	67
	\$30K-60K	3	2	
	\$60-90K	4	1	
	\$90K-120K	3	7	
	\$120K-150K	2	3	
	\$150K-180K	4	4	
	> \$180K	11	10	
	unknown	7	5	
	Condition Total	34	33	
4 th	< \$30K	2	0	52
	\$30K-60K	1	1	
	\$60-90K	0	4	
	\$90K-120K	1	1	
	\$120K-150K	3	3	
	\$150K-180K	4	2	
	> \$180K	7	10	
	unknown	7	6	
	Condition Total	25	27	
5 th	< \$30K	0	0	50
	\$30K-60K	1	2	
	\$60-90K	3	0	
	\$90K-120K	3	4	
	\$120K-150K	4	2	
	\$150K-180K	3	1	
	> \$180K	7	10	
	unknown	4	6	
	Condition Total	25	25	
6 th	< \$30K	0	0	60
	\$30K-60K	2	1	
	\$60-90K	1	1	
	\$90K-120K	7	4	
	\$120K-150K	3	3	
	\$150K-180K	4	6	
	> \$180K	6	5	
	unknown	9	8	
	Condition Total	32	28	
7 th	< \$30K	0	0	55
	\$30K-60K	5	5	
	\$60-90K	2	3	
	\$90K-120K	1	2	
	\$120K-150K	3	1	
	\$150K-180K	4	2	
	> \$180K	6	7	
	unknown	6	8	
	Condition Total	27	28	
8 th	< \$30K	0	0	58
	\$30K-60K	2	3	
	\$60-90K	1	2	
	\$90K-120K	6	5	
	\$120K-150K	4	4	
	\$150K-180K	4	3	
	> \$180K	6	8	
	unknown	5	5	
	Condition Total	28	30	

Table 2

List of Dependent Measures Included in Each Task

Task Name	Scale
Opportunity Allocation Task: Participants decide how opportunities should be allocated	
Judgment of Low-Wealth Only strategy	Likert-type 1 – 6
Judgment of High-Wealth Only strategy	Likert-type 1 – 6
Judgment of Equal strategy	Likert-type 1 – 6
Judgment of Impartial strategy	Likert-type 1 – 6
Choice between all four strategies	Categorical
Reasoning for choice	Open ended
Allocation Norms Task: Participants give expectations for how others would prefer to allocate	
Expected choice of low-wealth group between all four strategies	Categorical
Reasoning for expected choice	Open ended
Expected choice of high-wealth group between all four strategies	Categorical
Reasoning for expected choice	Open ended
Inequality Perceptions Task: Participants report awareness of relations between economic status and opportunities	
Expected relation between wealth status and access to opportunities	Likert-type 1 – 5

Table 3

Coding Scheme for Participants' Open-Ended Reasoning

Conceptual Category	Definition	Example	Observed in:	
			Opportunity Allocation Task	Allocation Norms Task
Rectifying Access Inequality	References to corrective action in the form of giving more opportunities to the group that was excluded in the past	“Because the people with a lot of money have never gone”	yes	yes
Addressing Economic Inequality	References to economic inequality in society and the implication for access to opportunities	“Families with little money cannot afford many summer camps but rich ones can have almost any choice they want”	yes	yes
Ensuring Equal Representation	References to ensuring that members of both groups are equally represented	“People from both groups should get to go”	yes	yes
Avoiding Biased Decisions	References to avoiding bias in the process by not taking group membership into account	“It is random and the people have exactly the same chance of getting in or not getting in”	yes	yes
Ensuring Access to Learning	References to the opportunity as a learning experience	“Everyone has the right to education no matter what background they come from”	yes	yes
Avoiding Conflict Between Groups	References to avoiding disputes over access	“So they don’t have to start a fight over it”	yes	no
Maintaining Camp Traditions	References to maintaining the conventions, customs, and traditions of the camp	“It’s been that way for a long time”	no	yes
Benefitting Own Group	References to the desire for one’s own group to benefit from greater access	“They would want just them and their friends to go”	no	yes
Group Stereotypes	References to stereotypes about children of high or low economic status	“Kids with a lot of money are greedy and only care about themselves”	no	yes

Table 4

Children's Reasoning for their Expectations Differs by Group (High-Wealth, Low-Wealth)

		High-Wealth Group								Total HW	Proportion LW
		a	b	c	d	e	f	g	h		
Low-Wealth Group	a	10	2	5	3	0	4	11	3	38	0.15
	b	4	5	5	2	0	3	4	8	31	0.12
	c	6	2	27	2	4	0	3	3	47	0.18
	d	3	2	2	8	0	1	2	3	21	0.08
	e	1	2	0	1	4	2	4	5	19	0.08
	f	2	0	0	1	0	2	2	1	8	0.03
	g	5	0	1	0	0	1	53	5	65	0.26
	h	0	0	1	0	1	2	1	21	26	0.10
	Total HW	31	13	13	41	17	9	15	80		
	Proportion HW	0.12	0.05	0.16	0.07	0.04	0.06	0.31	0.19		

Note. a. = Rectifying Access Inequality, b. = Addressing Economic Inequality, c. = Ensuring Equal Representation, d. = Avoiding Biased Decisions, e. = Ensuring Access to Learning, f. = Maintaining Camp Traditions, g. = Benefitting Own Group, h. = Group Stereotypes

Figures

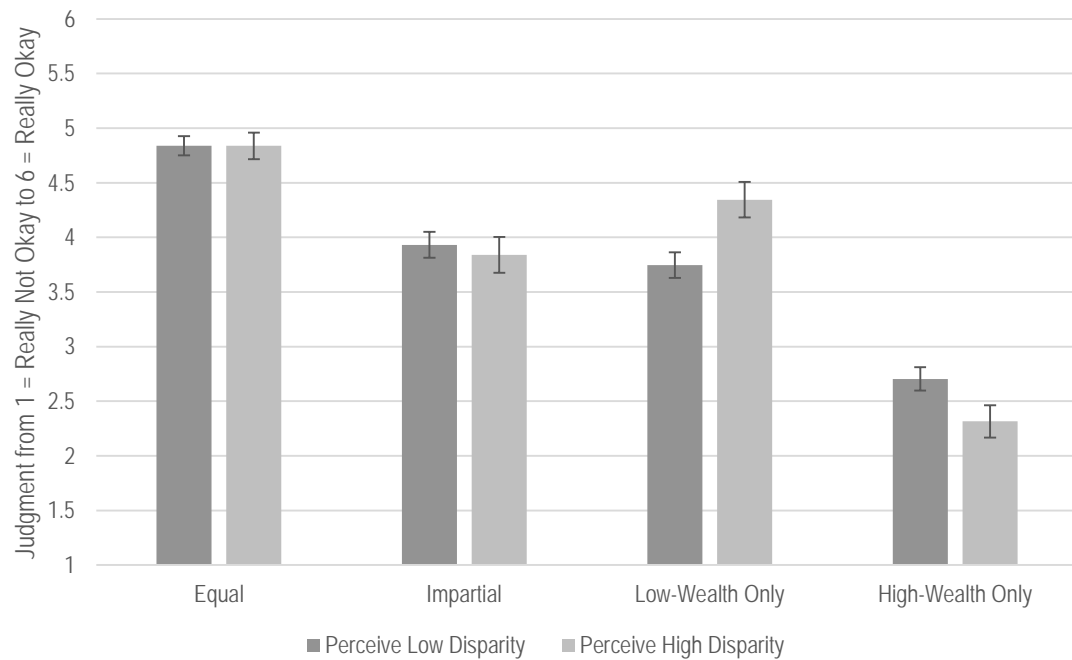


Figure 1. Children's judgments of four ways of distributing opportunities to high-wealth and low-wealth peers differ by their perceptions of economic inequality. Bars represent the standard error of the mean.

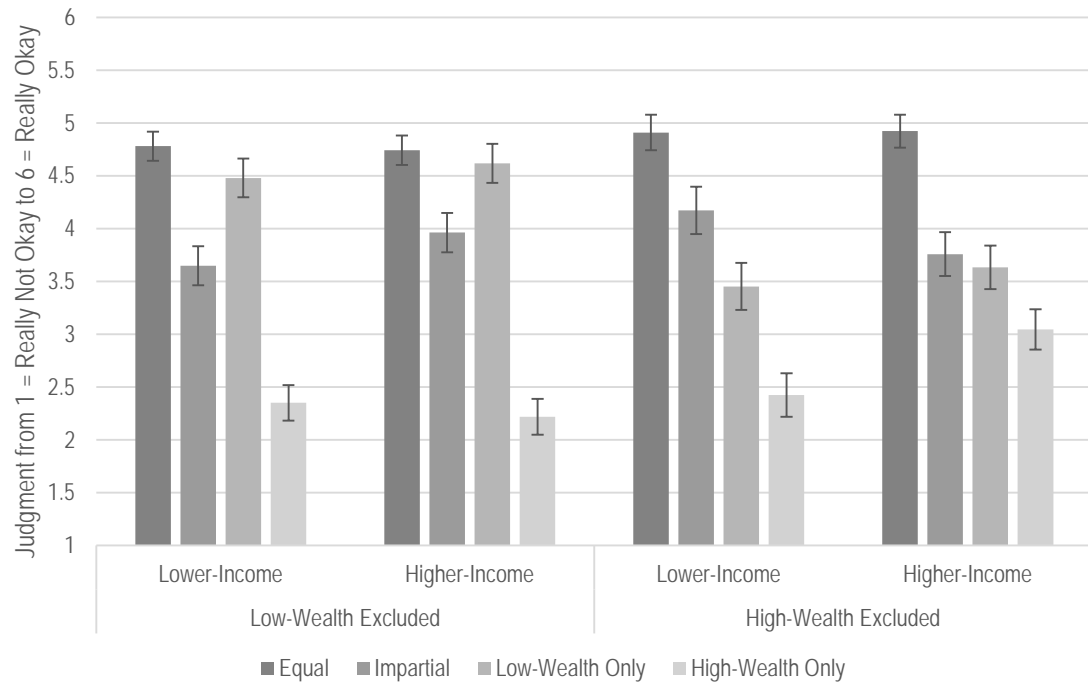


Figure 2. Children's judgments of four ways of distributing opportunities to high-wealth and low-wealth peers are moderated by condition and family income. Bars represent the standard error of the mean.

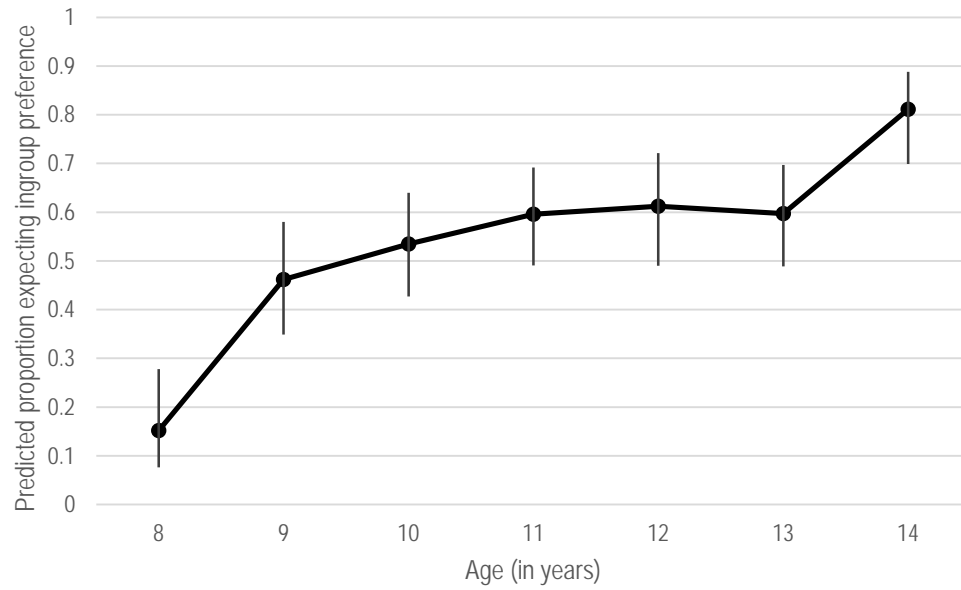


Figure 3. Increasing expectations for own-group benefit between childhood and adolescence. Bars represent the upper and lower bounds of the 95% CIs for each point estimate.

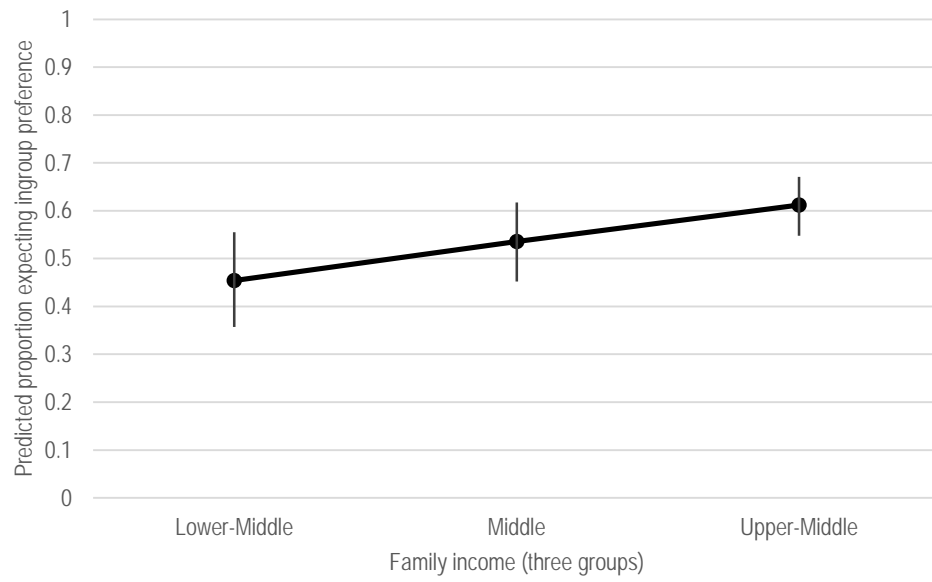


Figure 4. Children's expectations for groups' preferences by family income. Bars represent the upper and lower bounds of the 95% CIs for each point estimate.

Appendices

Appendix A: Institutional Review Board Approval



UNIVERSITY OF
MARYLAND

INSTITUTIONAL REVIEW BOARD

1204 Marie Mount Hall
College Park, MD 20742-5125
TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu
www.umresearch.umd.edu/IRB

DATE: January 11, 2017

TO: Melanie Killen
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [858404-6] Fair Allocation in Elementary and Middle School
REFERENCE #:
SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED
APPROVAL DATE: January 11, 2017
EXPIRATION DATE: February 7, 2018
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of Continuing Review/Progress Report materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Prior to submission to the IRB Office, this project received scientific review from the departmental IRB Liaison.

This submission has received Expedited Review based on the applicable federal regulations.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of February 7, 2018.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Unless a consent waiver or alteration has been approved, Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of seven years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.

Appendix B: Parent Consent Form



Department of Human Development and Quantitative Methodology
3942 Campus Drive, Suite 3304, College Park, MD 20742-1131

University of Maryland, College Park – page 1 of 2

Melanie Killen, Ph.D.
Office: 301.405.3176
Email: mkillen@umd.edu

Dear Parents or Guardians:

We are studying how children in elementary and middle school make decisions about the fair distribution of resources. In this study, resources are not actual objects (like toys) but are opportunities, such as attending a special summer camp. We are studying when children take into account the resources that families from different socio-economic backgrounds have for sending their children to summer camp. We would like to tell you about our project, and ask for your permission to have your son or daughter participate.

Participation involves filling out a short survey. The survey shows pictures, and asks children for their opinions about how to fairly divide up opportunities to attend a special (hypothetical) summer camp (one camp is at a zoo, and one camp is at an aquarium). Children are told about hypothetical children who are from families that vary in how many resources that have for sending their children to summer camp. Participants make decisions about how to provide opportunities for the children in the stories. The survey is brightly illustrated with fun pictures, and children fill out boxes in a game-like manner. Each child participates in a one 20-minute survey. A Research Coordinator from the University of Maryland will be present to answer any questions. This is not a test. There are no right or wrong answers.

Participation will take place at your child's school, in a quiet, private area like a library or available classroom. Teachers and administrators will identify the best time for participation to occur.

Participation is voluntary. Your child can ask questions at any time, stop participating at any time, or skip sections of the survey. All information is confidential. Your child's name will not be linked with their answers.

Children who have participated in studies with us in the past have enjoyed filling out short surveys like this one. This research is used to help teachers and administrators promote understanding of fairness in childhood.

Please look over the official description of the study on the reverse side of this letter. If you are willing to have your child participate in the project, please fill out the information and return the form to your school. There is a space for you to sign, and a space for your child to sign if he or she is 13 years old or older. This research project has been approved by the Institutional Review Board at the University of Maryland. Thank you for reading this letter, and for your willingness to allow your daughter/son to participate.

Sincerely,

A handwritten signature in black ink that reads "Melanie Killen".

Melanie Killen, Ph.D.
Professor of Human Development and Quantitative Methodology

Project Title	Fair Allocation in Elementary and Middle School		
Purpose of the Study	This research is being conducted by Dr. Melanie Killen at the University of Maryland, College Park. We are inviting your child to participate because they are in elementary school or middle school. The purpose of this research is to find out how children understand issues of fairness and access to opportunities at different ages.		
Procedures	Your child will fill out a survey for 20 minutes. The survey asks for their opinions about how to fairly divide up spots at a hypothetical summer camp. A Research Coordinator from the University of Maryland will be present to answer any questions. Participation will take place at your child's school, in a quiet, private area like a library or available classroom. Teachers and administrators will identify the best time for participation to occur in order. This is not a test.		
Potential Risks & Discomforts	There are no known risks to participating in this research project. A breach of confidentiality is possible but unlikely.		
Potential Benefits	This research is not designed to help your child personally, but to help us learn about social development and age-related changes in children's reasoning about fairness.		
Confidentiality	Your child's name will not be attached to their survey. We will not share your child's anonymous responses with anyone, including teachers and principals. Your child's information may be shared with representatives of the University of Maryland or governmental authorities if your child or someone else is in danger, or if we are required to do so by law. When we write reports about this project, we will not use your child's name or the name of the school. All responses will be stored in a password-protected file on a password-protected computer. Consent forms will be stored in a locked file cabinet in a locked office at the University of Maryland.		
Right to Withdraw & Questions	Your child's participation is completely voluntary. Your child can ask any questions at any time. Your child may decide to stop participating at any time and will not be penalized. Participation is not a school or class requirement. If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Melanie Killen • Department of Human Development & Quantitative Methodology • 3942 Campus Dr., Suite 3304, College Park, MD, 20742-1131 • 301-405-3176 • mkillen@umd.edu		
Participant Rights	If you have questions about your rights as a research participant or wish to report a research-related injury, please contact: University of Maryland College Park • Institutional Review Board Office • 1204 Marie Mount Hall • College Park, MD, 20742 • E-mail: irb@umd.edu • Telephone: 301-405-0678 . This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.		
Statement of Consent	<p>Parents: Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to allow your child to participate in this research study. You will receive a copy of this signed consent form. If you agree to allow your child to participate, please sign your name below.</p> <p>Children: If you are 13 years old or older, please sign your name below if you agree to participate. If you are 12 years old or younger, you will be asked if you agree to participate verbally at the start of the study.</p>		
Signature & Date	1. Child's name: _____ 2. Parent's signature: _____ 3. Child's signature: _____		
	4. Child's birthday: ____/____/____ 5. Today's date: ____/____/____		
	<i>Questions # 6-9 are included to ensure that we have a representative sample. If you prefer not to give this information, just leave this section blank.</i>		
	6. Child gender: <input type="checkbox"/> boy <input type="checkbox"/> girl 7. Child race/ethnicity [Check all that apply]: <input type="checkbox"/> Black/African-American <input type="checkbox"/> White/European-American <input type="checkbox"/> Latino/Hispanic <input type="checkbox"/> Asian-American/Pacific Islander <input type="checkbox"/> Other: _____	8. Approximate family annual income: <input type="checkbox"/> less than \$30,000 <input type="checkbox"/> \$30,000-\$60,000 <input type="checkbox"/> \$60,000-\$90,000 <input type="checkbox"/> \$90,000-\$120,000 <input type="checkbox"/> \$120,000-\$150,000 <input type="checkbox"/> \$150,000-\$180,000 <input type="checkbox"/> more than \$180,000	9. Parents' highest level of education: Mother: <input type="checkbox"/> Did not graduate high school <input type="checkbox"/> High school graduate <input type="checkbox"/> Some college <input type="checkbox"/> Bachelor's degree <input type="checkbox"/> Graduate education Father: <input type="checkbox"/> Did not graduate high school <input type="checkbox"/> High school graduate <input type="checkbox"/> Some college <input type="checkbox"/> Bachelor's degree <input type="checkbox"/> Graduate education

Appendix C: Survey

PID:	INI:	DOB:	SCH:	DOI:	V1
------	------	------	------	------	----



Welcome!

This survey was designed by a research group at the University of Maryland.

This is not a test.

There are no right or wrong answers.

If you have any questions, just let us know.

When you're ready to get started, just flip the page.

ZOO SUMMER CAMP!

Here are some kids who all live in the same city.



Some of these kids' families have a lot of money.

They live in houses like this.



And ride in cars like this.



And some of these kids' families have a little money.

They live in houses like this.



And ride in cars like this.



In this city, there is a zoo.

Every summer the zoo organizes a special Zoo Summer Camp!

Kids can go to Zoo Summer Camp for a whole week for free.



Zoo Summer Camp is a special opportunity.

It is really fun, and it is also a **really important opportunity for kids to learn a lot.**

Learning about animals helps with science, math, language arts, social studies, and art.

A lot of kids want to go to Zoo Summer Camp for this special learning opportunity.

But there are only a few spaces open each year.

In past years, **ONLY** kids whose families have a **LOT** of money have gone to Zoo Summer Camp.

So kids from those families *got* to learn a lot.



Kids whose families have a **LITTLE** money have **NOT** gone.

So kids from those families *didn't get* to learn a lot.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp.

But there are only **10** spaces!

Here are 10 of the kids who want to go.



They are from families with a **LOT** of money.



And here are 10 of the kids who want to go.



They are from families with a **LITTLE** money.



Remember, in past years, **ONLY** kids whose families have a **LOT** of money have gone to Zoo Summer Camp.



Kids whose families have a **LITTLE** money have **NOT** gone.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp, but there are only 10 spaces.

The Zoo Summer Camp has to decide what to do...
Let's hear what **YOU** think!

How okay or not okay would it be if, this year, the Zoo Summer Camp...

A. Gave 5 spaces to new kids from families that have a **LOT** of money and 5 spaces to new kids from families that have a **LITTLE** money?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

B. Put all the new kids' names in a bag and pulled out 10 names without looking, and gave the 10 spaces to those kids?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

C. Gave all 10 spaces to new kids from families that have a **LITTLE** money?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

D. Gave all 10 spaces to new kids from families that have a **LOT** of money?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

Remember, in past years, **ONLY** kids whose families have a **LOT** of money have gone to Zoo Summer Camp.



Kids whose families have a **LITTLE** money have **NOT** gone.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp, but there are only 10 spaces.

The Zoo Summer Camp has to make a choice now.

They could...

- A. Give 5 spaces to new kids from families that have a **LOT** of money and 5 spaces to new kids from families that have a **LITTLE** money
- B. Put all the new kids' names in a bag and pull out 10 names without looking, and give the 10 spaces to those Kids
- C. Give all 10 spaces to new kids from families that have a **LITTLE** money
- D. Give all 10 spaces to new kids from families that have a **LOT** of money

Which way do **you** think is the best? [Please circle only one]

A B C D

Please explain why that way is the best: _____

Remember, in past years, **ONLY** kids whose families have a **LOT** of money have gone to Zoo Summer Camp.



Kids whose families have a **LITTLE** money have **NOT** gone.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp, but there are only 10 spaces.

Here are the 10 kids from families with a **LOT** of money.



What would **these kids** want the Zoo Summer Camp to do? [Please circle only one]

A B C D

- A. Give 5 spaces to new kids from families that have a **LOT** of money and 5 spaces to new kids from families that have a **LITTLE** money
- B. Put all the new kids' names in a bag and pull out 10 names without looking, and give the 10 spaces to those kids
- C. Give all 10 spaces to new kids from families that have a **LITTLE** money
- D. Give all 10 spaces to new kids from families that have a **LOT** of money

Please explain why they would want the Zoo Summer Camp to do that: _____

Here the 10 kids from families with a **LITTLE** money.



What would **these kids** want the Zoo Summer Camp to do? [Please circle only one]

A B C D

- A. Give 5 spaces to new kids from families that have a **LOT** of money and 5 spaces to new kids from families that have a **LITTLE** money
- B. Put all the new kids' names in a bag and pull out 10 names without looking, and give the 10 spaces to those kids
- C. Give all 10 spaces to new kids from families that have a **LITTLE** money
- D. Give all 10 spaces to new kids from families that have a **LOT** of money

Please explain why they would want the Zoo Summer Camp to do that: _____

LAST QUESTIONS!

You just heard about cities where some families have a lot of money and some families have a little money.

The kids whose families have a lot of money



live in houses like this and ride in cars like this.



And the kids whose families have a little money



live in houses like this and ride in cars like this.



How often do these kids get extra learning opportunities, other than Zoo Summer Camp?

Never Rarely Some-
times Often All The
Time

How often do these kids get extra learning opportunities, other than Zoo Summer Camp?

Never Rarely Some-
times Often All The
Time

Would **you** want to go to a Zoo Summer Camp?

Definitely No Maybe No Not Sure Maybe Yes Definitely Yes

You're all done. Thank you for your help!

PID:	INI:	DOB:	SCH:	DOI:	V2
------	------	------	------	------	----



Welcome!

This survey was designed by a research group at the University of Maryland.

This is not a test.

There are no right or wrong answers.

If you have any questions, just let us know.

When you're ready to get started, just flip the page.

ZOO SUMMER CAMP!

Here are some kids who all live in the same city.



Some of these kids' families have a lot of money.

They live in houses like this.



And ride in cars like this.



And some of these kids' families have a little money.

They live in houses like this.



And ride in cars like this.



In this city, there is a zoo.

Every summer the zoo organizes a special Zoo Summer Camp!

Kids can go to Zoo Summer Camp for a whole week for free.



Zoo Summer Camp is a special opportunity.

It is really fun, and it is also a **really important opportunity for kids to learn a lot.**

Learning about animals helps with science, math, language arts, social studies, and art.

A lot of kids want to go to Zoo Summer Camp for this special learning opportunity.

But there are only a few spaces open each year.

In past years, **ONLY** kids whose families have a **LITTLE** money have gone to Zoo Summer Camp.

So kids from those families *got* to learn a lot.



Kids whose families have a **LOT** of money have **NOT** gone.

So kids from those families *didn't get* to learn a lot.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp.

But there are only **10** spaces!

Here are 10 of the kids who want to go.



They are from families with a **LITTLE** money.



And here are 10 of the kids who want to go.



They are from families with a **LOT** of money.



Remember, in past years, **ONLY** kids whose families have a **LITTLE** money have gone to Zoo Summer Camp.



Kids whose families have a **LOT** of money have **NOT** gone.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp, but there are only 10 spaces.

The Zoo Summer Camp has to decide what to do...
Let's hear what **YOU** think!

How okay or not okay would it be if, this year, the Zoo Summer Camp...

A. Gave 5 spaces to new kids from families that have a **LITTLE** money and 5 spaces to new kids from families that have a **LOT** of money?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

B. Put all the new kids' names in a bag and pulled out 10 names without looking, and gave the 10 spaces to those kids?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

C. Gave all 10 spaces to new kids from families that have a **LOT** of money?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

D. Gave all 10 spaces to new kids from families that have a **LITTLE** money?

Really Not Okay Not Okay A Little Not Okay A Little Okay Okay Really Okay

Remember, in past years, **ONLY** kids whose families have a **LITTLE** money have gone to Zoo Summer Camp.



Kids whose families have a **LOT** of money have **NOT** gone.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp, but there are only 10 spaces.

The Zoo Summer Camp has to make a choice now.

They could...

- A. Give 5 spaces to new kids from families that have a **LITTLE** money and 5 spaces to new kids from families that have a **LOT** of money
- B. Put all the new kids' names in a bag and pull out 10 names without looking, and give the 10 spaces to those Kids
- C. Give all 10 spaces to new kids from families that have a **LOT** of money
- D. Give all 10 spaces to new kids from families that have a **LITTLE** money

Which way do **you** think is the best? [Please circle only one]

A

B

C

D

Please explain why that way is the best: _____

Remember, in past years, **ONLY** kids whose families have a **LITTLE** money have gone to Zoo Summer Camp.



Kids whose families have a **LOT** of money have **NOT** gone.



This year, there are **20 NEW KIDS** who want to go to Zoo Summer Camp, but there are only 10 spaces.

Here are the 10 kids from families with a **LOT** of money.



What would **these kids** want the Zoo Summer Camp to do? [Please circle only one]

A B C D

- A. Give 5 spaces to new kids from families that have a **LITTLE** money and 5 spaces to new kids from families that have a **LOT** of money
- B. Put all the new kids' names in a bag and pull out 10 names without looking, and give the 10 spaces to those kids
- C. Give all 10 spaces to new kids from families that have a **LOT** of money
- D. Give all 10 spaces to new kids from families that have a **LITTLE** money

Please explain why they would want the Zoo Summer Camp to do that: _____

Here the 10 kids from families with a **LITTLE** money.



What would **these kids** want the Zoo Summer Camp to do? [Please circle only one]

A B C D

- A. Give 5 spaces to new kids from families that have a **LITTLE** money and 5 spaces to new kids from families that have a **LOT** of money
- B. Put all the new kids' names in a bag and pull out 10 names without looking, and give the 10 spaces to those kids
- C. Give all 10 spaces to new kids from families that have a **LOT** of money
- D. Give all 10 spaces to new kids from families that have a **LITTLE** money

Please explain why they would want the Zoo Summer Camp to do that: _____

LAST QUESTIONS!

You just heard about cities where some families have a lot of money and some families have a little money.

The kids whose families have a lot of money



live in houses like this and ride in cars like this.



And the kids whose families have a little money



live in houses like this and ride in cars like this.



How often do these kids get extra learning opportunities, other than Zoo Summer Camp?

Never Rarely Some-
times Often All The
Time

How often do these kids get extra learning opportunities, other than Zoo Summer Camp?

Never Rarely Some-
times Often All The
Time

Would **you** want to go to a Zoo Summer Camp?

Definitely No Maybe No Not Sure Maybe Yes Definitely Yes

You're all done. Thank you for your help!

References

- Abrams, D., & Killen, M. (2014). Social exclusion of children: Developmental origins of prejudice. *Journal of Social Issues, 70*, 1–11. doi:10.1111/josi.12043
- Abrams, D., & Rutland, A. (2008). The development of subjective group dynamics. In S. R. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood*. (pp. 47–65). New York, NY: Oxford University Press.
- Abrams, D., Rutland, A., Cameron, L., & Marques, J. (2003). The development of subjective group dynamics: When in-group bias gets specific. *British Journal of Developmental Psychology, 21*, 155–176. doi:10.1348/026151003765264020
- Abrams, D., Rutland, A., Ferrell, J. M., & Pelletier, J. (2008). Children's judgments of disloyal and immoral peer behavior: Subjective group dynamics in minimal intergroup contexts. *Child Development, 79*, 444–461. doi:10.1111/j.1467-8624.2007.01135.x
- Abrams, D., Rutland, A., Pelletier, J., & Ferrell, J. M. (2009). Children's group nous: Understanding and applying peer exclusion within and between groups. *Child Development, 80*, 224–243. doi:10.1111/j.1467-8624.2008.01256.x
- Abrams, D., Van de Vyver, J., Pelletier, J., & Cameron, L. (2015). Children's prosocial behavioural intentions towards outgroup members. *British Journal of Developmental Psychology, 33*, 277–294. doi:10.1111/bjdp.12085
- Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy white women. *Health Psychology, 19*, 586–592. doi:10.1037/0278-6133.19.6.586

- Arsenio, W. F. (2015). Moral psychological perspectives on distributive justice and societal inequalities. *Child Development Perspectives*, 9, 91–95.
doi:10.1111/cdep.12115
- Arsenio, W. F., Preziosi, S., Silberstein, E., & Hamburger, B. (2013). Adolescents' perceptions of institutional fairness: Relations with moral reasoning, emotions, and behavior. In T. Malti (Ed.), *Adolescent emotions: Development, morality, and adaptation*. (pp. 95–110). San Francisco, CA: Jossey-Bass.
- Baumard, N., Mascaro, O., & Chevallier, C. (2012). Preschoolers are able to take merit into account when distributing goods. *Developmental Psychology*, 48, 492–498.
doi:10.1037/a0026598
- Benenson, J. F., Pascoe, J., & Radmore, N. (2007). Children's altruistic behavior in the dictator game. *Evolution and Human Behavior*, 28, 168–175.
doi:10.1016/j.evolhumbehav.2006.10.003
- Benner, A. D., & Wang, Y. (2014). Demographic marginalization, social integration, and adolescents' educational success. *Journal of Youth and Adolescence*, 43, 1611–1627. doi:10.1007/s10964-014-0151-6
- Benoizio, A., & Diesendruck, G. (2015). Parochialism in preschool boys' resource allocation. *Evolution and Human Behavior*, 36, 256–264.
doi:10.1016/j.evolhumbehav.2014.12.002
- Bigler, R. S., Arthur, A. E., Hughes, J. M., & Patterson, M. M. (2008). The politics of race and gender: Children's perceptions of discrimination and the U.S. presidency. *Analyses of Social Issues and Public Policy*, 8, 83–112. doi:10.1111/j.1530-2415.2008.00161.x

- Blake, P. R., & Rand, D. G. (2010). Currency value moderates equity preference among young children. *Evolution and Human Behavior*, 31, 210–218.
doi:10.1016/j.evolhumbehav.2009.06.012
- Bratanova, B., Loughnan, S., Klein, O., & Wood, R. (2016). The rich get richer, the poor get even: Perceived socioeconomic position influences micro-social distributions of wealth. *Scandinavian Journal of Psychology*, 57, 243–249. doi:10.1111/sjop.12281
- Brown, C. S. (2006). Bias at school: Perceptions of racial/ethnic discrimination among Latino and European American children. *Cognitive Development*, 21, 401–419.
doi:10.1016/j.cogdev.2006.06.006
- Brown, C. S., & Bigler, R. S. (2004). Children's perceptions of gender discrimination. *Developmental Psychology*, 40, 714–26. doi:10.1037/0012-1649.40.5.714
- Brown, C. S., Mistry, R. S., & Bigler, R. S. (2007). Hurricane Katrina: African American children's perceptions of race, class, and government involvement amid a national crisis. *Analyses of Social Issues and Public Policy*, 7, 191–208. doi:10.1111/j.1530-2415.2007.00139.x
- Brownell, C. A., Svetlova, M., & Nichols, S. (2009). To share or not to share: When do toddlers respond to another's needs? *Infancy*, 14, 117–130.
doi:10.1080/15250000802569868
- Bucchianeri, M. M., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Weightism, racism, classism, and sexism: Shared forms of harassment in adolescents. *Journal of Adolescent Health*, 53, 47–53. doi:10.1016/j.jadohealth.2013.01.006
- Calarco, J. M. (2011). "I need help!" Social class and children's help-seeking in elementary school. *American Sociological Review*, 76, 862–882.

doi:10.1177/0003122411427177

- Carlo, G., Padilla-Walker, L. M., & Day, R. D. (2011). A test of the economic strain model on adolescents' prosocial behaviors. *Journal of Research on Adolescence*, 21, 842–848. doi:10.1111/j.1532-7795.2011.00742.x
- Carson, A. S., & Banuazizi, A. (2008). "That's not fair": Similarities and differences in distributive justice reasoning between American and Filipino children. *Journal of Cross-Cultural Psychology*, 39, 493–514. doi:10.1177/0022022108318134
- Carter, P. L., & Reardon, S. F. (2014). *Inequality matters*. New York, NY: William T. Grant Foundation.
- Chafel, J. A., & Neitzel, C. (2005). Young children's ideas about the nature, causes, justification, and alleviation of poverty. *Early Childhood Research Quarterly*, 20, 433–450. doi:10.1016/j.ecresq.2005.10.004
- Chernyak, N., & Kushnir, T. (2013). Giving preschoolers choice increases sharing behavior. *Psychological Science*, 24, 1971–1979. doi:10.1177/0956797613482335
- Chernyak, N., & Sobel, D. M. (2016). Equal but not always fair: Value-laden sharing in preschool-aged children. *Social Development*, 25, 340–351. doi:10.1111/sode.12136
- Cooley, S., Elenbaas, L., & Killen, M. (2016). Social exclusion based on group membership is a form of prejudice. In S. Horn, M. Ruck, & L. Liben (Eds.), *Advances in child development and behavior*, Vol. 51 (pp. 103–129). Burlington: Academic Press. doi:10.1016/bs.acdb.2016.04.004
- Cooley, S., & Killen, M. (2015). Children's evaluations of resource allocation in the context of group norms. *Developmental Psychology*, 51, 554–563. doi:10.1037/a0038796

- 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*, *112*, 15838–1584. doi:10.1073/pnas.1511536112
- Côté, S., Piff, P. K., & Willer, R. (2013). For whom do the ends justify the means? Social class and utilitarian moral judgment. *Journal of Personality and Social Psychology*, *104*, 490–503. doi:10.1037/a0030931
- Crosnoe, R. (2009). Low-income students and the socioeconomic composition of public high schools. *American Sociological Review*, *74*, 709–730. doi:10.1177/000312240907400502
- Crosnoe, R., & Schneider, B. (2010). Social capital, information, and socioeconomic disparities in math coursework. *American Journal of Education*, *117*, 79–107. doi:10.1086/656347
- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology*, *92*, 631–648. doi:10.1037/0022-3514.92.4.631
- Damon, W. (1975). Early conceptions of positive justice as related to the development of logical operations. *Child Development*, *46*, 301–312. doi:10.2307/1128122
- Damon, W. (1980). Patterns of change in children's social reasoning: A two-year longitudinal study. *Child Development*, *51*, 1010–1017. doi:10.2307/1129538
- Daniel, E., Dys, S. P., Buchmann, M., & Malti, T. (2016). Developmental trajectories of social justice values in adolescence: Relations with sympathy and friendship quality. *Social Development*, *25*, 548–564. doi:10.1111/sode.12146
- DeJesus, J. M., Rhodes, M., & Kinzler, K. D. (2014). Evaluations versus expectations:

- Children's divergent beliefs about resource distribution. *Cognitive Science*, 38, 178–93. doi:10.1111/cogs.12093
- Diemer, M. A. (2012). Fostering marginalized youths' political participation: Longitudinal roles of parental political socialization and youth sociopolitical development. *American Journal of Community Psychology*, 50, 246–256. doi:10.1007/s10464-012-9495-9
- Diemer, M. A., & Li, C.-H. (2012). Longitudinal roles of precollege contexts in low-income youths' postsecondary persistence. *Developmental Psychology*, 48, 1686–1693. doi:10.1037/a0025347
- Diemer, M. A., & Li, C. H. (2011). Critical consciousness development and political participation among marginalized youth. *Child Development*, 82, 1815–1833. doi:10.1111/j.1467-8624.2011.01650.x
- Diemer, M. A., & Rapa, L. J. (2016). Unraveling the complexity of critical consciousness, political efficacy, and political action among marginalized adolescents. *Child Development*, 87, 221–238. doi:10.1111/cdev.12446
- Diemer, M. A., Rapa, L. J., Voight, A. M., & McWhirter, E. H. (2016). Critical consciousness: A developmental approach to addressing marginalization and oppression. *Child Development Perspectives*, 10, 216–221. doi:10.1111/cdep.12193
- Duncan, G. J., Magnuson, K., & Votruba-Drzal, E. (2015). Children and socioeconomic status. In M. H. Bornstein, T. Leventhal, & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Ecological settings and processes* (7th ed., pp. 534–573). Hoboken, NJ: John Wiley & Sons Inc.
- Duncan, G. J., & Murnane, R. J. (Eds.). (2011). *Whither opportunity? Rising inequality,*

- schools, and children's life chances*. New York, NY: Russell Sage Foundation.
- Dunfield, K., Kuhlmeier, V. A., O'Connell, L., & Kelley, E. (2011). Examining the diversity of prosocial behavior: Helping, sharing, and comforting in infancy. *Infancy*, 16, 227–247. doi:10.1111/j.1532-7078.2010.00041.x
- Dunham, Y., Baron, A. S., & Carey, S. (2011). Consequences of “minimal” group affiliations in children. *Child Development*, 82, 793–811. doi:10.1111/j.1467-8624.2011.01577.x
- Elenbaas, L., & Killen, M. (2016a). Age-related changes in children's associations of economic resources and race. *Frontiers in Psychology*, 7, 884. doi:10.3389/fpsyg.2016.00884
- Elenbaas, L., & Killen, M. (2016b). Children rectify inequalities for disadvantaged groups. *Developmental Psychology*, 8, 1318–1329. doi:10.1037/dev0000154
- Elenbaas, L., & Killen, M. (2016c). How do young children expect others to address resource inequalities? *Journal of Experimental Child Psychology*, 150, 72–86. doi:10.1016/j.jecp.2016.05.002
- Elenbaas, L., & Killen, M. (2017). Children's perceptions of social resource inequalities. *Journal of Applied Developmental Psychology*, 48, 49–58. doi:10.1016/j.appdev.2016.11.006
- Elenbaas, L., Rizzo, M. T., Cooley, S., & Killen, M. (2016). Rectifying inequalities in a resource allocation task. *Cognition*, 155, 176–187. doi:10.1016/j.cognition.2016.07.002
- Enesco, I., & Navarro, A. (2003). The development of the conception of socioeconomic mobility in children from Mexico and Spain. *The Journal of Genetic Psychology*:

Research and Theory on Human Development, 164, 293–317.

doi:10.1080/00221320309597985

Engelmann, J. M., Herrmann, E., Rapp, D. J., & Tomasello, M. (2016). Young children (sometimes) do the right thing even when their peers do not. *Cognitive*

Development, 39, 86–92. doi:10.1016/j.cogdev.2016.04.004

Enright, R. D., Bjerstedt, A., Enright, W. F., Levy, V. M., Lapsley, D. K., Buss, R. R., ...

Zindler, M. (1984). Distributive justice development: Cross-cultural, contextual, and longitudinal evaluations. *Child Development*, 55, 1737–1751. doi:10.2307/1129921

Fehr, E., Bernhard, H., & Rockenbach, B. (2008). Egalitarianism in young children.

Nature, 454, 1079–1083. doi:10.1038/nature07155

Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence*, 26, 679–695.

doi:10.1023/A:1026455906512

Fiske, S. T. (2010). Interpersonal stratification: Status, power, and subordination. In S. T.

Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology*, Vol 2 (5th ed., pp. 941–982). Hoboken, NJ: John Wiley & Sons Inc.

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed)

stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82, 878–902.

doi:10.1037/0022-3514.82.6.878

FitzRoy, S., & Rutland, A. (2010). Learning to control ethnic intergroup bias in childhood. *European Journal of Social Psychology*, 40, 679–693.

doi:10.1002/ejsp.746

- Flanagan, C. A., Kim, T., Pykett, A., Finlay, A., Gallay, E. E., & Pancer, M. (2014). Adolescents' theories about economic inequality: Why are some people poor while others are rich? *Developmental Psychology*, *50*, 2512–2525. doi:10.1037/a0037934
- Fu, G., Xiao, W. S., Killen, M., & Lee, K. (2014). Moral judgment and its relation to second-order theory of mind. *Developmental Psychology*, *50*, 2085–2092. doi:10.1037/a0037077
- Geraci, A., & Surian, L. (2011). The developmental roots of fairness: Infants' reactions to equal and unequal distributions of resources. *Developmental Science*, *14*, 1012–1020. doi:10.1111/j.1467-7687.2011.01048.x
- Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, *108*, e31–e31. doi:10.1542/peds.108.2.e31
- Goodman, E., Amick, B. C., Rezendes, M. O., Levine, S., Kagan, J., Rogers, W. H., & Tarlov, A. R. (2000). Adolescents' understanding of social class: A comparison of white upper middle class and working class youth. *Journal of Adolescent Health*, *27*, 80–83. doi:10.1016/S1054-139X(99)00116-0
- Goodman, E., Huang, B., Schafer-Kalkhoff, T., & Adler, N. E. (2007). Perceived socioeconomic status: A new type of identity that influences adolescents' self-rated health. *Journal of Adolescent Health*, *41*, 479–487. doi:10.1016/j.jadohealth.2007.05.020
- Goodman, E., Maxwell, S., Malspeis, S., & Adler, N. (2015). Developmental trajectories of subjective social status. *Pediatrics*, *136*, e633–e640. doi:10.1542/peds.2015-1300
- Grewal, E. T. (2013). *Exploring Socioeconomic Friendship Segregation in Schools*.

Stanford University.

Groce, P., Rossano, F., & Tomasello, M. (2015). Procedural justice in children:

Preschoolers accept unequal resource distributions if the procedure provides equal opportunities. *Journal of Experimental Child Psychology*, *140*, 197–210.

doi:10.1016/j.jecp.2015.07.008

Gummerum, M., Hanoch, Y., Keller, M., Parsons, K., & Hummel, A. (2010).

Preschoolers' allocations in the dictator game: The role of moral emotions. *Journal of Economic Psychology*, *31*, 25–34. doi:10.1016/j.joep.2009.09.002

Hamann, K., Bender, J., & Tomasello, M. (2014). Meritocratic sharing is based on

collaboration in 3-year-olds. *Developmental Psychology*, *50*, 121–128.

doi:10.1037/a0032965

Helwig, C. C., & Jasiobedzka, U. (2001). The relation between law and morality:

Children's reasoning about socially beneficial and unjust laws. *Child Development*, *72*, 1382–1393. doi:10.1111/1467-8624.00354

Helwig, C. C., Ruck, M. D., & Peterson-Badali, M. (2014). Rights, civil liberties, and

democracy. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 46–69). New York, NY: Psychology Press.

Horn, S. S. (2003). Adolescents' reasoning about exclusion from social groups.

Developmental Psychology, *39*, 71–84. doi:10.1037/0012-1649.39.1.71

Horwitz, S. R., Shutts, K., & Olson, K. R. (2014). Social class differences produce social

group preferences. *Developmental Science*, *17*, 991–1002. doi:10.1111/desc.12181

Hughes, J. M. (2011). Influence of discrimination awareness on the occupational interests

of African American children. *Journal of Applied Developmental Psychology*, *32*,

369–378. doi:10.1016/j.appdev.2011.08.003

Hughes, J. M., & Bigler, R. S. (2011). Predictors of African American and European American adolescents' endorsement of race-conscious social policies.

Developmental Psychology, 47, 479–492. doi:10.1037/a0021309

Isaacs, J. B., Sawhill, I. V., & Haskins, R. (2008). *Getting ahead or losing ground:*

Economic mobility in America. The Brookings Institution/The Economic Mobility Project. Retrieved from

http://www.brookings.edu/~media/Research/Files/Reports/2008/2/economic-mobility-sawhill/02_economic_mobility_sawhill.PDF

Jordan, J. J., McAuliffe, K., & Warneken, F. (2014). Development of in-group favoritism in children's third-party punishment of selfishness. *Proceedings of the National*

Academy of Sciences of the United States of America, 111, 12710–12715.

doi:10.1073/pnas.1402280111

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology*, 33, 1–27. doi:10.1111/j.2044-8309.1994.tb01008.x

Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory:

Accumulated evidence of conscious and unconscious bolstering of the status quo.

Political Psychology, 25, 881–919.

Jugert, P., Noack, P., & Rutland, A. (2011). Friendship preferences among German and Turkish preadolescents. *Child Development*, 82, 812–829. doi:10.1111/j.1467-

8624.2010.01528.x

Kanngiesser, P., & Warneken, F. (2012). Young children consider merit when sharing

- resources with others. *PLoS ONE*, 7. doi:10.1371/journal.pone.0043979
- Kay, A. C., & Jost, J. T. (2003). Complementary justice: effects of “poor but happy” and “poor but honest” stereotype exemplars on system justification and implicit activation of the justice motive. *Journal of Personality and Social Psychology*, 85, 823–837. doi:10.1037/0022-3514.85.5.823
- Kenward, B., & Dahl, M. (2011). Preschoolers distribute scarce resources according to the moral valence of recipients’ previous actions. *Developmental Psychology*, 47, 1054–1064. doi:10.1037/a0023869
- Kienbaum, J., & Wilkening, F. (2009). Children’s and adolescents’ intuitive judgements about distributive justice: Integrating need, effort, and luck. *European Journal of Developmental Psychology*, 6, 481–498. doi:10.1080/17405620701497299
- Killen, M., Elenbaas, L., Rizzo, M. T., & Rutland, A. (2016). The role of group processes in social exclusion and resource allocation decisions. In A. Rutland, D. Nesdale, & C. Spears Brown (Eds.), *Handbook of group processes in children and adolescents*. New York, NY: Wiley-Blackwell.
- Killen, M., Elenbaas, L., & Rutland, A. (2015). Balancing the fair treatment of others while preserving group identity and autonomy. *Human Development*, 58, 253–272. doi:10.1159/000444151
- Killen, M., Hitti, A., Cooley, S., & Elenbaas, L. (2015). Morality, development, and culture. In M. Gelfand, C. Y. Chiu, & Y. Y. Hong (Eds.), *Advances in culture and psychology* (pp. 161–220). New York: Oxford University Press.
- Killen, M., Lee-Kim, J., McGlothlin, H., & Stangor, C. (2002). How children and adolescents evaluate gender and racial exclusion. *Monographs of the Society for*

- Research in Child Development*, 67, 1–129. doi:10.1111/1540-5834.00218
- Killen, M., Mulvey, K. L., Richardson, C., Jampol, N., & Woodward, A. L. (2011). The accidental transgressor: Morally-relevant theory of mind. *Cognition*, 119, 197–215. doi:10.1016/j.cognition.2011.01.006
- Killen, M., Pisacane, K., Lee-Kim, J., & Ardila-Rey, A. (2001). Fairness or stereotypes? Young children's priorities when evaluating group exclusion and inclusion. *Developmental Psychology*, 37, 587–596. doi:10.1037/0012-1649.37.5.587
- Killen, M., Rutland, A., Abrams, D., Mulvey, K. L., & Hitti, A. (2013). Development of intra- and intergroup judgments in the context of moral and social-conventional norms. *Child Development*, 84, 1063–1080. doi:10.1111/cdev.12011
- Killen, M., & Smetana, J. G. (2015). Origins and development of morality. In M. E. Lamb (Ed.), *Handbook of child psychology and developmental science, Vol. 3* (7th ed., pp. 701–749). New York, NY: Wiley-Blackwell.
- Kinzler, K. D., Dupoux, E., & Spelke, E. S. (2007). The native language of social cognition. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 104, 12577–12580. doi:10.1073/pnas.0705345104
- Kluegel, J. R., & Smith, E. R. (1986). *Beliefs about inequality: Americans' views of what is and what ought to be*. Hawthorne, NY: Aldine de Gruyter.
- Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, sense of control, and social explanation. *Journal of Personality and Social Psychology*, 97, 992–1004. doi:10.1037/a0016357
- Kraus, M. W., Piff, P. K., Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from

- the poor. *Psychological Review*, 119, 546–572. doi:10.1037/a0028756
- Leahy, R. L. (1981). The development of the conception of economic inequality: I. Descriptions and comparisons of rich and poor people. *Child Development*, 52, 523–532. doi:10.2307/1129170
- Leahy, R. L. (1983). Development of the conception of economic inequality: II. Explanations, justifications, and concepts of social mobility and change. *Developmental Psychology*, 19, 111–125. doi:10.1037/0012-1649.19.1.111
- Li, V., Spitzer, B., & Olson, K. R. (2014). Preschoolers reduce inequality while favoring individuals with more. *Child Development*, 85, 1123–33. doi:10.1111/cdev.12198
- Liénard, P., Chevallier, C., Mascaro, O., Kiura, P., & Baumard, N. (2013). Early understanding of merit in Turkana children. *Journal of Cognition and Culture*, 13, 57–66. doi:10.1163/15685373-12342084
- LoBue, V., Nishida, T., Chiong, C., DeLoache, J. S., & Haidt, J. (2011). When getting something good is bad: Even three-year-olds react to inequality. *Social Development*, 20, 154–170. doi:10.1111/j.1467-9507.2009.00560.x
- Lott, B. (2012). The social psychology of class and classism. *American Psychologist*, 67, 650–658. doi:10.1037/a0029369
- Malti, T., Gummerum, M., Keller, M., & Buchmann, M. (2009). Children's moral motivation, sympathy, and prosocial behavior. *Child Development*, 80, 442–460. doi:10.1111/j.1467-8624.2009.01271.x
- Malti, T., Gummerum, M., Ongley, S. F., Chaparro, M., Nola, M., & Bae, N. Y. (2015). “Who is worthy of my generosity?” Recipient characteristics and the development of children's sharing. *International Journal of Behavioral Development*, 40, 1–10.

doi:10.1177/0165025414567007

McAuliffe, K., Raihani, N. J., & Dunham, Y. (2017). Children are sensitive to norms of giving. *Cognition*. doi:10.1016/j.cognition.2017.01.006

McCrink, K., Bloom, P., & Santos, L. R. (2010). Children's and adults' judgments of equitable resource distributions. *Developmental Science*, 13, 37–45.

doi:10.1111/j.1467-7687.2009.00859.x

McGillicuddy-De Lisi, A. V, Daly, M., & Neal, A. (2006). Children's distributive justice judgments: Aversive racism in Euro-American children? *Child Development*, 77, 1063–1080. doi:10.1111/j.1467-8624.2006.00919.x

McGillicuddy-De Lisi, A. V, Watkins, C., & Vinchur, A. J. (1994). The effect of relationship on children's distributive justice reasoning. *Child Development*, 65, 1694–1700. doi:10.2307/1131288

McGuigan, N., Fisher, R., & Glasgow, R. (2016). The influence of receiver status on donor prosociality in 6- to 11-year-old children. *Child Development*, 87, 855–869. doi:10.1111/cdev.12517

McGuire, L., Rutland, A., & Nesdale, D. (2015). Peer group norms and accountability moderate the effect of school norms on children's intergroup attitudes. *Child Development*, 86, 1290–1297. doi:10.1111/cdev.12388

McKown, C., & Strambler, M. J. (2009). Developmental antecedents and social and academic consequences of stereotype-consciousness in middle childhood. *Child Development*, 80, 1643–1659. doi:10.1111/j.1467-8624.2009.01359.x

McKown, C., & Weinstein, R. S. (2003). The development and consequences of stereotype consciousness in middle childhood. *Child Development*, 74, 498–515.

doi:10.1111/1467-8624.7402012

- McLoyd, V. C., Mistry, R. S., & Hardaway, C. R. (2014). Poverty and children's development: Familial processes as mediating influences. In E. T. Gershoff, R. S. Mistry, & D. A. Crosby (Eds.), *Societal contexts of child development: Pathways of influence and implications for practice and policy*. (pp. 109–124). New York, NY: Oxford University Press.
- McWhirter, E. H., & McWhirter, B. T. (2015). Critical Consciousness and vocational development among Latina/o high school youth: Initial development and testing of a measure. *Journal of Career Assessment*, 24, 1–16. doi:10.1177/1069072715599535
- Melis, A. P., Altrichter, K., & Tomasello, M. (2013). Allocation of resources to collaborators and free-riders in 3-year-olds. *Journal of Experimental Child Psychology*, 114, 364–370. doi:10.1016/j.jecp.2012.08.006
- 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. doi:10.1177/0956797615578476
- Mills, C. M., & Grant, M. G. (2009). Biased decision-making: Developing an understanding of how positive and negative relationships may skew judgments. *Developmental Science*, 12, 784–797. doi:10.1111/j.1467-7687.2009.00836.x
- Mistry, R. S., Benner, A. D., Tan, C. S., & Kim, S. Y. (2009). Family economic stress and academic well-being among Chinese-American youth: The influence of adolescents' perceptions of economic strain. *Journal of Family Psychology*, 23, 279–290. doi:10.1037/a0015403
- 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. doi:10.1111/cdev.12407
- Monteiro, M. B., de França, D. X., & Rodrigues, R. (2009). The development of intergroup bias in childhood: How social norms can shape children's racial behaviours. *International Journal of Psychology*, 44, 29–39. doi:10.1080/00207590802057910
- Moore, C. (2009). Fairness in children's resource allocation depends on the recipient. *Psychological Science*, 20, 944–948. doi:10.1111/j.1467-9280.2009.02378.x
- 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. doi:10.1016/j.jecp.2015.10.002
- Mulvey, K. L., Hitti, A., Rutland, A., Abrams, D., & Killen, M. (2014). When do children dislike ingroup members? Resource allocation from individual and group perspectives. *Journal of Social Issues*, 70, 29–46. doi:10.1111/josi.12045
- Mulvey, K. L., & Killen, M. (2015). Challenging gender stereotypes: Resistance and exclusion. *Child Development*, 86, 681–694. doi:10.1111/cdev.12317
- Nesdale, D. (2004). Social identity processes and children's ethnic prejudice. In M. Bennett & F. Sani (Eds.), *The development of the social self*. (pp. 219–245). New York, NY: Psychology Press. doi:10.4324/9780203391099_chapter_8
- Nesdale, D. (2013). Social acumen: Its role in constructing group identity and attitudes. In M. R. Banaji & S. A. Gelman (Eds.), *Navigating the social world: What infants, children, and other species can teach us* (pp. 323–326). New York, NY: Oxford University Press. doi:10.1093/9780199890712.003.0059

- Nesdale, D., Griffiths, J. A., Durkin, K., & Maass, A. (2007). Effects of group membership, intergroup competition and out-group ethnicity on children's ratings of in-group and out-group similarity and positivity. *British Journal of Developmental Psychology*, 25, 359–373. doi:10.1348/026151006X150382
- Nesdale, D., & Lawson, M. J. (2011). Social groups and children's intergroup attitudes: Can school norms moderate the effects of social group norms? *Child Development*, 82, 1594–1606. doi:10.1111/j.1467-8624.2011.01637.x
- Nesdale, D., Maass, A., Durkin, K., & Griffiths, J. (2005). Group norms, threat, and children's racial prejudice. *Child Development*, 76, 652–63. doi:10.1111/j.1467-8624.2005.00869.x
- Ng, R., Heyman, G. D., & Barner, D. (2011). Collaboration promotes proportional reasoning about resource distribution in young children. *Developmental Psychology*, 47, 1230–1238. doi:10.1037/a0024923
- Nucci, L. P. (1981). Conceptions of personal issues: A domain distinct from moral or societal concepts. *Child Development*, 52, 114–121.
- Olson, K. R., Dweck, C. S., Spelke, E. S., & Banaji, M. R. (2011). Children's responses to group-based inequalities: Perpetuation and rectification. *Social Cognition*, 29, 270–287. doi:10.1521/soco.2011.29.3.270
- Olson, K. R., & Spelke, E. S. (2008). Foundations of cooperation in young children. *Cognition*, 108, 222–231. doi:10.1016/j.cognition.2007.12.003
- Ongley, S. F., & Malti, T. (2014). The role of moral emotions in the development of children's sharing behavior. *Developmental Psychology*, 50, 1148–59. doi:10.1037/a0035191

- Ongley, S. F., Nola, M., & Malti, T. (2014). Children's giving: Moral reasoning and moral emotions in the development of donation behaviors. *Frontiers in Psychology*, 5, 1–8. doi:10.3389/fpsyg.2014.00458
- Paulus, M. (2014). The early origins of human charity: Developmental changes in preschoolers' sharing with poor and wealthy individuals. *Frontiers in Psychology*, 5, 1–9. doi:10.3389/fpsyg.2014.00344
- Paulus, M. (2016). Friendship trumps neediness: The impact of social relations and others' wealth on preschool children's sharing. *Journal of Experimental Child Psychology*, 146, 106–120. doi:10.1016/j.jecp.2016.02.001
- 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. doi:10.1016/j.jecp.2012.12.014
- Paulus, M., & Moore, C. (2014). The development of recipient-dependent sharing behavior and sharing expectations in preschool children. *Developmental Psychology*, 50, 914–21. doi:10.1037/a0034169
- Peterson-Badali, M., Morine, S. L., Ruck, M. D., & Slonim, N. (2004). Predictors of maternal and early adolescent attitudes toward children's nurturance and self-determination rights. *Journal of Early Adolescence*, 24, 159–179. doi:10.1177/0272431603262667
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751–783. doi:10.1037/0022-3514.90.5.751
- Piaget, J. (1932). *The moral judgment of the child*. New York, NY: Free Press.

- Piff, P. K. (2014). Wealth and the inflated self: class, entitlement, and narcissism. *Personality & Social Psychology Bulletin*, 40, 34–43.
doi:10.1177/0146167213501699
- 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. doi:10.1037/a0020092
- Posid, T., Fazio, A., & Cordes, S. (2015). Being sticker rich: Numerical context influences children's sharing behavior. *PLoS ONE*, 10, e0138928.
doi:10.1371/journal.pone.0138928
- Ramsey, P. G. (1991). Young children's awareness and understanding of social class differences. *The Journal of Genetic Psychology: Research and Theory on Human Development*, 152, 71–82.
- Reardon, S. F., & Bischoff, K. (2011). Income inequality and income segregation. *American Journal of Sociology*, 116, 1092–1153. doi:10.1086/657114
- Renno, M. P., & Shutts, K. (2015). Children's social category-based giving and its correlates: Expectations and preferences. *Developmental Psychology*, 51, 533–543.
doi:10.1037/a0038819
- Rhodes, M. (2012). Naïve theories of social groups. *Child Development*, 83, 1900–1916.
doi:10.1111/j.1467-8624.2012.01835.x
- Rhodes, M., Leslie, S.-J., Saunders, K., Dunham, Y., & Cimpian, A. (2017). How does social essentialism affect the development of inter-group relations? *Developmental Science*.
- Rivas-Drake, D., Hughes, D., & Way, N. (2009). A preliminary analysis of associations

- among ethnic racial socialization, ethnic discrimination, and ethnic identity among urban sixth graders. *Journal of Research on Adolescence*, 19, 558–584.
doi:10.1111/j.1532-7795.2009.00607.x
- Rizzo, M. T., Elenbaas, L., Cooley, S., & Killen, M. (2016). Children's recognition of fairness and others' welfare in a resource allocation task: Age related changes. *Developmental Psychology*, 8, 1307–1317. doi:10.1037/dev0000134
- Rizzo, M. T., & Killen, M. (2016). Children's understanding of equity in the context of inequality. *British Journal of Developmental Psychology*, 34, 569–581.
doi:10.1111/bjdp.12150
- Rochat, P., Dias, M. D. G., Liping, G., Broesch, T., Passos-Ferreira, C., Winning, A., & Berg, B. (2009). Fairness in distributive justice by 3- and 5-year-olds across seven cultures. *Journal of Cross-Cultural Psychology*, 40, 416–442.
doi:10.1177/0022022109332844
- Roussos, G., & Dunham, Y. (2016). The development of stereotype content: The use of warmth and competence in assessing social groups. *Journal of Experimental Child Psychology*, 141, 133–144. doi:10.1016/j.jecp.2015.08.009
- Ruck, M. D., Keating, D. P., Abramovitch, R., & Koegl, C. (1998). Adolescents' and children's knowledge about rights: Some evidence for how young people view rights in their own lives. *Journal of Adolescence*, 21, 275–289.
doi:10.1006/jado.1998.0153
- Ruck, M. D., Tenenbaum, H., & Willenberg, I. (2011). South African mixed-race children's and mothers' judgments and reasoning about children's nurturance and self-determination rights. *Social Development*, 20, 517–535. doi:10.1111/j.1467-

- Rutland, A., Cameron, L., Milne, A., & McGeorge, P. (2005). Social norms and self-presentation: Children's implicit and explicit intergroup attitudes. *Child Development, 76*, 451–466. doi:10.1111/j.1467-8624.2005.00856.x
- Rutland, A., Hitti, A., Mulvey, K. L., Abrams, D., & Killen, M. (2015). When does the in-group like the out-group? Bias among children as a function of group norms. *Psychological Science, 26*, 834–842. doi:10.1177/0956797615572758
- Rutland, A., & Killen, M. (2015). A developmental science approach to reducing prejudice and social exclusion: Intergroup processes, social-cognitive development, and moral reasoning. *Social Issues and Policy Review, 9*, 121–154. doi:10.1111/sipr.12012
- Rutland, A., Killen, M., & Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: The interplay between morality and group identity. *Perspectives on Psychological Science, 5*, 279–291. doi:10.1177/1745691610369468
- 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, D.C. Retrieved from <https://www.apa.org/pi/ses/resources/publications/task-force-2006.pdf>
- Schmidt, M. F. H., Svetlova, M., Johe, J., & Tomasello, M. (2016). Children's developing understanding of legitimate reasons for allocating resources unequally. *Cognitive Development, 37*, 42–52. doi:10.1016/j.cogdev.2015.11.001
- Shaw, A., & Olson, K. (2014). Fairness as partiality aversion: The development of

- procedural justice. *Journal of Experimental Child Psychology*, 119, 40–53.
doi:10.1016/j.jecp.2013.10.007
- Shaw, A., & Olson, K. R. (2012). Children discard a resource to avoid inequity. *Journal of Experimental Psychology*, 141, 382–395. doi:10.1037/a0025907
- Shaw, A., & Olson, K. R. (2013). All inequality is not equal: Children correct inequalities using resource value. *Frontiers in Psychology*, 4, 393.
doi:10.3389/fpsyg.2013.00393
- Shutts, K., Brey, E. L., Dornbusch, L. A., Slywotzky, N., & Olson, K. R. (2016). Children use wealth cues to evaluate others. *PLoS ONE*, 11, e0149360.
doi:10.1371/journal.pone.0149360
- Sierksma, J., Thijs, J., & Verkuyten, M. (2014). Children's intergroup helping: The role of empathy and peer group norms. *Journal of Experimental Child Psychology*, 126, 369–83. doi:10.1016/j.jecp.2014.06.002
- Sierksma, J., Thijs, J., & Verkuyten, M. (2015). In-group bias in children's intention to help can be overpowered by inducing empathy. *The British Journal of Developmental Psychology*, 33, 45–56. doi:10.1111/bjdp.12065
- Sierksma, J., Thijs, J., Verkuyten, M., & Komter, A. (2014). Children's reasoning about the refusal to help: the role of need, costs, and social perspective taking. *Child Development*, 85, 1134–49. doi:10.1111/cdev.12195
- Sigelman, C. K. (2012). Rich man, poor man: Developmental differences in attributions and perceptions. *Journal of Experimental Child Psychology*, 113, 415–429.
doi:10.1016/j.jecp.2012.06.011
- Sigelman, C. K., & Waitzman, K. A. (1991). The development of distributive justice

- orientations: Contextual influences on children's resource allocations. *Child Development*, 62, 1367–1378. doi:10.2307/1130812
- Singh-Manoux, A., Marmot, M. G., & Adler, N. E. (2005). Does subjective social status predict health and change in health status better than objective status? *Psychosomatic Medicine*, 67, 855–861. doi:10.1097/01.psy.0000188434.52941.a0
- Sloane, S., Baillargeon, R., & Premack, D. (2012). Do infants have a sense of fairness? *Psychological Science*, 23, 196–204. doi:10.1177/0956797611422072
- Smetana, J. G., Jambon, M., & Ball, C. (2014). The social domain approach to children's moral and social judgments. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 23–45). New York, NY: Psychology Press.
- Smith, C. E., Blake, P. R., & Harris, P. L. (2013). I should but I won't: Why young children endorse norms of fair sharing but do not follow them. *PloS One*, 8, e59510. doi:10.1371/journal.pone.0059510
- Sommerville, J. A., Schmidt, M. F. H., Yun, J., & Burns, M. (2013). The development of fairness expectations and prosocial behavior in the second year of life. *Infancy*, 18, 40–66. doi:10.1111/j.1532-7078.2012.00129.x
- Spielman, D. (2000). Young children, minimal groups, and dichotomous categorization. *Personality and Social Psychology Bulletin*, 26, 1433–1441. doi:10.1177/0146167200263010
- Stephens, N. M., Markus, H. R., & Townsend, S. S. M. (2007). Choice as an act of meaning: The case of social class. *Journal of Personality and Social Psychology*, 93, 814–30. doi:10.1037/0022-3514.93.5.814
- Streib, J. (2011). Class reproduction by four year olds. *Qualitative Sociology*, 34, 337–

352. doi:10.1007/s11133-011-9193-1

- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks-Cole.
- Takagishi, H., Kameshima, S., Schug, J., Koizumi, M., & Yamagishi, T. (2010). Theory of mind enhances preference for fairness. *Journal of Experimental Child Psychology*, 105, 130–137. doi:10.1016/j.jecp.2009.09.005
- Taylor, A. Z., & Graham, S. (2007). An examination of the relationship between achievement values and perceptions of barriers among low-SES African American and Latino students. *Journal of Educational Psychology*, 99, 52–64. doi:10.1037/0022-0663.99.1.52
- Theimer, C. E., Killen, M., & Stangor, C. (2001). Young children's evaluations of exclusion in gender-stereotypic peer contexts. *Developmental Psychology*, 37, 18–27. doi:10.1037/0012-1649.37.1.18
- Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge, England: Cambridge University Press.
- Turiel, E. (2006). The development of morality. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 863–932). Hoboken, NJ: John Wiley & Sons Inc.
- Turiel, E. (2014). Morality: Epistemology, development, and social opposition. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 3–22). New York, NY: Psychology Press.

- 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. doi:10.1016/j.jecp.2015.07.009
- Umaña-Taylor, A. J., Tynes, B. M., Toomey, R. B., Williams, D. R., & Mitchell, K. J. (2015). Latino adolescents' perceived discrimination in online and offline settings: An examination of cultural risk and protective factors. *Developmental Psychology*, 51, 87–100. doi:10.1037/a0038432
- US Census Bureau QuickFacts. (2015). Retrieved from <http://www.census.gov/quickfacts/table/PST045215/24031>
- Verkuyten, M. (2007). Ethnic in-group favoritism among minority and majority groups: Testing the self-esteem hypothesis among preadolescents. *Journal of Applied Social Psychology*, 37, 486–500. doi:10.1111/j.1559-1816.2007.00170.x
- Wainryb, C., & Recchia, H. (2014). Moral lives across cultures: Heterogeneity and conflict. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 259–278). New York: Taylor & Francis Publishers.
- Wainryb, C., Smetana, J. G., & Turiel, E. (2008). *Social development, social inequalities, and social justice*. New York, NY: Taylor & Francis Group/Lawrence Erlbaum Associates.
- Warneken, F., Lohse, K., Melis, A. P., & Tomasello, M. (2011). Young children share the spoils after collaboration. *Psychological Science*, 22, 267–273. doi:10.1177/0956797610395392
- Watts, R. J., & Flanagan, C. (2007). Pushing the envelope on youth civic engagement: A developmental and liberation psychology perspective. *Journal of Community*

- Psychology*, 35, 779–792. doi:10.1002/jcop.20178
- Weinger, S. (2000). Economic status: Middle class and poor children's views. *Children and Society*, 14, 135–146. doi:10.1111/j.1099-0860.2000.tb00161.x
- Weller, D., & Lagattuta, K. H. (2013). Helping the in-group feels better: Children's judgments and emotion attributions in response to prosocial dilemmas. *Child Development*, 84, 253–68. doi:10.1111/j.1467-8624.2012.01837.x
- Weller, D., & Lagattuta, K. H. (2014). Children's judgments about prosocial decisions and emotions: Gender of the helper and recipient matters. *Child Development*, 85, 2011–28. doi:10.1111/cdev.12238
- White, E. S. (2009). *Extensions of the family economic stress model : Material hardship and youth economic worry in low-income populations*. University of California Los Angeles.
- Williams, A., O'Driscoll, K., & Moore, C. (2014). The influence of empathic concern on prosocial behavior in children. *Frontiers in Psychology*, 5. doi:10.3389/fpsyg.2014.00425
- Woods, T. A., Kurtz-Costes, B., & Rowley, S. J. (2005). The development of stereotypes about the rich and poor: Age, race, and family income differences in beliefs. *Journal of Youth and Adolescence*, 34, 437–445. doi:10.1007/s10964-005-7261-0
- Wu, Z., & Su, Y. (2014). How do preschoolers' sharing behaviors relate to their theory of mind understanding? *Journal of Experimental Child Psychology*, 120, 73–86. doi:10.1016/j.jecp.2013.11.007
- Zinser, O., & Lydiatt, E. W. (1976). Mode of recipient definition, affluence of the recipient, and sharing behavior in preschool children. *The Journal of Genetic*

Psychology, 129, 261–266. doi:10.1080/00221325.1976.10534036

Zinser, O., Perry, J. S., & Edgar, R. M. (1975). Affluence of the recipient, value of donations, and sharing behavior in preschool children. *The Journal of Psychology*, 89, 301–305. doi:10.1080/00223980.1975.9915766

Zinser, O., Rich, M. C., & Bailey, R. C. (1981). Sharing behavior and racial preference in children. *Motivation and Emotion*, 5, 179–187. doi:10.1007/bf00993896