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Moving from the Margins to the Mainstream: Equity and Justice as Key Considerations for Developmental Science

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Abstract

Worldwide, most children face marginalization and societal inequities to varying degrees. For developmental science to have both scientific and societal value, scientists must account for the impact of societal inequities, regardless of the focus of their research. In this article, we illustrate how equity and justice are relevant for all children. We also argue that equity and justice are essential components for all developmental science and should be the basis for how we evaluate scientific rigor. Ignoring equity and justice issues perpetuates biases within the field and limits our understanding of developmental processes. We offer graduated recommendations for all developmental scientists to consider, starting with minimal standards for inclusion and descriptions of participants, and continuing with guidance for articulating what mechanisms lead to observed differences. We also urge researchers to examine why and how social inequities and contexts shape their focal domain of developmental science.

Keywords

discrimination; inequality; social justice

Equity and justice refer to the basic human right that all groups of people, whether defined socially, economically, demographically, or geographically, should have fair and unbiased access to opportunities, experiences, and resources (World Health Organization, 2018). Although societal inequities and injustices have always existed, recent sociopolitical and economic trends (e.g., right-wing populism and anti-immigration rhetoric, increasing economic inequality, the refugee crisis) have highlighted the relevance of those inequities for children.

For developmental science to have both societal and scientific value—to be relevant to the lives of all children and examine effectively the mechanistic processes that contribute to developmental outcomes—all developmental science in this field must be conducted and evaluated with attention to equity and justice. In doing so, scientists are also better

positioned to acknowledge and rectify how our science may inadvertently perpetuate sociocultural hegemonies and disparities. In this article, we review research illustrating how equity and justice affect children worldwide, and how obscuring or ignoring the contexts of equity and justice limits our understanding of human development and underlying developmental processes. We then offer recommendations for how developmental scientists, regardless of research topic, can enhance science by attending to equity and justice (in minor and profound ways). Indeed, attention to diversity, equity, and justice is necessary for advancing scientific investigations of developmental processes.

EQUITY AND JUSTICE (OR LACK THEREOF) INFORM ALL CHILDREN'S DEVELOPMENT

Worldwide, infants, children, and adolescents face varying degrees of inequities and injustice. For example, more than half of all children in the United States belong to an ethnic-minority group (Colby & Ortman, 2014) and more than a fourth of the school-age population in Europe have a migrant background (Ahad & Benton, 2018). Ethnic-minority, immigrant, and refugee children worldwide face persistent interpersonal, structural, and societal bias and discrimination (Brown, 2017). In the United States, one in six children is food insecure (Gundersen & Ziliak, 2018); nearly one in five children lives in a family with an income below the federal poverty threshold, and close to 6 million children live in families experiencing deep poverty, defined as incomes less than half the federal poverty level (Fontenot et al., 2018). Globally, 385 million children live in extreme poverty, defined as surviving on \$1.25 a day (World Bank Group & UNICEF, 2016).

Inequality based on gender/sex, sexual orientation, and gender identity also affects children and adolescents. More than 15 million girls worldwide are denied educational opportunities and are more likely than boys to be excluded from basic literacy education (UNESCO Institute for Statistics, 2016). In the United States, approximately 5% of adolescents identify as gay, lesbian, bisexual, or transgender (LGBT), and around 3 million children have LGBT parents and face microaggressions as a result (see Gates, 2015). Youth around the world (e.g., Brunei, Nigeria, Russia) face oppression and marginalization—even legal sanctions and the death penalty—for their sexual orientation (e.g., gay youth can be legally stoned to death in Brunei; Magra, 2019).

Beyond these social groups, inequities resulting from ability status affect one in six children in the United States who have been diagnosed with a developmental disability (Boyle et al., 2011). Approximately 5% of the world's children have a moderate or severe disability and, according to the World Health Organization, 200 million children fail to reach their socioemotional and cognitive potential each year (World Health Organization & World Bank, 2011).

Although these statistics can be overwhelming, they paint a clear picture that a *majority* of children globally are developing within contexts in which equity and justice are, in some way, denied. Inequity and injustice affect not only impoverished, marginalized, and disenfranchised children. Even children who are not personally denied equity and justice develop within proximal and distal contexts in which they witness or *vicariously* experience

the inequities of others (Trent, Dooley, & Douge, 2019). Furthermore, many children belong to privileged groups, and their privilege comes at the expense of the marginalized. All these contexts affect children's developmental outcomes and processes; thus, *all* children are affected by inequitable social contexts (e.g., Ruck, Mistry, & Flanagan, 2019).

This premise is not novel. Developmental science has long recognized that human development cannot be assessed or understood without considering sociopolitical, cultural, and economic contexts (Bronfenbrenner, 2005; García Coll et al., 1996). Because psychological science becomes mired in controversy when phenomena previously assumed to be universal do not replicate across samples, developmental science's attention to social contexts is very important. Indeed, current policies recognize that science is not democratic, neutral, or free of bias. At the national level, the National Institutes of Health requires clinical research to include women and minorities. At an organizational level, in 2014, *Child Development* (the flagship journal of the Society for Research in Child Development [SRCD]) began requiring all manuscripts to include a description of the developmental context of research samples. As an organization, SRCD (the largest professional organization of developmental scientists) recognizes the importance of equity and justice to science and scientists. For example, in 2011, SRCD established the Equity and Justice Committee, which joined the Ethnic and Racial Issues Committee as part of the governing structure. SRCD also has four caucuses that provide support, networking opportunities, and dissemination venues for research by and about members of groups underrepresented in the study of child development: the Asian Caucus, the Black Caucus, the Latino Caucus, and the Sexual Orientation and Gender Identity/Expression Caucus.

Yet despite these theoretical foundations and explicit policies, on the whole, developmental researchers give only passing attention to how societal inequities affect their research. Most research involves minimal reporting of participants' demographic information (e.g., gender/sex, ethnicity, socioeconomic status [SES]), as dictated by the journal. The deeper, more complex considerations of the impact of societal inequities remain reserved for equity and justice researchers. Scholars have spent the past three decades demonstrating the developmental impact of stereotypes, discrimination, and social inequities. Research and attention to equity and justice issues have increased. In 2016, the special section of *Child Development*, "Equity and Justice in Developmental Science: Discrimination, Social Exclusion, and Intergroup Attitudes" (Killen, Rutland, & Yip, 2016), and the edited volumes on *Equity and Justice in Developmental Science* (Horn, Ruck, & Liben, 2016) were published, to name just a few. Russell's 2014 Presidential Address for the Society of Research in Adolescence focused on the importance of research to attend to social justice and inequities in the lives of youth (Russell, 2016). These efforts have argued convincingly that developmental science research is advanced by a perspective on equity and justice.

Despite these efforts, equity and justice continue to be designated to special sections and edited volumes, suggesting that such orientations are not yet mainstream. Special sections, handbooks, and pre-conferences have helped scholars build the science around equity and justice. But it is time for all developmental scientists to address equity and justice in their work. A bias persists in developmental science in which researchers focus on psychological mechanisms and individual differences of White or affluent children, ignoring these

mechanisms in ethnic/racial-minority children or children from low-income families (Causadias, Vitriol, & Atkin, 2018). Conversely, research often focuses on the influence of culture or inequality on ethnic/racial-minority or low-income children while ignoring how cultural influences and economic privilege also shape White or affluent children (Causadias et al., 2018; Rogers, 2019). In a recent empirical study (Causadias et al., 2018), both White and ethnic-minority psychologists believed that personality influenced the behaviors of Whites more than ethnic minorities, whereas culture, ethnicity, and race influenced the behaviors of ethnic minorities more than Whites. This lack of recognition of cultural influences (and thus inequities) on White children's behavior is a form of White privilege (e.g., McIntosh, 1988) perpetuated by the science itself.

To understand developmental processes, social inequities must be considered. As developmental scientists, we must recognize that social inequities affect infants', children's, and adolescents' biology, schooling, parenting, media, neighborhoods, peers, and access to resources. No domain of developmental science is exempt. For example, the density of neural networks (Lipina & Posner, 2012), disease markers on epigenomes (Olden et al., 2011), and pubertal timing (Deardorff et al., 2011) are influenced by poverty, discrimination, and differential socialization experiences. Infants born to women with Arabic names had less optimal birth outcomes when born after September 11, 2001, than infants born before, presumably due to spikes in Islamophobia (Lauderdale, 2006). Beyond health and biology, social inequities also affect cognitive development. For example, language development and general intelligence in early childhood have been linked to maternal stress while pregnant (Laplante et al., 2004). Parental education and SES predict how much language input infants receive, which, in turn, predicts the left perisylvian cortical surface area, the brain structure tapped for reading skills (Merz, Maskus, Melvin, He, & Noble, 2019). Children's academic skills and competencies are influenced by societal inequities. Gender biases shape how much numerical language boys and girls hear from their mothers (Chang, Sandhofer, & Brown, 2011). Thus, regardless of developmental domain, inequities affect developmental outcomes and processes.

RECOMMENDATIONS FOR USING AN EQUITY AND JUSTICE LENS IN DEVELOPMENTAL RESEARCH

How can we facilitate a paradigm shift, so all developmental scientists integrate equity and justice into their work? We offer three broad recommendations, along with accompanying rationales. Our recommendations are graduated, beginning with minimum requirements for all developmental science research and ending with recommendations for scientists who want to engage more deeply with research focused on equity and justice.

First, all researchers should be intentional about *who* is included in their studies, ensuring that they are not perpetuating historical inequities by excluding critical segments of the population. Including only middle-class convenience samples ignores the one in five children who lives in poverty. If researchers look at only one segment of the population, their results will tell us little about, for example, how infants distinguish shapes, and a lot about how White, middle class, typically developing infants from two-parent families in

highly educated communities process shapes. When we evaluate research, we must be mindful of the limits to generalizability in samples where parents have the ability and flexibility to drive their children to a university-based research laboratory. At the same time, as researchers enter the community more frequently to include diverse children in their samples, we must also be mindful of how we can contribute to the community respectfully and ethically. Being careful about not exploiting the communities from which we draw samples, researchers should strive to work collaboratively with community partners; specifically, they should ask for input about community concerns, inquire about sensitive topics that should and should not be raised, ensure that measures are culturally appropriate, and offer to provide a summary of their findings to key stakeholders (see Rivas-Drake, Camacho, & Guillaume, 2016).

Beyond aiding generalization and acknowledging limits to generalizability, being intentional about who is included in research also helps identify gaps in the literature and highlight and disentangle previously unexamined confounds. Being intentional and balancing representation can occur as part of the primary hypothesis or can simply be used to control for important equity-based confounds. For example, in one study (Quigley, Moore, Propper, Goldman, & Cox, 2017), researchers were interested in whether the physical act of breastfeeding helped improve mothers' and infants' physiological regulation beyond fostering a strong emotional bond. Previous research confounded breastfeeding with maternal sensitivity; both are linked similarly to race and SES (lower-SES mothers and Black mothers were less likely to breastfeed and showed lower maternal sensitivity than higher-SES or White mothers). Furthermore, vagal regulation and maternal sensitivity are vulnerable to environmental stressors (which are higher among low-SES mothers). Thus, to investigate breastfeeding and physiological regulation, researchers needed to control for maternal sensitivity, which shows sociodemographic differences. The researchers recruited a balanced sample of Black and White mothers from low-income and middle/high-income families, even though race and SES were not the foci of the researchers' hypotheses. The focus of the study was not differences across children; rather, the goals were to eliminate confounds in studies on breastfeeding and maternal sensitivity. Along with a detailed cross-tabulation of race, income level, and breastfeeding status, their research revealed that infants' and mothers' physiological regulation was shaped by breastfeeding, independent of other societal factors, accounting for maternal sensitivity. Thus, attending to who was included in this research allowed the researchers to highlight universal physiological effects of breastfeeding.

In another example, researchers intentionally recruited a balanced sample of youth, but focused more directly on an equity-based confound. In this study (Witherspoon & Ennett, 2011), the researchers were interested in stability and change in youth's educational outcomes through middle and high school. Their focus on rural youth addressed a gap in the literature on children's schooling, which has tended to focus on urban children. They included equal proportions of Black and White youth since most work on rural youth is racially homogenous and often conflates being rural with being White. By including race as part of their research design, they found that rural Black youth placed higher importance on education but participated less frequently in school activities than rural White youth. In addition to showing the limits to generalizability (i.e., findings about rural students cannot

be generalized across racial groups), reporting on these differences in often-overlooked groups (e.g., Black adolescents in rural schools) can raise new research questions. For example, researchers might examine developmental processes related to *why* rural Black students value education but participate less frequently in school activities (e.g., because rural Black students might face more discrimination in extracurricular activities than their urban and suburban peers).

In addition to including diverse groups of children in their samples, developmental scientists should be clear, complete, and explicit in describing the samples. In past work, the onus has been on researchers focused on marginalized groups to explain the sociodemographic characteristics of their samples; moving forward, this should be a requirement for all research. For example, if researchers report only gender/sex without reporting sexual orientation, they overlook the 5% of adolescents who identify as LGBT and face regular peer discrimination that affects their academic, social, psychological, and physical health outcomes (Brown, 2017; Snapp, Russell, Arredondo, & Skiba, 2016). If researchers who study infant cognition report only the ethnicity of their samples and not the SES background of the families, they ignore how economic and educational resources privilege cognitive development. For more complete guidelines, we recommend Hyde and colleagues (2019) for conceptualizing and reporting gender/sex, Tseng and colleagues (2016) for conceptualizing and reporting variation within ethnic and national groups (e.g., Chinese American, Vietnamese American) within larger racial/panethnic categories (e.g., Asian American), and Diemer, Mistry, and colleagues (2013) for conceptualizing and reporting social class.

Second, we recommend that developmental scientists articulate more precisely *what* mechanisms lead to observed differences. Although racial, ethnic, and national categories are important and should be included in research, they are proxies for markers of culture, pre- and post-immigration histories, and social and economic stratification, and they should be acknowledged as such (Hall, Yip, & Zárate, 2016). Similarly, generational status and language are often proxies for acculturation, which is a much more nuanced cultural experience (Quintana et al., 2006). Subjective social status (i.e., beliefs about one's social class in relation to others) is an important variable, beyond objective measures of SES, in predicting developmental outcomes (e.g., Destin, Richman, Varner, & Mandara, 2012). Furthermore, gender/sex differences are proxies for hormonal differences, differences in developmental timing, and differences in socialization. In other words, demographic variables are not simply social address variables; instead, researchers should examine what mediating variables and contextual influences lead children to differ across demographic groups.

In one example of focusing on mechanisms rather than group differences (Pruden & Levine, 2017), researchers were interested in the development of children's spatial language. Spatial language is important because children who talk more about the spatial world have more effective spatial skills later that are linked to achievement in science, technology, engineering and math disciplines. A consistent gender/sex difference in spatial language is frequently attributed to innate, evolutionary-based sex differences. Instead of focusing solely on group differences (and taking a comparative, deficit perspective), the researchers examined *why* differences might exist. They found that parents used more "what" spatial

language (i.e., words describing the size, shape, and spatial properties of spaces and objects) with boys than with girls, and that this difference appeared *prior* to the development of significant differences in children's use of spatial language. In other words, the gender/sex difference in spatial language that appears around age 3 years was fully mediated by parents' earlier use of spatial language. As this example shows, researchers who focus on spatial language more broadly should acknowledge the critical role of children's (gendered) cultural contexts in explaining spatial development. Even if these mediating variables are not measured in the study, they should be discussed and acknowledged meaningfully within the paper.

Third, researchers who want to engage in science that is focused on equity and justice should examine more directly *why* and *how* social inequities and contexts shape their focal domain of developmental science. This may require exploring different methodological approaches beyond the traditional positivistic approaches. For example, because they are more open-ended and less driven by experimenters, qualitative, mixed methods, and youth-led participatory action research (e.g., Cammarota & Fine, 2010) are uniquely equipped to reveal previously under-examined developmental processes.

One example of examining equity and justice issues more deeply involves binge drinking in adolescence, described as "one of the most serious public health problems facing adolescents and young adults in the United States" (Tucker, Orlando, & Ellickson, 2003, pg. 79). Researchers have consistently found that sexual-minority youth, especially lesbian and bisexual girls, binge drink more than heterosexual youth (Marshall et al., 2008). Beyond simply documenting the disparity, some researchers have examined why and how this inequity existed. They found that the relationship between sexual-minority status and binge drinking was mediated by peer victimization at school, so lesbian and bisexual girls' higher rates of binge drinking were a function of higher rates of victimization relative to heterosexual peers (e.g., Fish, Schulenberg, & Russell, 2019). Researchers also explored the mechanisms behind that mediation, finding that peer victimization based on LGBT status led to greater binge drinking because victimized LGBT teenagers were more likely to associate with deviant peers (who also binge drank) than nonvictimized teenagers (Huebner, Thoma, & Neilands, 2015).

This topic of research reflects all three of our equity and justice recommendations. First, researchers found a disparity in binge drinking by measuring and reporting relevant sociodemographic characteristics, including sexual orientation. This highlighted an important inequitable health risk for millions of LGBT youth. Second, researchers moved beyond documenting the disparity to examine mechanisms explaining the difference (i.e., peer victimization). Third, researchers examined more explicitly *why* and *how* inequity affected outcomes (i.e., being victimized at school led to affiliation with deviant peers). As a result of this research's use of an equity and justice lens to examine binge drinking, effective strategies can now be designed to interrupt developmental pathways between a serious public health risk and outcomes affecting millions of youth.

CONCLUSION

Ignoring equity and justice ignores critical mechanisms and mediational pathways that contribute to developmental outcomes and observed disparities. In this article, we are not trying to encourage developmental scientists to focus exclusively on topics related to equity and justice. Rather, our goal is to encourage a paradigm shift in developmental science to help our science be more contemporary, relevant, and informed. In the current era, this means researchers must recognize that all children face some form of inequity or injustice, or benefit from others' inequities in ways that affect their developmental outcomes. These inequities must be accounted for in the conceptualization, execution, and dissemination of science. This should be the metric by which we conduct our science and review the science of others.

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