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Interpersonal Curiosity: A Missing Construct in the Field of Human Development

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Abstract
Children demonstrate a remarkable capacity for both intellectual and interpersonal curiosity, reflecting their desires to know about the physical, material, and natural world and about the thoughts, feelings, and experiences of other people. Yet the study of curiosity and its educational applications have focused almost exclusively on the former, even though interpersonal curiosity may be critical for social-emotional learning, human connection, and the capacity to understand and take the perspective of others. In this article, we review the research on intellectual and interpersonal curiosity, focusing on the latter and including our own research that indicates that it is associated with social-emotional wellbeing, academic engagement, and a sense of common humanity. We also review research on how ecological contexts (e.g., of families and schools) shape curiosity, how contextual variation may lead to individual variation (i.e., by gender and age), and offer directions for future research.

> "…the child's point of view was well expressed by the little fellow who, when told he mustn't ask so many questions, sighed, 'But there's so many things I want to know.'"
> G. Stanley Hall, Aspects of Child Life and Education (1921, p. 126)

Curiosity has long fascinated both natural and social scientists – drawing attention from the likes of Charles Darwin, Albert Einstein, William James, and G. Stanley Hall – as a central component of what it means to be human. Indeed, from our very beginnings in life, we are curious to learn about the physical, material, and human world (e.g., Engel, 2015; Grossnickle, 2016; Lieberman, 2013; Markey & Loewenstein, 2014). We ask questions of others to gain objective information and abstract knowledge about the physical and material world around us *and* to gain personal information and subjective knowledge about the thoughts, feelings, and experiences of the people around us. Yet, most of the theoretical and empirical work on curiosity focuses on the former and overlooks the latter (Way, 2024). The near omission of research studies focused on our interpersonal or social curiosity suggests that human curiosity is merely or primarily intellectual, rather than also, and likely equally, interpersonal (for exceptions, see Chouinard, 2007; Engel, 2015; Hartung & Renner, 2013; Kashdan et al., 2020; Letendre Jauniaux & Lawford, 2024; Litman & Pezzo, 2007). Moreover, when interpersonal curiosity is included in studies of curiosity, it is often conflated with gossip, spying, or unwelcome personal

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intrusions – thus portrayed as a social liability or mere frivolity at its best and a "selfish" endeavor at its worst (e.g., Kashdan et al., 2013; Litman & Pezzo, 2007; Post & Walma Van Der Molen, 2018).

The relative paucity and misrepresentation of interpersonal curiosity in the literature stands in stark contrast to the extent to which children display an intense curiosity about the thoughts, feelings, and experiences of other people starting early in life. Social neuroscientist Matthew Lieberman cites our deep curiosity about "what is going on in the minds of other people" as a key indicator of humans' social nature, arguing that our brains *default* to such social thinking (2013; p. ix), and studies of children and adults suggest that social content, or interest in people's thoughts, feelings, and experiences, comprises approximately 70–80% of our conversations (Lieberman, 2013; O'Neill et al., 2009). Furthermore, emerging research indicates that interpersonal curiosity relates not only to intellectual curiosity (Kashdan et al., 2020) but to feelings of connectedness, social-emotional wellbeing, perspective-taking, and a heightened sense of common humanity (e.g., Han et al., 2023; Way, 2024; Hartung & Renner, 2013; Renner, 2006). Following our curiosity, in fact, appears to be the very process by which we learn about the human world, thus facilitating social and emotional engagement, connection, and wellbeing, as well as perspective-taking and other core aspects of social, emotional, and cognitive development (Han et al., 2023; Way, 2024; Chouinard, 2007; Engel, 2015; Wellman, 2020).

The absence of an explicit focus on interpersonal curiosity is also evident in the growing field of social-emotional learning and its application in schools (Cipriano et al., 2023). The Collaborative for Academic, Social, and Emotional Learning (CASEL) defines SEL programming through its ability to foster five social and emotional capacities among students: self-awareness, self-management, social awareness, *relationship skills*, and responsible decision-making (CASEL, 2020; for reviews, see Cipriano et al., 2023; Durlak et al., 2011). While relationship skills are indeed included, they are rarely defined in terms of having curiosity about the thoughts, feelings, and experiences of others – a striking fact given that learning such information enables us to move beyond merely imagining others' perspectives to genuinely *understanding* others from their own perspectives (Eyal et al., 2018) and challenging our own stereotypes of others (Way, 2024; Way and Nelson, 2018; Ronfard et al., 2018b; Han et al., manuscript submitted for publication). When we ask questions about the thoughts, feelings, and experiences of others, we may begin to see them as they see themselves rather than how we often stereotype them to be (Way, 2024). Just as intellectual curiosity drives learning in the classroom and cognitive development more broadly (Chouinard, 2007; Engel, 2015), the process of asking questions about the thoughts, feelings, and experiences of others and listening to their answers, as well as having others ask questions of us and listen to our answers, likely also drives learning in the classroom (e.g., social-emotional learning), cognitive development, and social and emotional development (Way & Nelson, 2018; Han et al., manuscript submitted for publication).

In this article, we review research on intellectual and interpersonal curiosity, with a focus on the latter. We include our own research on the effectiveness of an interpersonal curiosity intervention conducted among middle school students, the Listening Project, and examine associations between patterns of interpersonal curiosity pre- and post-intervention and students' social and emotional wellbeing, academic engagement, and sense of a common humanity. We also review the research on how the ecological contexts of families and schools, along with the broader sociocultural context, shape the content and form of curiosity and how such contextual variation may lead to individual variation (i.e., by gender and age) in the expression of curiosity. Finally, we offer directions for future research.

Curiosity: Theory and Research

The theoretical and empirical literature on curiosity has mostly focused on a desire for the types of abstracted "knowledge" most readily applicable to education (e.g., Grossnickle Peterson, 2020) or "intellectual information" (e.g., Post & Walma van der Molen, 2018), rather than for the subjective knowledge and personal information gleaned from asking questions about the thoughts, feelings, and experiences of other people. While some studies examine both intellectual and interpersonal curiosity, the research on curiosity more broadly almost always defines it as an "interest in knowledge and information about the world" suggesting that our interest in the thoughts, feelings, and experiences of other people is not a core part of our natural curiosity. Despite such a bias, however, the research on curiosity offers insight into the likely mechanism and development of both intellectual and interpersonal curiosity.

Reflecting a desire for knowledge, curiosity drives us to explore, discover, and make sense of new information, even when doing so offers no clear reward or advantage (Grossnickle, 2016; Kidd & Hayden, 2015; Markey &

Loewenstein, 2014). Prior theory and research have defined curiosity in terms of both a person's momentary drive for information (i.e., state curiosity) and their general tendency to experience these feelings of curiosity (i.e., trait curiosity), though these conceptualizations and the associated measures are not always distinct and few researchers have examined the relationship between the two (Loewenstein, 1994; Markey & Loewenstein, 2014; Silvia, 2008). Recognizing state curiosity as a strong motivating force, scholars have ventured to describe its function theoretically, with one prominent theory suggesting that uncomfortable *information gaps* are the impetus for curiosity among children and adults (Loewenstein, 1994). From this perspective, people become curious when they are made aware of information they may be missing, and studies among school-aged children find this to be especially true when identified information gaps are small, salient in the moment, and important to children's own lives (Markey & Loewenstein, 2014). More recent iterations of this theory of curiosity, though not applied in a developmental context, have considered how a person's feelings about a given information gap may influence their behavioral response (Golman & Loewenstein, 2018), and suggest that this kind of knowledge gap explains only some experiences of curiosity (Litman, 2005).

Other theories posit that experiences of curiosity are themselves rewarding, focusing on the pleasure that state curiosity elicits across the lifespan, as opposed to the aversive sensation that information gaps may create (e.g., Silvia, 2017). These conceptions are backed by evidence indicating that the information-seeking process is enjoyable in its own right, comprising more than a means to an end for young children and adults alike (Chu & Schultz, 2020; Hsiung et al., 2023). Prior research suggests that adults in a state of curiosity prefer to wait longer for an answer (Metcalfe et al., 2021), and their curiosity may evolve, rather than dissipate, across the discovery process (Hsiung et al., 2023). To reconcile this perspective on curiosity with that of the information-gap theory, some theoretically driven researchers have proposed that individuals – implicitly defined as adults – experience two distinct types of curiosity, motivated by interest and knowledge deprivation, respectively (i.e., I/D model; Litman, 2005; Litman & Jimerson, 2004). Alternatively, since the nature of curiosity has been found to vary within a single episode, curiosity may also reflect a more dynamic state that can feel simultaneously pleasurable and aversive (Hsiung et al., 2023). Although the precise affective mechanisms underlying curiosity continue to be debated (i.e., trait vs. state), each perspective aligns on a key point: that curiosity is central to human development across the lifespan.

Curiosity's role in facilitating learning and development from birth and across the lifespan is backed by decades of research. Some infants begin asking questions before they even *speak*, with evidence of one-year-old babies using gestures and vocalizations to elicit information from adults (Bazhydai et al., 2020; Chouinard, 2007), and young children eagerly explore their environments through play (Chu & Schultz, 2020). These behaviors soon make way for incessant question-asking, through which children learn to describe, seek to explain, and come to understand the world around them (Engel, 2015; Liquin & Lombozo, 2020; Ronfard et al., 2018b). Far from trivial, children's questions have been found to promote early cognitive development and learning in context (Chouinard, 2007; Wellman, 2020). Children play an active role in this process of curiosity development, continuing to ask their questions when they are met with inadequate answers (Mills et al., 2019), and at times following the same lines of inquiry over weeks or months (Engel, 2020). Moreover, some evidence indicates that these patterns of curiosity may generalize cross-culturally. Namely, research studies conducted among the Garifuna in Belize, Logoli in Kenya, Newars in Nepal, and Samoans in American Samoa suggest that young children from a variety of cultural contexts ask questions at similar rates (Gauvain et al., 2013; Gauvain & Munroe, 2020). By the elementary school years, however, children's once–unbridled sense of curiosity may begin to temper, with some evidence suggesting that children ask fewer questions as they grow up (Engel, 2015; Engelhard & Monsaas; 1988).

The Study of Interpersonal Curiosity

While the study of curiosity has almost always focused on its intellectual form, there is a small but growing body of research on interpersonal curiosity. Like intellectual curiosity, interpersonal curiosity appears to be innate, with findings from social neuroscience (e.g., Lieberman, 2013) suggesting that our brains default to thinking about others' thoughts and feelings. This aptitude to wonder about others becomes evident as early as toddlerhood, when children frequently tell stories about, express their fascination with, and seek to understand other people (e.g., Dunn, 1988; Engel, 2015). Longitudinal evidence drawn from a study of parent-child conversations included in the CHILDES database (MacWhinney & Snow, 1985), which were recorded at regular intervals during early childhood, suggests an increase in interpersonal curiosity over the first few years of life (Chouinard, 2007). That is, while questions about others' thoughts, feelings,

and personalities (termed "Theory of Mind" questions) were not observed prior to the children's 2nd birthday, they constituted approximately 10% of their questions by their 3rd and almost 15% by their 4th (Chouinard, 2007). Even in some non-Western cultural contexts such as that of the Garifuna in Belize, Logoli in Kenya, Newars in Nepal, and American Samoans, wherein interpersonal questions may be deemed inappropriate or overly intrusive, researchers find that young children ask these questions at similar rates (17.5% of total questions; Gauvain and Munroe, 2020). Additionally, in a study exploring how preschoolers initiated conversations with their classmates when no adults were around, researchers found that more than 77.5% of the preschoolers' conversation starters were "person-related" (i.e., about themselves or others), of which 27.4% referenced mental states, such as beliefs and desires (O'Neill et al., 2009). In other words, young children may not only have and express interest in their own and others' thoughts and feelings but actively leverage this interest as a means of connecting with those around them.

Children's curiosity about other people has also been observed during the elementary school years (Engel, 2015). By examining video recordings from five kindergarten and five 5th-grade classrooms, researchers found that children frequently asked questions about their peers – such as who was planning to audition for the school band, who received an invitation to a school dance, and who had been ill the previous night – and, in some classrooms, these interpersonal questions were asked more often than any other type of question. During any given 2-hour period, the kindergarten students asked more than six interpersonal questions on average, while 5th graders asked just under two such questions during the same period, indicating a possible age-related decline in interpersonal curiosity over these years (Engel, 2015). Findings from other research among elementary school students, moreover, suggest that the children themselves may understand curiosity as a primarily social endeavor. Through their interviews with 92 children in Dutch primary schools, researchers (i.e., Post & Walma Van Der Molen, 2018) found that the children overwhelmingly described their experiences of curiosity in terms of interpersonal curiosity, even though the interviews themselves had been structured to elicit narratives about *intellectual* curiosity. When asked about curiosity's value, 64% of these children shared that curiosity was important in that it helps them learn about others, while an additional 17% characterized curiosity as unimportant because it may intrude on others' privacy (Post & Walma Van Der Molen, 2018). That is, the vast majority of children in the study understood curiosity's central purpose as interpersonal, with most believing it offered an important means of learning about the social world.

In our own research on interpersonal curiosity among middle schoolers, we find four distinct manifestations of interpersonal curiosity (Han et al., 2023). As a part of a broader pre-post intervention study, we asked 389 7th-grade students to share the two questions they would be most curious to ask their closest friend, teacher, mother/female caretaker, and father/male caretaker, such that each student provided up to eight questions depending on their family structure. Of the resulting 2,863 responses, a majority (1,614 responses; 56.4% of total) expressed interpersonal curiosity, and four dimensions emerged based on the target of that curiosity: (1) *curiosity about me*, (2) *curiosity about you*, (3) *curiosity about our relationship*, and (4) *curiosity about your relationships*. *Curiosity about me* (15% of total responses) included questions wherein the target of curiosity was the self (e.g., "What do you honestly think of me?"; "Do you think I'm smart?"; "Am I a good student?"), capturing children's curiosity about how they were judged or perceived by the other. *Curiosity about you* (33% of total responses), the most frequent category, reflected children's curiosity about the other person's own thoughts, feelings, and experiences (e.g., "What is something that has impacted you?"; "Are you okay?"; "What is your biggest fear?"). *Curiosity about our relationship* (3% of total responses) included questions whose target was the shared relationship between the child and the person with whom the question was intended (e.g., "How do you consider our bond?"; "Will you miss us when you leave?"; "What made us be this close?"). *Curiosity about your relationships* (6% of total responses) tapped into children's curiosity about the relationships the other person shared with a third party (i.e., "Why do you love mom?"; "Is your relationship good with your parents?"; "Why are you still friends with Tilda?"). Finally, responses which did *not* demonstrate interpersonal curiosity included *information-seeking* questions (16% of total responses; e.g., "When is dinner?"; "What is the point of this work?"; "How much money do we have?"), indications that participants did not know or did not have any questions (19% of total responses), and responses which could not be interpreted or classified (8% of total responses). Findings from this research among middle school students suggest that interpersonal curiosity is not only distinct from intellectual curiosity but also that it has multiple dimensions, with some questions merely offering a means of gaining information *from* others, rather than reflecting curiosity to discover information *about* others.

The Correlates of Intellectual and Interpersonal Curiosity

Research supports curiosity's powerful utility for learning and development and for building connection and understanding the perspective of others. Researchers have consistently found curiosity, defined implicitly or explicitly as intellectual curiosity, to be strongly associated with academic achievement (e.g., Engel, 2015), and have even referred to it as the "third pillar" of academic performance, alongside general intelligence and conscientiousness (von Stumm et al., 2011). This capacity to feel curious appears to not only motivate children to learn (Silvia, 2017) but also influence how well they do so, such as by structuring cognitive developmental processes (Chouinard, 2007), and enhancing memory function (Fandakova & Gruber, 2021). Intellectual curiosity then continues to facilitate learning outside the classroom and across the lifespan, making it possible for individuals and communities to expand on prior knowledge, find novel solutions to problems, and adapt to a rapidly changing environment (Gottlieb et al., 2013; Kidd & Hayden, 2015). Intellectual curiosity, that is, seems to help children grow and thrive cognitively; interpersonal curiosity may help children do so socially and emotionally.

Our own research on interpersonal curiosity among middle school students offers some insight into when and how children's interpersonal curiosity may be associated with social and emotional wellbeing (Han et al., 2023; Han et al., 2024). The four dimensions of interpersonal curiosity described previously in this article were found to differentially relate to social-emotional skills and indicators of wellbeing, with *curiosity about me* and *curiosity about you* each predicting empathy, *curiosity about your relationships* predicting friendship quality, and all three of these dimensions predicting active listening skills. Further analyses suggested that these associations differed by the adolescents' gender identities. In particular, *curiosity about you* predicted listening for girls only and was negatively associated with boys' friendship quality relative to that of girls. Taken together, these patterns suggest that interpersonal curiosity may play out differently in boys' and girls' social relationships, likely reflecting deeply gendered expectations for how young people ought to behave in connection with others (e.g., Gupta et al., 2013). In addition, *curiosity about our relationship* was found to be more strongly related to depressive symptoms for girls compared to boys, which could be explained by the possibly heightened feelings of insecurity among girls about the state of their shared relationships. Lastly, the proportion of boys (25%) who reported having "no question" was nearly twice that of girls (13%) and was significantly greater across all four persons (i.e., close friend, mother figure, father figure, and teacher), suggesting that interpersonal curiosity in all its manifestations may be considered more feminine.

Findings from our studies of middle school students are consistent with a growing body of research on adults which reveals interpersonal curiosity's associations with markers of social-emotional wellbeing. Survey-based research with adults suggests that those who are more interpersonally curious tend to experience greater social connectedness (Hartung & Renner, 2011; Renner, 2006) and lower levels of loneliness (Kashdan et al., 2020), while those who are more curious generally (i.e., not specific to the interpersonal form) have been found to report having higher-quality friendships (Pezirkianidis et al., 2022). Another study (i.e., Kashdan et al., 2011), in which adults were instructed to engage in either small-talk or intimate conversation with a stranger, found that those who scored highly on a measure of trait curiosity reported feeling closeness with their partners following both small-talk and intimate conversations, while those who scored lower on trait curiosity only experienced these feelings of closeness when the conversations were intimate in nature. By suggesting that individuals with high trait curiosity may be particularly adept at fostering intimacy with others through conversation, even when those conversations are mundane, these findings offer preliminary evidence of curiosity's possible benefits for building and maintaining mutually supportive relationships.

Observed associations between interpersonal curiosity, along with curiosity more broadly, and relational functioning may be explained through several possible mechanisms. First, on a practical level, by expressing their curiosity, a person may improve communication and foster transparency within a relationship. In this way, curiosity allows one relational partner to discover what otherwise might remain "unspoken" by the other, thus facilitating more productive conversation and conflict resolution between them (Wetzler, 2024). Second, interpersonal curiosity may make a person more attuned to social cues, thereby helping them respond sensitively to relational partners and navigate social situations (Hartung & Renner, 2011; Renner, 2006). Third, by expressing interpersonal curiosity, individuals demonstrate that they not only were listening carefully but want to know more, thus communicating care for those around them and likely fulfilling their relational partners' needs to feel valued and secure in the relationship (Huang et al., 2017; Reis & Shaver, 1988). Finally, and relatedly, listening with curiosity may be an effective means of fostering a relational climate wherein others feel seen and understood,

thus enhancing human relationships of all stripes (Han et al., manuscript submitted for publication; Main et al., 2017; Wetzler, 2024), and even transforming intergroup relations (Schroeder & Fishbach, 2024).

The hypothesis that interpersonal curiosity plays a critical role in building connection, particularly across divides, is grounded in not only our research regarding perceived common humanity but also conceptually as it offers a means of challenging the stereotypes that often get in the way of connection by asking questions of others rather than simply judging them based on our own assumptions about them. Once a person begins to ask questions about how others think, feel, and experience the world, she/he/they begin to see others as they see themselves rather than as they are often stereotyped to be (Way, 2024; Way & Nelson, 2018; Shigeoka, 2023). The potential for our interpersonal curiosity to drive connection across differences and disrupt stereotypes may apply on the larger, group-level scale as well. Emerging research on fostering mutual understanding suggests that we need to move beyond self-focused strategies (e.g., perspective-taking) to situate connective processes within a relational context (e.g., "perspective-getting"; Eyal et al., 2018; Kalla & Broockman, 2023); promoting interpersonal curiosity provides a mechanism of doing so. Curiosity-driven exploration gives rise to very circumstances under which a person may learn about the thoughts, feelings, and experiences of a person directly from that person – the most effective means of coming to understand another's perspective accurately (Eyal et al., 2018). In the face of political and moral disagreements (e.g., about gun policies), listening to others' personal experiences in this way builds mutual respect and trust across divides (Kubin et al., 2021), and may even ameliorate prejudice against marginalized communities (Kalla & Broockman, 2023; Santoro & Markus, 2023). Interpersonal curiosity may be a powerful unifying force on both the interpersonal and societal levels, inviting us to listen to those we perceive as different and to challenge the stereotypes "in the air" (Steele, 2010), thus catalyzing the critical process of *un*learning the cultural ideologies which harm us (Han et al., manuscript submitted for publication; Rogers and Way, 2021).

The Ecological Context of Intellectual and Interpersonal Curiosity

Research suggests that intellectual and interpersonal curiosity development unfolds in the ecological contexts that children inhabit (Bronfenbrenner, 1979; Grossnickle Peterson, 2020). For instance, the target and intensity of children's curiosity appear to be shaped by the people around them. Through their landmark research on infant attachment, John Bowlby and Mary Ainsworth (1991) offer early evidence of others' influence on children's intellectual curiosity, finding that infants' tendencies to explore their environments varied according to the nature of their caregiving relationships, such that more securely attached infants more readily left the "secure base" of their caregiver to explore their environments. In another, longitudinal study, researchers demonstrated that the association between attachment and exploration lasts long after infancy, with children who were securely attached at age two still more likely to curiously explore their environments at age four compared to their insecurely attached counterparts (Arend et al., 1979). Beyond attachment, caregivers appear to shape children's intellectual curiosity through their practices. In one particularly large study with a sample of more than 4,500 kindergartners, researchers found that children of parents who engaged in "positive parenting," characterized by sensitivity, attunement and scaffolding behaviors, were more curious about their environment – an effect that was especially pronounced among children from families with lower SES (Shah et al., 2023). Parents and caregivers may also promote their children's intellectual curiosity at home through discussion, joint reading, asking questions of their children, or providing educational materials related to topics about which their children are curious (Gaylen, 1998; Leibham et al., 2005; Takeuchi et al., 2019). Other evidence suggests that caregivers might *model* curious behavior for their children. For instance, preschoolers whose mothers ask more questions have been found to themselves ask more questions of their mothers, even when they tend to be met with low-quality answers (Tizard & Hughes, 1984). Modeling has been shown to similarly influence children's intellectual curiosity in experimental contexts, such as in a study wherein 8–9-year-old children left alone in a room with the materials for a science activity were found to be more likely to curiously engage with the materials when a researcher had previously modeled curious behavior (Engel, 2011).

Scholars have also suggested that teachers may promote their students' intellectual curiosity by leveraging the principles of *importance* (e.g., by tailoring curricula to maximize its relevance to students' own lives), *salience* (e.g., by highlighting students' knowledge gaps), and *surprise* (e.g., by encouraging students to make predictions before learning the material; Markey & Loewenstein, 2014). In a study of 19 elementary schools across nine countries (Scott-Barrett et al., 2023), which included both teacher interviews and analyses of video-recorded

classroom lessons, researchers identified several practices by which teachers fostered students' intellectual curiosity. These practices included modeling question-asking, encouraging students to wonder and ask questions about the world, and guiding students to reflect on their own learning and questions. In addition, researchers (Evans et al., 2023; Jirout et al., 2022) have begun to distinguish possible educational strategies for promoting *feelings* of curiosity (e.g., modeling discomfort with uncertainty; encouraging other ideas) from those designed to promote curious *behavior* (e.g., scaffolding students' questions; offering opportunities for exploration), thereby offering two distinct pathways by which teachers may foster curiosity in their classrooms.

Moving beyond the role of teachers, the broader classroom climate may also shape children's intellectual and interpersonal curiosity. Researchers have suggested that students are more likely to feel and/or express curiosity in classrooms that are "supportive" and wherein students feel safe sharing with those around them (Grossnickle Peterson, 2020; Markey & Loewenstein, 2014). The role of peers may be particularly important in creating a curiosity-promoting climate in the classroom, with findings from qualitative interviews with elementary school students suggesting that, at times, students opted not to express either intellectual or interpersonal curiosity due to their concerns about receiving negative responses from peers (Post & Walma van der Molen, 2018).

Given its likely role in shaping children's intellectual and interpersonal curiosity, the classroom context may provide a particularly apt setting for a curiosity-promoting intervention. Over the past 5 years, we have created, implemented, and evaluated such an intervention, called the Listening Project (Han et al., 2023; Way, 2024; Way & Nelson, 2018) The Listening Project employs a method of *transformative interviewing* to nurture interpersonal curiosity and encourage students and teachers to question their own assumptions about others, thereby dismantling harmful stereotypes and fostering a sense of common humanity (Han et al., 2023; Way & Nelson, 2018; Way, 2024). Drawing on the tenets of semi-structured interviewing (Rubin & Rubin, 2011), transformative interviewing challenges interviewers to listen with curiosity, asking detailed and curated follow-up questions to understand how others make meaning of their experiences (Way, 2024; Way & Nelson, 2018). We have implemented and evaluated our interpersonal curiosity intervention with a diverse sample of nearly 700 7th-grade students across nine New York City public middle schools (Way, 2024) and found that following participation in the 26-lesson LP curriculum – which was integrated into English and Humanities classes over a 6 week period – students experienced increased interpersonal curiosity and these increases were significantly associated with students' social and emotional skills and wellbeing, academic engagement, and a sense of common humanity (Way, 2024).

Theory and research also suggest that sociocultural factors influence children's curiosity. For example, studies of curiosity among children in indigenous communities in Belize, Nepal, Kenya, and American Samoa find that although the frequency of question-asking itself mirrors that observed among children in the USA, not all patterns were the same (Gauvain et al., 2013). Namely, an age-related increase in "explanation-seeking" (i.e., "why") questions often found among children in the USA (e.g., Chouinard, 2007) does not appear to be evident in the other cultural contexts studied, suggesting that the content of children's questions as well as how these questions change over time are likely context-dependent (Gauvain et al., 2013). Other prior work focused on intellectual curiosity has emphasized how sociocultural factors may play out in school settings. For instance, researchers have suggested that systems of power and privilege may determine the level of agency with which children are able to enact their curiosity in learning contexts, such that students from more privileged communities enjoy greater freedom to follow their own curiosity at school (Adair & Colgrove, 2021). In addition, societal beliefs about the *purpose* of learning, which are manifested either in teachers' attitudes toward student curiosity-driven behavior (Engel & Randall, 2009) or in educational policies that privilege children's performance on tests over their exploration of a problem, may impact students' intellectual curiosity (e.g., Jirout et al., 2018).

Individual Variation in Patterns of Curiosity

Likely reflecting differences in individuals' ecological contexts, research suggests that there may be age and gender differences in patterns of intellectual and interpersonal curiosity across the lifespan. When comparing children's intellectual curiosity across 3rd-, 5th-, and 7th-grade cohorts, one study found an age-related decline, suggesting that children's curiosity may vary as a function of grade level and likely also as a function of the extent to which the teacher fosters intellectual curiosity (Engelhard & Monsaas, 1988). Another study of classroom observations of kindergarten and 5th-grade students, in which the frequencies of both intellectual and interpersonal question-asking were recorded, offers additional support for an age-related decrease in students' curiosity (Engel,

2015). Reasons for such a decline may be due to school cultures that prioritize memorization and standardized test scores over exploration and question-asking (Jirout et al., 2018) or a broader culture that privileges knowing answers over asking questions and that defines science as a process of hypothesizing rather than of exploration (Way, 2024).

Gender differences in curiosity, more likely a reflection of the cultural context than of any natural distinction between the sexes, have also been noted. Women have been found to report less curiosity than men about how things work (Litman & Spielberger, 2003) and adolescent girls have been found to be more likely to report having interpersonal questions, and questions about shared relationships, than boys (Han et al., 2023; Way, 2024). Such gender differences may be a reflection of gender socialization in the USA in which girls and women are often encouraged to ask questions about the thoughts and feelings of others, while boys are discouraged from engaging in such interpersonal curiosity, which is often dismissed as "soft," "girly," or "gay" (Way, 2024). Moreover, even the omission of interpersonal curiosity in the research on curiosity may itself reflect such an American cultural context that feminizes and thus devalues interpersonal curiosity (Way, 2024). Longitudinal or cross-cohort research on curiosity is rare, as are studies that examine the impact of the ecological context, including cultural ideologies, on patterns of curiosity; thus, we know little about the circumstances under which age or gender variations in patterns of intellectual or interpersonal curiosity emerge.

Future Directions

Theory and research on curiosity underscore the importance of including intellectual and interpersonal curiosity in our studies of human development. Evident from toddlerhood (Chouinard, 2007), rife among preschoolers and kindergartners (e.g., Engel, 2015; O'Neill et al., 2009), interpersonal and intellectual curiosity are natural parts of growing up, providing a key channel through which children and adolescents learn about others and about themselves, connect with others, see themselves in others, and learn about the physical, material, and human world. Yet the study of curiosity has been limited in several ways, in addition to its near omission of interpersonal curiosity.

First, although theories of curiosity (e.g., Litman, 2005; Loewenstein, 1994; Silvia, 2017) tend to focus on how and why experiences of curiosity arise, thereby venturing to explain *state* curiosity, much of the empirical research has focused solely on individual differences in individuals' general tendencies to feel curious (i.e., *trait* curiosity). Second, ecological context is often overlooked in the study of curiosity, particularly within research that employs trait-based definitions of the construct and/or that which examines curiosity as a function of personality or individual differences. When ecological context is not considered in these studies, individuals may be deemed curious or incurious by virtue of who they are – an approach which not only follows a harmful, deficit-based framing but precludes us from imagining how curiosity might be *fostered*. Third, studies of curiosity often measure only that which relates to a single subject (e.g., math or science curricula; Jirout et al., 2022) or only through its behavioral expression (e.g., by counting the number of questions asked or using "curiosity box" paradigms; Arend et al., 1979; Engel, 2015) and thus likely fail to capture the full spectrum of curious feelings and behaviors experienced by individuals across situations, contexts, and cultures.

Future research should not only address these limitations but also explore four areas related to intellectual and interpersonal curiosity. First, although research has established that children are innately curious about those around them, the specific questions they have for others remain unclear. While the founder of the American Psychological Association, Hall (1921), documented the questions that children asked at ages four and twelve in the early part of the 20th century, there have been few follow-up studies to examine what curiosity sounds like among children, the content of their curiosity, and how these patterns may vary across ages, time, and cultural contexts. In exploring these topics, researchers ought to shift attention away from documenting who is more and less curious and toward investigating the contexts under which curiosity increases or decreases and why. Researchers should also expand on previous work revealing interpersonal curiosity's dimensionality in adolescence (i.e., Way, 2024) to investigate the dimensions of interpersonal and intellectual curiosity during childhood and adulthood, along with their association with markers of social, emotional, and cognitive development and wellbeing.

A second set of research questions to investigate relates specifically to the cultural or ecological context in which children's curiosity develops (Bronfenbrenner, 1979; García Coll et al., 1996; Spencer et al., 1997). Interpersonal curiosity may be actively discouraged by parents, teachers, or peers who warn against being overly intrusive

(Grossnickle Peterson, 2020), or encouraged by parents and teachers, when it comes to intellectual curiosity at least, who are convinced that curiosity will bolster their children's chances of being admitted to a "good" college. Finally, the macro ideological context, or the outer circle of Bronfenbrenner's (1979) bioecological model, may shape the curiosity of children and adolescents. The cultural bias in the USA by which relational skills are devalued, labeled as "soft" or as stereotypically feminine compared to skills deemed more "hard" or stereotypically masculine (e.g., Way, 2024) may be driving or exacerbating a decline of interpersonal curiosity over time. Future work should also consider how stereotypes about social identities, including gender identity and who is, for example, more "naturally" interested in the thoughts and feelings of other people, shape not only the questions children ask but to whom they pose their questions and who, if anyone, responds to their questions. Findings from developmental research in particular could offer clarification about when and how children's curiosity is shaped by their home, school, and broader sociocultural contexts.

The third area of research that is important for our understanding of curiosity is how children's curiosity intersects with various aspects of their cognitive, social, and emotional capacities and development. For instance, children's working memory (Fitneva et al., 2013) and cognitive flexibility (Legare et al., 2013) are implicated in the question-asking process, suggesting that executive functioning may play a critical role in whether and how children follow their interpersonal and intellectual curiosity. Examining possible ties between curiosity and emotional regulation or other aspects of social-emotional and cognitive learning may provide insight into how interpersonal and intellectual curiosity might support and advance ongoing efforts to promote SEL and academic achievement. Additionally, researchers should examine the association between children's interpersonal curiosity and intellectual curiosity as it is likely that the two are not only highly correlated but also share an underlying mechanism and/or content. Perhaps a child's questions for their mother about the moon are, for instance, also questions about what *she knows* about the moon, suggesting that interpersonal and intellectual curiosity are necessarily connected. Research examining the relationship between interpersonal and intellectual curiosity will shed light on how curiosity may be fostered in homes, schools, and communities, such as by revealing whether efforts to nurture one type of curiosity among children will also lead to increases in the other type.

Considering that our curiosity about other people is a natural capacity, evident among even very young children (e.g., Chouinard, 2007; Engel, 2015) and appears to be relevant to social, emotional, and cognitive development and wellbeing (e.g., Way, 2024; Shigeoka, 2023), the fourth set of research questions worthy of investigation relates to how we might nurture interpersonal and intellectual curiosity in our schools. Prior research on fostering intellectual curiosity in classrooms suggests that teachers may promote curiosity by scaffolding students' questions (e.g., Engel, 2015), or by simply guiding students to generate their own questions, a technique which has been shown to enhance curiosity over time (Clark et al., 2021; Kedrick et al., 2023). Efforts to foster interpersonal curiosity could use the same technique, with children generating their own questions as is done in the training of "transformative interviewing" method as part of our Listening Project described in this article (Way, 2024). Given interpersonal curiosity's relevance across several SEL domains – including "social awareness" and "relationship-building" – it should also be applied to SEL programming. By motivating children to listen intently to others' stories, have conversations about their thoughts and feelings, and otherwise engage in everyday social interactions, interpersonal curiosity likely drives some of the core processes by which children learn about the natural, physical, and human world and thus should be included in SEL learning (Carpendale & Lewis, 2015; de Rosnay & Hughes, 2006; Widen et al., 2015).

Efforts to nurture interpersonal and intellectual curiosity, however, should extend beyond schools. This natural capacity to ask questions about the physical, material, and human world should be nurtured in our homes, wherein we may shift our orientation away from telling children what to do and toward asking them what they know and feel. In this way, we may learn more about them, learn more about ourselves, forge more meaningful connections with them, and help them feel seen as they see themselves rather than we, as adults, often stereotype them to be. Children's curiosity has been shown to relate to parenting styles, attachment security, and adult behavior more broadly, suggesting that interpersonal relationships and the home context play a critical role in both intellectual and interpersonal curiosity development, a topic which ought to be investigated further (Engel, 2020; Grossnickle Peterson, 2020; Ronfard et al., 2018b). Finally, research should examine how families may support children's interpersonal and intellectual curiosity in ways that both reflect the norms of their cultural contexts but also allow children to have their

questions about the external world and the internal world of humans answered in a forthright manner by the adults with whom they are asking questions (Gauvain & Munroe, 2020; Ronfard et al., 2018a).

Conclusion

Curiosity is not only a natural and fundamental part of the human condition, serving to enhance our understanding of the physical, material and human world and our social, emotional, and cognitive development and wellbeing, but interpersonal curiosity also appears to foster human connection and helps us bridge divides by disrupting harmful stereotypes that get in the way of social and emotional wellbeing (Way, 2024). The relevance of interpersonal and intellectual curiosity to human development – across social, emotional, and cognitive domains – coupled with emerging evidence suggesting that curiosity can be fostered in our homes, schools, and communities, calls for a new generation of developmental and ecologically grounded research on interpersonal and intellectual curiosity. By giving both forms of curiosity the empirical attention they deserve, we may discover how best to raise and educate our children as well as how to reconnect with one another, ourselves, and our physical, material, and human world.

Statement of Ethics

No ethical approval was required for the preparation of this manuscript as no new study of human or animal subjects was conducted.

Conflict of Interest Statement

Neither author has any conflict of interest to declare.

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Author Contributions

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No new empirical data were collected for this article. Any referenced data may be located via the cited literature.

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