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## Children's Experience During Cultural Change

*"From the very beginning, [we] grow up ... in the midst of objects and activity patterns designed by humans for human purpose. As everyday environments change, patterns of human growth change."* (White & Pillemer, 2005, p.4)

*"Playing outside is OK, but inside is better because the electrical outlets are there."* 10-year-old Los Angeles boy

Connections between everyday experience and the cultural practices and tools that support them are not static – they change over time as culture changes. This dynamic process occurs throughout life, but we focus on children. Much learning occurs during childhood and children's engagement in new activities and tools (e.g., social media) has garnered societal concern. Indeed, there is increasing research on how experience with certain tools, such as screen-based technology, affects development (Barr & Linebarger, 2017). Yet a theoretical account is needed to integrate this research to discover what it tells us about children and cultural change and, perhaps, human development itself.

This paper is motivated by globalization, which is rapidly transforming people and places worldwide. Cultural changes associated with globalization modify the work people do, how domestic activities are carried out, the ways that children are cared for and educated, and links between the community and the world beyond. These changing conditions of life inform development because they expose children to new and recurrent modes of acting,

interacting, and learning. Examining this process is important for understanding child development in industrialized and non-industrialized societies; both are experiencing rapid changes associated with globalization.

The focus on children's everyday experiences is important because it is here that children develop social and cognitive skills, along with attitudes, values and emotions, that form the interests, competencies, and commitments of the rising generation. Many regular experiences contribute to psychological growth including routines, culturally-organized behaviors, and rituals (Goodnow, Miller, & Kessel, 1995; Whiting & Edwards, 1988). Their repeated and reinforced nature makes them a powerful context for learning because they provide multiple opportunities (trials) to practice new behaviors, see other people (models) doing them, and obtain feedback regarding performance (instruction, guidance, reinforcement). Here, we describe these ideas and, toward the end, suggest how developmental science can advance understanding of child development during cultural change.

### **Children and Cultural Change**

Change is inherent in human society and arises from many sources. In the natural course of life, old members pass on and new members assume roles and responsibilities. Change comes about from external forces, natural (e.g., weather, disasters) and social (e.g., culture contact, migration, conquest). It emerges within communities through intentional (e.g., urbanization, revolution) and unplanned circumstances (e.g., modifying

traditions, adopting new ones). Over the last century, the demographics of children (e.g., family size and composition) in the United States and beyond have transformed significantly along with the availability of social, economic, educational, and health resources (Fass, 2007; Hernandez & Napierala, 2013). Many developmental scientists study this process, wittingly or not, when they investigate children's experiences in societal institutions undergoing change or their engagement with new tools and resources at home and school that have direct bearing on learning and social life.

Several conceptual frameworks are helpful for understanding relations between children's experience and cultural change. The bioecological systems model (Bronfenbrenner & Morris, 2006) describes how individual experiences occur within layers of interacting systems and how changes at one level (e.g., cultural context) lead to changes at others (e.g., proximal experiences). The sociocultural perspective (Cole, 1996; Vygotsky, 1987) is also useful, especially its take on how cultural tools mediate individual functioning and extend thinking and action. In this view, culture exists in the regularities of life - the activities and routines of the community as practiced by its members and passed across generations.

Other views concentrate on how shifts in the macro-environment, such as the economic system, schooling and child training practices, and increased contact with people outside the community, relate to children's experiences (Greenfield, 2009; Rogoff, 2011; Saxe, 2012; Serpell, 2002). Our research builds on these ideas and extends them in three ways. First, we

concentrate on how changes in technology and related resources accompanying globalization relate to childhood experiences. Second, we emphasize the active role of children in this process and suggest they play a leading role in cultural change. Third, we discuss how certain characteristics of childhood make children uniquely open and responsive to cultural change.

### **Children's Lives During Cultural Change**

Consider children's everyday experiences when communities establish formal compulsory schooling, the economic base shifts, and there is widespread incorporation of technology and resources associated with industrialized societies.

#### ***Formal Compulsory Schooling***

Rogoff and colleagues (2005) studied changes when formal schooling began in the U.S., using historical records, and a traditional Guatemalan Mayan community over a 23-year period. The changes were remarkably similar across settings and related to many aspects of children's lives. Children's involvement in certain activities declined, including work that contributed to the family (e.g., chores, child care so mothers could work for compensation). At first, classrooms were mixed-age, but over time they were age-graded and children spent more time with peers, with consequences for social relations and peer learning. School, in addition to home, became a center for learning and changes to socialization occurred, such as parent-child interactions that resembled school practices (e.g., asking children questions with known answers).

Educational and occupational aspirations also altered and often distanced children from the community psychologically and literally, a pattern reported around the world. In a decades long project, Kagitçibasi (2012) studied children's experiences when rural Turkish families migrated to cities for employment. She found changes to children's lives, both cognitive (e.g., more school-like skills) and social (e.g., more autonomy) that aligned with school practices but, in some cases, disturbed family life. After Western-style education took hold in rural areas in many African nations, young people discovered that the village lacked employment opportunities and they moved to urban centers to find work (Nsamenang, 2005). Research conducted in Russia after the break-up of the Soviet Union showed good and bad consequences when schools incorporated the beliefs and values of Western education (Elliott & Tudge, 2007). These changes were manifested in teachers' and parents' behaviors, that, in turn, influenced the educational expectations and aspirations of children and youth.

### ***Economic Base***

Another societal-level change is the shift from subsistence to a market-based economy. After long absences from their respective field sites (around 25 years), Greenfield (2004) and Saxe (2012) returned and studied the cognitive processes studied earlier. Greenfield's research in a Mayan community in Mexico focused on pattern representation and social learning of a traditional activity, weaving. She found these skills changed substantially as community members became involved in a market

economy, for instance they preferred patterns favored by tourists over traditional designs and there was more peer than adult-child learning. Saxe found changes in children's mathematics skills (e.g., counting, calculations) among the Oksapmin in Papua New Guinea that were consistent with changes in the economic system.

Unfortunately, in many cases throughout the world, the transformation of subsistence economies has been and continues to be sudden and catastrophic, with a near collapse of the traditional economic system. In these circumstances, when adult men enter the labor force they participate in a cash economy, which typically occurs under conditions of travel and migrant labor. As to children's experiences, the result is that within a very short time span, boys stop learning many of the traditional male skills in the community – skills rapidly seen as no longer functional, and for which, in any case, there are now few if any teachers or models. This turbulence is usually concomitant with the introduction of formal (Western-style) schooling, with boys usually the first to attend school. Although girls' attendance occurs more slowly and depends on household responsibilities, when they attend school, substantial social and economic changes in the society soon follow (LeVine, LeVine, & Schnell, 2001).

### ***Technology and Related Resources***

A chief feature of cultural change during globalization is adoption of technology and resources emblematic of industrialized societies. These resources change people's lives immensely (Gordon, 2016), including

children's experiences. For instance, new household resources that impact domestic chores (e.g., electric power, indoor plumbing) have implications for children's informal learning, an important feature of child socialization in traditional cultures.

Variation within and across communities in responding to new technology and resources can have consequences in the short and longer term for children and the community at large. In research in rural Kenya, within-community variation was associated with family life stage (Super & Harkness, 1997). Families with younger, more educated parents adopted new agricultural resources and practices (e.g., chemical fertilizers, crop rotation,) and less labor-intensive crops more than families with older, less educated parents did. Children with younger parents were more likely to attend school and, when at home, be with their parents. Children with older parents were more likely to be educated in traditional ways and engage in domestic chores, such as herding, tending crops and collecting firewood, that led to different experiences with parents. The choices families made shaped the developmental niche, including children's formal and informal learning experiences, and set in motion diverse intergenerational pathways in the community.

In our research, we use data collected in 1978-79 in four small-scale traditional communities, Garifuna in Belize, Logoli in Kenya, Newars in Nepal, and Samoans in America Samoa, that differed in the incorporation of resources of industrialized societies (e.g., electricity and other subsistence



features, Authors, 2009a). These resources alter how people satisfy basic needs, regulate health, care for and educate children, and communicate with and learn about the wider world. They also alter how children spend their time and opportunities for learning. For instance, switching from candle power to electricity means children can do more or different activities day and night; public institutions (e.g., post offices, gathering places, schools) provide new ways for children to interact and observe one another; changes to transportation (e.g., tarmac roads, motorized vehicles) make distances from kin, work, and school less of a hardship; and new subsistence practices, such as methods of securing food and water, can impact health and domestic responsibilities. In our sample, Samoans and Garifuna had many more of these resources than Newars and Logoli did. The data contain information on 192 children (48 per community, with 12 children at each of four ages: 3, 5, 7, 9) and include naturalistic observations by trained local observers and structured interviews on cognitive measures (Authors, 1989).

These data have taught us several things about children's experience during cultural change. In our initial study, we investigated children's cognitive performance. Based on prior research (reviewed by Rogoff, 2003), we expected stronger relations between the presence of industrial elements and performance on measures associated with schooling (block building, embedded figures, recall memory, object exploration) and weaker or no relations on measures tapping maturational processes (motor coordination) and concepts common across cultures (gender understanding, perspective-

taking). Although we replicated age-related improvement, our hypotheses were not wholly supported. Children in communities with more industrial elements performed better on all measures, even when years of schooling was controlled. These results were puzzling, so we turned to the naturalistic observations to examine three proximal or experiential aspects of children's lives, one in the domestic sphere (home cooking method) and two social behaviors, play and communication in the form of spontaneous questions.

As to mode of cooking, there was variation within and across community homes in cooking with open fires (with wood, dung, or straw) versus kerosene stoves (Authors, 2012). This technology is promoted in developing regions because open-fires emit harmful substances and pose risks to healthy development due to anoxia, smoke inhalation, and/or exposure to toxic particulates (Smith, Mehta, & Maeusezahi-Feuz, 2004). We found negative relations between open-fire cooking and cognitive performance regardless of cultural context. We suspect that exposure to open fires influences children's activity level and potential to explore, and learn about, the environment.

Regarding play, children in Garifuna and Samoa engaged in more play that involved complex self-managed sequences, defined as child-initiated activities with an exacting series of behaviors (e.g., formal and informal games, role playing), than Newar or Logoli children (Authors, 2009a). Results were not explained by the availability of manufactured toys or time outside of work children could play. These findings are consistent with reports that

Canadian preschoolers engage in more symbolic and pretend play than agetates in traditional communities in India and Peru (Callaghan et al., 2011). They suggest that children's play in more industrialized communities entails very different routines (e.g., more rule-based games, symbolic and pretend play) compared to children's play in less industrialized communities.

Finally, we assessed children's self-initiated questions, which are thought to play an important role in cognitive development in the preschool years (Butler, Ronfard, & Corriveau, in press). We found little variation across the cultural groups in number of questions asked by the 3- and 5-year-olds, so we pooled the data and compared the rate of questions with that of a Western sample using the CHILDES database (Chouinard, 2007), also collected in the late 1970s (Authors, 2013). Two types of questions were studied: those that requested information or facts (e.g., "What's her name?") and those that seek explanation, so-called "why" questions (e.g., "Why did you keep the tail on the kite?"). We found no difference in information-seeking questions, including questions pertaining to complex cognition such as planning, memory, and theory of mind. However, explanation-seeking questions made up less than 5% of non-Western children's questions compared with around 25% in the Western sample. To interpret this difference, we drew on the anthropological literature. In many small-scale traditional societies there are strict hierarchical relations across generations that entail greater authority of adults vis-à-vis children; for a child to ask "why" would challenge that authority (LeVine, 1970). Also, in these societies

children can see their meaningful part in relatively stable socioeconomic fabrics and may seldom need to ask for explanations. In contrast, children living in industrial societies have much less opportunity to observe adults in their occupational settings and they need to make sense of the many objects and devices around them. Like other aspects of language use, children's spontaneous questions are subject to social and cultural rules and expectations and other features of the environment (Ochs & Schieffelin, 2011). This study challenges assumptions about the universality of children's explanation-seeking questions, calls for more data from diverse social and cultural settings, and suggests the need to study why children in Western, middle-class settings ask explanation-seeking questions at such high rates.

### **Conclusions**

The research discussed here suggests that cultural changes in institutions and resources influence development by altering children's everyday experiences, some of which are initiated by children themselves. It also suggests that there is variation both within and across cultures in responding to cultural change and that some aspects of childhood may be more reactive to change.

This research has led us to the following conclusion: To understand child development during cultural change, it is necessary to study how children spend their time on a regular basis - the activities they do, who they do them with, and the tools and resources that support their activities. This proposal sets forth a research agenda at odds with much of contemporary

developmental science, especially basic research on cognitive and socioemotional development. But activity-based research may prove very useful as scientists try to make sense of developmental data in a rapidly changing world.

There are other advantages of such study, as LeVine (2002) explains, the study of “children under complex cultural conditions such as immigration, rapid change, and intercultural contact offers not only complications absent from more static comparisons but also new opportunities for assessing rigorously the strength and stability of cultural patterns that had been previously observed but were not fully understood” (p. 293).

The full impact of cultural change on child development may not be known for a while and may include the loss of valued behaviors or ways of thinking (Rogoff et al., 2017; Serpell, 2017). Also, although many of the societal-level changes discussed here seem neutral or beneficial, even beneficial changes can have negative consequences. For instance, switching from open fires to kerosene stoves for indoor cooking is mainly positive, but it has costs including increased dependence on resources supplied (and controlled) by outsiders.

### **Implications Regarding Child Development**

Cultural change can affect much of what children do – how they spend their time, interact with others, and learn about the world. Many changes garner little attention initially, but in time, especially if they infiltrate much of

daily life, concern deepens. This is happening today in the general unease regarding technology in children's lives with questions about what children are learning (or not), whom they are spending time with (or not), and the effects of a technology-heavy lifestyle on social, emotional, and cognitive development. The research discussed here suggests that such changes may be socially pervasive and developmentally consequential.

The connection between cultural change and child development may seem uni-directional, but it is bi-directional. During socialization, children adopt many values and practices, and in doing so maintain culture across generations. But children are active, not passive, in this process. Some behaviors related to change, such as the play and question-asking we observed, are initiated by children. To understand and live in the world, children adopt some cultural ways of acting and thinking, resist or discard others, and introduce new and innovative forms.

New tools and practices and modifications to ones in use will not always lead to cultural change. But if widespread and sustained, they may, and characteristics of childhood play a critical role in this process (Authors, 2009b; Bjorklund, 2007). Children's great capacity for learning, inexperience with the world, limited nature of cognition and responsibilities, strivings for autonomy, increased interest in peers, enhanced neurobiological and motor functioning, changes in knowledge organization and awareness of the self and others, and propensity toward exploration and playful activity provide an availability or openness to experience that differs from adults - and suggests

that young people are likely to be early adopters of new tools and resources. As the anthropologist Barnett (1953) wrote decades ago: “Many individuals are prepared to accept new ideas because they have not dedicated themselves irretrievably to a custom or to an ideal of their society...The greatest number of individuals in this category are children...young people in any society are inevitably less securely bonded to their culture than are their seniors, if for no other reason than that they have had less time to understand and be conditioned by it” (p. 385).

In short, characteristics of childhood create opportunities for cultures to change, even dramatically so, in the relatively brief timespan of a generation. The rapid proliferation of new communication technology among young people and associated changes to social interaction and learning of an entire generation illustrate this process.

### **The Long Reach of Globalization**

The ecology of childhood is changing rapidly around the world. Increased urbanization, massive shifts in economic, political, and social conditions, and changes in the technical and communicative environment have significant impact on children’s everyday lives. How child development is shaped and directed by these changes, and importantly, how children contribute to this process, are critical issues for current and future research.

We began with a quote from a relatively recent volume on development and social change (Pillemer & White, 2005). It is striking that *globalization* is not in the index. How much has changed in little over a

decade? The term is in the text, notably in Super's chapter on globalizing developmental psychology so that the science, and scientists involved, better represent the world. Despite Super's hopeful outlook, participants in research reported in high-impact developmental journals in 2015 represented less than 8% of the world's children and over 95% of papers were authored by scientists working in Western settings (Nielsen, Haun, Kärtner, & Legare, 2017). Clearly, to study the questions raised here, there is much work to do.

How can developmental science advance understanding of child development in the context of globalization? Research focused on children's everyday experience is needed. Today, widespread changes in digital technology and communication present an ideal opportunity for such research. These changes are rapidly underway and may be reducing the diversity of childhood experiences worldwide. This shifting landscape makes such research all the more urgent.

This research must be guided by theory so findings from disparate areas (e.g., technology use, urbanization, migration) can be brought together to advance understanding of human development during cultural change. We benefitted from several conceptual frameworks and research on cultural practices may also be useful. However, cultural practices are often studied in a static way reflecting an adult-driven view of socialization. What is needed is a theory that recognizes changes in cultural practices along with how children adapt and create practices to meet their goals. Research across



cultures will be important because there are differences in opportunities for children to exert change. The resulting story will be one in which child development is seen as a means by which culture transmits and renews itself. We expect this research will show that what children do on a regular basis reveals cultural change in the offing.

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