

Learning From Others: Selective Requests by 3-Year-Olds of Three Cultures

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Abstract

Humans are unique in their propensity to intentionally instruct and subsequently learn a wide range of information from others. We investigated when and how young children become socially resourceful in using others' expertise, and whether the early propensity to request for help varies across diverse societies. We tested and compared 44 two- to four-year-old children growing up in urban United States and Japan, and rural Canada. Children were faced with two experimenters who demonstrated different abilities (successful vs. unsuccessful) in a toy retrieving task. We measured children's propensity to request for help and the relative selectivity of requests to one experimenter over another. Results show significant cross-cultural differences. U.S. children's request behavior differed significantly from the other two societies on three of the four measures. Specifically, U.S. children requested more overall, whereas Japanese children ceased manipulation ("give up"), and Canadian children continued to try on their own. Only the U.S. children show clear selective requests to the successful experimenter. On the last measure (gaze behavior), the U.S. and Canadian children look more to the successful model during the test phase than the unsuccessful model. These findings have implications for social learning research as well as the generalizability of developmental science.

Keywords

social learning, development, culture

Humans are unique in their propensity to intentionally instruct and subsequently learn a wide range of information from others (Csibra & Gergely, 2006; Henrich, 2015). To our knowledge, no other species transmits such a wide array of information, skills, and knowledge via intentional instruction, making this ability a cardinal feature of human psychology and knowledge transmission across human societies. Theoretical accounts of the transmission of human culture from individual to individual and across generations have emphasized the active and intentional role of the teacher in the learning process, also referred to as the *pedagogical stance* (Csibra & Gergely, 2006; Vygotsky, 1930/1978). The pedagogical stance, not unlike work by Vygotsky nearly a century ago, emphasizes the intentional actions produced by

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potential teachers to pass on information to potential learners. Empirical support for the claim that humans are particularly inclined to produce intentional communicative cues comes from recent investigations across societies documenting commonalities in the ways adults modify their behavior in the presence of an infant or young child (Broesch & Bryant, 2014; Broesch, Rochat, Olah, Broesch, & Henrich, 2016). Caregivers modify their behavior in the presence of a potential learner, and this is thought to facilitate efficient and rapid transfer of knowledge. One aspect that has received scant attention from researchers is the role of the learner in directing or initiating the learning process. This topic is important as it speaks to complexity of the learning process and possible societal variation in the respective roles and initiatives of teaching and learning partners. The goal of this study is to examine young children's impetus to actively select one individual over another when in need of assistance. Furthermore, we compare groups of children living in three diverse societies to determine whether sociocultural factors play a role in early selective requests for help, or alternatively, whether such propensity is relatively immune to such variability.

Most of what we know is indeed learned from others, particularly early in life (Harris, 2012; Henrich, 2015; Tomasello, Kruger, & Ratner, 1993). Two dominant theories prevail in the human social learning and development literature. Each accounts for how children learn from others. One account suggests that children learn primarily from the ability to tune into and detect the intentional behaviors and ostensive communication enacted by others who are typically older and more knowledgeable. The prototype of such an account is direct teaching from others. It is construed as a form of intentional ostensive communication for teaching and learning that is typically considered unique to humans (Scott-Phillips, 2014), closely linked to what has been coined as *Natural Pedagogy* or the *Pedagogical Stance* (Csibra & Gergely, 2006; Gergely & Csibra, 2006). Under this account, social learning rests primarily, but not solely, on teachers who provide ostensive communicative behavioral cues and draw attention to relevant information, and therefore facilitate efficient learning in the novice learner. The learner is expected to be (and has shown to be) sensitive to these ostensive cues (Gergely, Bekkering, & Király, 2002; Gergely & Csibra, 2003). This view is also in line with the classic Vygostkyan (1930) phenomenon of zone of proximal development that is considered universal—transcending human cultural boundaries and diversity (Greenfield, 1984; Greenfield, Keller, Fuligni, & Maynard, 2003; Rogoff, 1990, 2003).

Alternatively, another view states that, instead of teaching, the most primary and universal mechanism of cultural transmission is observational learning (Lancy, 1996, 2008, 2010; Odden & Rochat, 2004). According to this view, the main determinant of the learning process is the inclination of the learner to identify potential teachers and copy or modify their behavior while observing them (Bandura, 1977; de Waal, 2001; Lancy, 2008). Under this perspective, the responsibility for learning rests on the learner. Clearly, both perspectives capture important aspects of human social learning that should not be construed as incompatible but rather complementary, with possibly different weights put on each depending on sociocultural norms (Odden & Rochat, 2004). The latter issue drives the present study.

The goal was to examine the propensity for children from three diverse societies (urban Japan, urban United States, and rural Canada) to initiate a learning process—examining the extent to which there might be variation, or on the contrary, similarity, in the spontaneous expression of a need for help when facing a problem they cannot resolve on their own. Evidence for variability across groups would suggest that the learning process is contextually variable and influenced by the social ecology of the society. It would further demonstrate the importance of incorporating culture into general theories of human development (see also Henrich et al., 2010a; Nielsen & Haun, 2016). Inversely, commonalities across societal contexts would point to aspects of the early human social learning process that remain relatively constant across cultural contexts with marked differences in parenting and social practices.

Social Learning in the “West”

Evidence has shown that already by 14 months of age children in Western contexts demonstrate the ability to selectively imitate someone who has previously demonstrated competence and confidence over someone showing signs of uncertainty (Birch, Akmal, & Frampton, 2010; Zmyj, Buttleman, Carpenter, & Daum, 2010). Researchers examined preschool-aged children's ability to selectively factor in the knowledge, trustworthiness, and skill level of an adult model and use this to guide spontaneous language learning (Birch, Vauthier, & Bloom, 2008). Not only are young children able to factor in the skill, knowledge, and trustworthiness of a model, they are also able to factor in the social desirability of the model. In a study by Chudek, Heller, Birch, and Henrich (2012), 3- and 4-year-old urban Canadian children were twice as likely to learn information from a “prestigious” model compared with a model who did not demonstrate prestige (see Chudek et al., 2012, for procedure).

These studies suggest that Western urban preschoolers incorporate individual characteristics into their selectivity of *who* to learn from. However, the expression of such inclination has rarely been considered in reference to the great variability in parenting and other cultural practices or teaching norms surrounding children that are all constitutive of their developmental niche (Super & Harkness, 1986). Many questions remain as to how cultural differences in teaching and learning practices might influence children's propensity to learn from others. The question driving the present research is whether, from an early age, culture determines and shapes children's propensity to initiate learning from selected others. In general, scant attention has been given to the child as an active learner, whose own initiative in seeking information from selected others plays a central role in shaping the learning process and how such a process could vary across cultural contexts.

Underrepresentation of Diverse Societies

Our knowledge of child social and psychological development beyond an urban, middle-class, Western environment is limited. Although great strides are being made to address this gap in the literature (see Bornstein, 1991; Broesch et al., 2016; Callaghan et al., 2011; Hewlett, 1996; Kline, 2015; LeVine, 2007), the majority of research in child development is with an urban population, Western population, or both (Nielsen & Haun, 2016). Furthermore, a review of findings in the social sciences suggests that these populations often do not generalize and are even outliers when compared with larger, more representative and encompassing non-Western samples (Henrich et al., 2010a). The ecological validity and generalizability of developmental psychology research is questioned, creating a challenge for understanding developmental pathways and resulting developmental outcomes (see Greenfield et al., 2003).

Social Learning Across Cultures

Decades of detailed ethnographic descriptions of teaching and learning in non-Western societies suggest that the learning process may be influenced by societal structures as well as norms and beliefs surrounding childhood (Lancy, 1996; Rogoff, 1990). Societies differing in parenting practices and goals, varying on dimensions of interrelatedness and autonomy, also differ in their beliefs surrounding teaching and scaffolding child behavior (Broesch & Bryant, 2017; Chavajay & Rogoff, 1999; LeVine, 1994; Whiting & Whiting, 1975). For example, parents in many rural or non-Western societies report that they should not modify their behavior to accommodate an infant or child (Rogoff, 1990). In fact, in some societies, it is taboo for adults to play children's games or even modify their voice or stature when addressing children (LeVine, 1994; Rogoff, 1990). In such cultural context, the expectation is that children will observe and learn from more

knowledgeable others without being guided or scaffolded. From the child's perspective, the question is how such cultural conceptions might shape their spontaneous ways of learning and resolving problems, either on their own or by soliciting help from adults.

Furthermore, recent research by Little, Carver, and Legare (2016) investigated triadic social interactions between an adult caregiver, infant, and an object. In two studies, the authors reveal cultural differences in ways through which caregivers scaffold attention toward an object. Parents living in the South Pacific nation of Vanuatu used more physical triadic engagement, orienting the child's body toward the object and responding with touch, whereas parents living in the United States responded with visual triadic engagement using eye gaze. They also report cultural differences in the propensity for the child to imitate the adult's actions, as well as the tendency for the adult to transmit a target (modeled) action on a toy. This research suggests that there are marked differences in the ways children are socialized into a learning situation, as early as 10 months of age (Little et al., 2016). Because most children grow up outside of a urban, Western context (see Henrich et al., 2010b), to gain validity, our understanding of learning process needs to be more inclusive of other cultural contexts.

Current Research and Hypotheses

In the current research, we examined children's propensity to selectively solicit help from one of two individuals varying in demonstrated skill level when faced with an unsolvable problem. Consistent with past social learning research, we expected that children would begin requesting for help by 3 years of age and that requests would become more frequent with increasing age. Based on previous findings (Birch et al., 2008; Chudek et al., 2012), we expected that from 3 years of age children would be resourceful by orienting their requests significantly more toward a successful adult. However, we expected that the forms of these requests would vary across the cultures.

Societies

We tested children in three different societies: urban United States, rural Canada, and urban Japan. The societies have many similarities and differences, varying on many cultural and ecological dimensions; however, of particular interest for this research are the varying emphasis on the child as an interrelated or autonomous agent who is responsible for his or her own learning. Such differences have been found between rural and urban societies (Callaghan et al., 2011; Greenfield et al., 2003; Rogoff, 1990; Triandis, 1995). Therefore, the goal of selecting urban American and rural Canadian children was to examine the early developmental influence of general cultural differences in societal values of inter- versus independence of the child which map onto rural–urban distinctions (Triandis, 1995). Furthermore, to explore elements of cultural notions of childhood beyond an urban and rural Western classification, we examined children living in an urban society in Japan—where interrelatedness and harmony is valued and emphasized (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). The goal was to examine an urban society valuing formal education, yet emphasizing group harmony above individual success to determine whether such value systems may impact the child's request behavior as young as 3 years of age. In all three societies, for the purpose of this research, we consider the emphasis to attend formal education to be generally similar.

Hypotheses

Specifically, given the general emphasis on autonomy in the urban, middle-class U.S. population, we expected children from the United States to initiate the learning process with clear overt

requests for help. We expected fewer spontaneous requests from children in rural Canada compared with American children, considering the rural/urban differences in reported values of autonomy and interdependence, with individuals living in smaller rural populations emphasizing interdependence more than Americans (Triandis, 1995). Last, we expected urban Japanese children to show fewer spontaneous requests than their North American counterparts, given the emphasis on harmony and interrelatedness in Japan (Rothbaum et al., 2000). In light of the emphasis on group harmony, we also expected urban Japanese children would use less clear and more subtle forms of selective help requests via gazing rather than ostensive gestures.

Method

We examined the nature of young children's selective request for help when facing two experimenters: one demonstrating skill and the other unskillful in resolving a physical problem (opening a transparent jar containing an attractive toy). The goal was to determine the extent to which children are resourceful in requesting for help as a function of both age and culture. We examined 44 two- to four-year-olds living in urban United States (Atlanta) and Japan (Kyoto), as well as in a rural small town in Nova Scotia, Canada.

Children faced two female adult experimenters (locals in each region) demonstrating different abilities in retrieving a toy from a transparent container. One experimenter demonstrated a swift ability to open the container whereas the other demonstrated difficulties and failure in opening it. A total of six female adult experimenters were trained carefully (by T.B. & P.R.) to follow a verbal script as well as remain neutral throughout the testing session. Training sessions lasted several days and included matching one another in nonverbal body language and posture. Experimenters were matched in appearance and were dressed identically for the experiment. We measured children's propensity to request for help, the kind of request, as well as their selectivity in requesting to one or the other experimenter. Sessions were video recorded for subsequent coding and analysis.

Participants

We tested 44 two- to four-year-olds ($M = 42.0$ months, $SD = 11.2$) at three locations: two urban city centers in the United States (Atlanta; $n = 14$, $M = 40.0$ months, $SD = 10.6$), Japan (Kyoto; $n = 14$, $M = 42.3$ months, $SD = 14.1$), and a rural town in Canada (Nova Scotia; $n = 16$, $M = 41.8$ months, $SD = 9.2$). Half of all participants ($n = 23$) were female with no significant difference in age across locations, ANOVA, $F(2, 43) = .201$, $p = .819$. Participants were recruited from a database of volunteering parents in Atlanta, and from local day care facilities in both Canada and Japan. Following the test, all children received a small toy or T-shirt for participation.

Procedure

Children were brought to a quiet testing room in a laboratory or day care setting in the United States, Canada, and Japan. They were seated directly across from two adult female experimenters—unfamiliar to the child, and matched in age, ethnicity, and clothing. The child was first introduced to an attractive target toy, a small attractive plush toy in a sealed transparent screw-top 3×2 in. container, with both experimenters simultaneously handing the toy to the child. After the child manipulated the toy for a few seconds, the first experimenter (E1) took the toy from the child and exclaimed, "It's my turn. Watch me!" and proceeded to demonstrate her ability to open and close the container—revealing that she has the skill to open the container, bringing the attractive toy out and then back in the container, screwing and seal locking the top again (*successful demonstration*). The demonstration lasted 30 s, ending with the experimenter placing

the container with the toy back at the center of the table, between both experimenters. Next, the second experimenter (E2) picked up the toy and exclaimed, "It's my turn. Watch me!" and proceeded to demonstrate a series of unsuccessful attempts at twisting and opening the container (*clumsy* demonstration). Again, this demonstration lasted 30 s and ended with E2 placing the container in the center of the table between both experimenters. Following the second and final demonstration, both experimenters placed their hands on the toy and pushed it toward the child, within her reach, while simultaneously saying "It's your turn! Can you get it?" Both experimenters gazed at the target container canceling any further social feedback to the child. This test phase elapsed after a maximum of 2 min, or until the child requested for help toward one of the experimenter (whichever came first). The order of demonstration (successful vs. clumsy) and side of presentation was counterbalanced across children at each location.

Coding

All videos were coded by a research assistant uninformed regarding the project's goals and hypotheses. For interrater reliability, a subset of video recordings (30%) were re-coded by a second research assistant. We coded whether the child requested for help or not as a binomial variable. In addition, we coded the distribution of these behaviors during the test phase, categorically defining each child's behavior as a request for help, persistence in trying to open the jar, and giving up. *Request for help* was operationally defined as handing or pushing the seal locked transparent container with the toy inside to one of the experimenters. Such requests included placing the container in one of the experimenter's hand or pushing it on the table toward one of the experimenters. *Persistence* was defined as trying to open the container for the duration of the test without any requests for help. *Giving up* was defined as ceasing all attempts and manipulation of the container with no requests for help. There was 100% interrater reliability for the distribution of these behaviors. Gaze behavior of the child during the test phase was also coded using an online coding software (JWatcher; Blumstein, Daniel, & Evans, 2010). We coded the child's gaze behavior toward either of the two experimenters (successful or clumsy) during the entire test phase and determined the proportion of time gazing toward one of the two experimenters. Gaze proportions were computed as binomial sign variables, positive for gazing more toward successful, negative for gazing more toward clumsy. There was over 92% agreement among coders on the relative proportion of time children gazed at one or the other experimenter (coders agreed on 12/13 videos).

Results

Overall, 21 out of the 44 children spontaneously requested for help during the test phase. A Pearson chi-square test with society (3) as an independent factor and request for help (2) as the binary dependent variable yielded a significant difference by society ($p = .003$), with American children being significantly more inclined to request for help (12/14 children) compared with Japanese (4/14) and Canadian (5/16). Age (in months) was not a significant predictor of the propensity to request for help, $\chi^2(4, N = 44) = 1.37, p = .85$.

To examine the ways in which children requested help or not, we coded the distribution of these behaviors during the test phase, categorically defining each child's behavior as a request for help, persistence in trying to open the jar, or giving up. Each child received only one category. We did not include age as a factor in this analyses due to the small n 's in each cell (see Figure 1). A Pearson chi-square test examining the different ways of requesting (3) yielded a significant difference by society (3), $\chi^2(4, N = 44) = 18.62, p = .001$. Close inspection of the contingency table (see Figure 1 for raw scores) indicates that of these different kinds of requests, Japanese children gave up more often than clear request or persist (7/14). Canadian children continued to persist more than any other behavior (7/16).

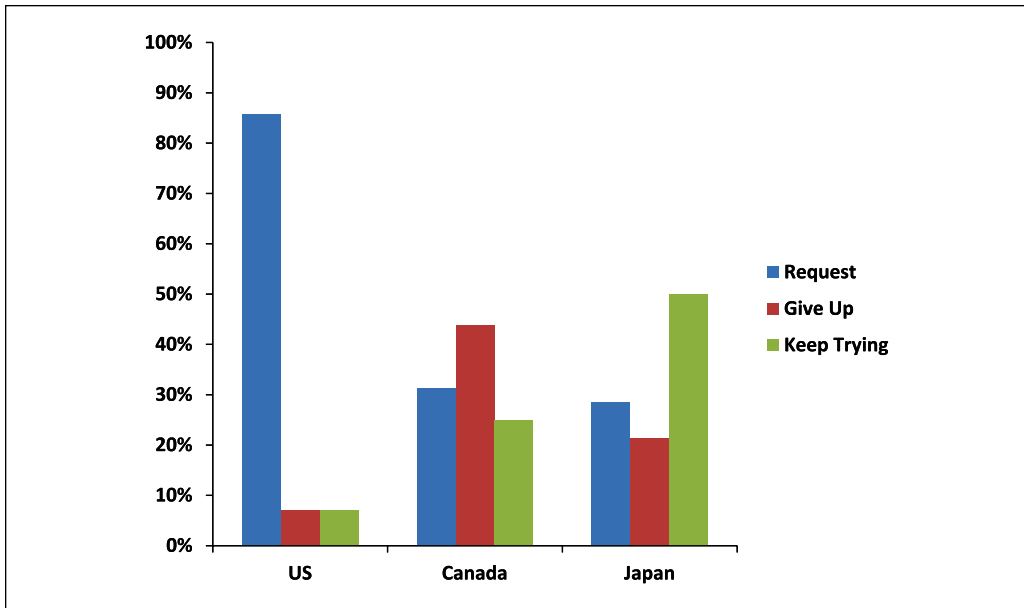


Figure 1. The number of children requesting for help, giving up, and persisting (keep trying) to open the container, by society.

Regarding the relative selectivity of children in their requests for help, an overall binomial test with the selective request to the successful or clumsy experimenter as the dependent variable (2; successful vs. clumsy/unsuccessful) yielded no significant results. In general, out of 21 requests, 14 were to the successful experimenter ($p = .189$). When looking at children of each location separately, only children in the United States requested significantly more often to the successful experimenter (10:2) yielding significant results ($p = .039$; based on binomial test).

To further examine whether children detected the skill discrepancy between the two experimenters, we measured the proportion of time each child gazed toward either the successful or clumsy experimenters during the test phase as they tried to open the container, with the rationale that if sensitive to the experimenter's skills, they would tend to socially refer more toward the successful model. Overall, a one-sample t test indicates that the proportion of gazing toward either experimenter was significantly different from chance (50%). Children gazed significantly more toward the successful than the clumsy model, $t(40) = 3.08$, $p = .004$. Examining children from each location separately shows that this trend is consistent in the United States, $t(10) = 2.66$, $p = .024$, and Canada, $t(15) = 3.00$, $p = .009$, but not in Japan, $t(13) = 1.23$, $p = .242$.

Discussion

The aim of the current research was to examine young children's propensity to seek assistance when faced with a problem they want to resolve. Using a simple procedure, we presented children with an unsolvable task of retrieving a toy from a sealed container following a demonstration by two experimenters varying in ability. We measured and compared 2- to 4-year-old's behavior during the test phase in three societies. In general, as a function of age, we expected children to request for help more. However, we also expected that the social ecology of the child would influence the frequency and ways in which children spontaneously solicit help from adults.

There was no effect of age on children's request behavior. Interestingly, when we look at requests by society, differences emerge. Eighty-six percent of American children requested for

help, whereas only 31% of rural Canadian children and 29% of Japanese children requested for help. Furthermore, when we examine the ways in which children request for help, society is a significant predictor. The distribution of request behavior for American children was different than expected by chance—U.S. children produced more requests, gave up less and did not persist; Japanese children gave up more than expected, whereas Canadian children persisted more often than expected by chance.

We also measured and compared the propensity to become socially resourceful. Although there was no overall significant difference in the selective requests to the successful or unsuccessful (clumsy) model, when we looked at each society separately, only American children produce more requests to the successful model (83%) compared with requests to the unsuccessful one (20%). When we look at a more subtle indication of their social resourcefulness, that is, their gaze behavior toward two models, the U.S. and Canadian children look longer toward the successful experimenter during the test phase, whereas Japanese children do not. One notable limitation to this study is our inability to determine factors leading to societal-level differences. We recognize, for example, that using different pairs of models in each location may have yielded a different social experience for the children, given that they were interacting with different models.

These findings suggest that the Western model of social learning may need revision in light of evidence across diverse societies. Overall, we find cultural differences in (a) the propensity to request, (b) the ways children request, (c) the selectivity of requests, and (d) the tendency to produce subtle (gaze) requests. These findings have implications regarding current theories of human social learning, suggesting that the mainstream focus on the child as a naive and passive recipient may be Western-centric and too narrow. These findings suggest that as young as 3 years of age, children are shaped by the sociocultural context in which they are raised and behave differently in a potential learning situation, as a result. Furthermore, these findings not only have implications for theories of social learning, but also present practical implications for early education. Understanding that children approach a problem with a different set of expectations is important for how we approach children in these situations. We suggest that future investigations take the cultural context into account and move beyond a Western-centric perspective of social learning.

Furthermore, the evidence across cultures suggests that there are some processes of learning from others that are common across cultures (e.g., overimitation) and some are highly variable (e.g., actively requesting assistance, this article, and parental scaffolding of a learning situation; see Little et al., 2016). To better understand how humans share information and learn from one another, we must incorporate evidence from various settings and reshape existing theories.

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