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Is non-conformity WEIRD? Cultural variation in adults' beliefs about children's competency and conformity

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Abstract

Cross-cultural comparisons provide critical insight into variation in reasoning about intelligence. In two studies, we used a novel methodology based on multivocal ethnography to assess the role of conformity in Western (U.S.) and non-Western (Ni-Vanuatu) adults' judgments of children's intelligence and, as a comparison trait, good behavior. In Study 1, there were cultural differences in the impact of conformity on U.S. and Ni-Vanuatu adults' judgments of children's intelligence and good behavior. When evaluating U.S. children only, U.S. adults were less likely to endorse high conformity children as intelligent, often citing creativity as a justification for their judgments. In contrast, Ni-Vanuatu adults were more likely to endorse Ni-Vanuatu high conformity children as intelligent. Ni-Vanuatu adults were also more likely to endorse high conformity children as well-behaved than U.S. adults. In Study 2, there were no effects of SES on U.S. adults' evaluations of conformity. U.S adults were less likely to endorse high conformity children as intelligent than Ni-Vanuatu adults. Taken together, the data demonstrate that beliefs about the relations between intelligence, conformity, and creativity vary across cultures.

Keywords

conformity; creativity; cross-cultural comparison; intelligence; Vanuatu

Over the course of development, children learn the beliefs and practices of their communities by imitating others. This capacity to engage in high fidelity copying allows children to acquire an extraordinary variety of skills and information they would not otherwise be able to through direct exploration or experimentation alone (Legare & Nielsen, 2015). New research on the evolution and ontogeny of social group cognition has demonstrated that imitative fidelity plays a central role in both intra- and inter-generational transmission of cultural practices (Henrich, 2015; Muthukrishna & Henrich, 2016; Watson-Jones & Legare, 2016; Watson-Jones, Whitehouse, & Legare, 2016). There is growing evidence that although young children across a number of different cultures are highly precocious imitators, their capacity to engage in innovation is strikingly poor in comparison (Berl & Hewlett, 2015; Clegg & Legare, 2016a; Nielsen & Tomaselli, 2010; Nielsen, Mushin, Tomaselli, & Whiten, 2014).

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Children's high fidelity imitation would not be possible without an early-developing bias to conform, which is reflected in their understanding and reinforcement of norms and sensitivity to consensus (Chudek, Heller, Birch, & Henrich, 2012; Chudek & Henrich, 2011; Herrmann, Legare, Harris, & Whitehouse, 2013; Kenward, Karlsson, & Pierce, 2011; Schmidt, Rakoczy, Mietzsch, & Tomasello, 2016). Starting in preschool, children trust majority informants and distrust dissenters, indicating that they are attuned to whether two or more individuals align in their actions or judgments (Corriveau, Fusaro, & Harris, 2009; Harris & Corriveau, 2011). Children publicly disguise correct judgments to defer to an inaccurate consensus (Corriveau, Kim, Song, & Harris, 2013; Haun, Rekers, & Tomasello, 2014; Haun & Tomasello, 2011). Even very young children expect unanimous agreement in establishing mutually binding social norms, and actively enforce them (Schmidt, Rakoczy, & Tomasello, 2011; Schmidt & Tomasello, 2012). Moreover, high fidelity imitation is motivated by a drive to affiliate with others and conform with normative behaviors (Clegg & Legare, 2016b; Herrmann et al., 2013; Legare, Wen, Herrmann, & Whitehouse, 2015; Over & Carpenter, 2013).

Given children's proficiency with high fidelity imitation, and their motivation to conform to the behavior of others, adults' beliefs about children's competency may reinforce these behaviors. Do adults use behavioral conformity as an indication of children's competency? Ethnographic research suggests that in many cultures folk concepts of intelligence emphasize behaviors that correspond with conformity, including obedience and fulfillment of social responsibility, as desirable traits in children (Berry, 1984; Gottlieb & DeLoache, 2016; Sternberg, 1984; 2004). For example, in rural Zambia, *nzelu,* the Chi-Chewa word closest to intelligence, connotes both intellectual ability and dedication to "social responsibility" (Serpell, 1989; 1993). Among the Kokwet in Kenya, helpfulness and obedience are considered key components of *ngom* or intelligence (Harkness & Super, 1992). The importance of social responsibility and obedience in cultural conceptions of intelligence is not limited to African cultures. There is evidence of this link from populations in Asia (Japanese -Azuma & Kashiwagi, 1987), Micronesia (Ifaluk – Lutz, 1985), and Melanesia (Bimin–Kuskusmin – Poole, 1985; Solomon Islands – White, 1985).

Previous ethnographic research has also found that adults identify children's ability to copy adults' actions as a crucial method of learning and a sign of intelligence (Harkness et al., 2007; McGillicuddy-DeLisi & Subramanian 1996; Serpell,1993). For example, in siSwati, the language spoken by the Swazi, the word for intelligence, *hlakaníphile,* is closely associated with the ability to complete tasks well after watching others complete them (Booth, 2002). Even parents in the U.S. encourage children to engage in high fidelity imitation (Clegg & Legare, 2017). Collectively, this research suggests that children's conformity may be reinforced and encouraged across cultures. To date, however, no previous experimental research has examined the role of children's behavioral conformity in adults' assessments of their competency.

Here we present the first experimental studies of cultural variation in how adults judge children's conformity. Our objective was to examine the impact of children's behavioral conformity on adults' judgments of children's intelligence in two cultural groups – the U.S. and Vanuatu[1]. We chose these two populations due to differences in the degree to which

they are representative of globally-typical child-socialization environments and because the cultural ethos surrounding conformity versus creativity in each group is quite different.

Vanuatu represents a non-WEIRD (Western, Educated, Industrialized, Rich, Democratic; Henrich, Heine, Norenzayan, 2011) population. Vanuatu is relatively isolated from Western influence, including limited participation in Western-style education and low levels of industrialization. As such, Vanuatu is highly representative of childrearing environments in much of the world. Socialization is based on fostering collective and cooperative values with a strong emphasis on social conformity (Dadkah, Harizuka, & Mandal, 1999; Little, Carver, & Legare, 2016; Peck & Gregory, 2005; Strachan, Samuel, & Takaro, 2007; Walker, 2013). In addition, previous work has indicated that Ni-Vanuatu children imitate behavior with higher levels of fidelity than U.S. children in experimental assessments of social learning, potentially due to differences in cultural expectations for conformity (Clegg & Legare, 2016a).

In contrast, the U.S. is highly representative of WEIRD populations, and those typically sampled in psychological research (Henrich et al., 2010). Innovation is part of the American cultural ethos. Evidence for this cultural narrative is everywhere; the popular media is saturated with calls to individuate and innovate. “Heroic geniuses” are celebrated as exceptional individuals who bring about paradigm-shifting inventions and advances (Muthukrishna & Henrich, 2016). American folk concepts of intelligence are based upon creativity (Okagaki & Sternberg, 1993; Serpell, 2011) and American parents and caregivers, particularly those from middle and high SES backgrounds, socialize children to be creative and innovate at home, in schools, and in recreational activities (Harkness et al., 2007; Kim, 1994; Lancy, 2010; Suizzo, 2007). Surveys and interviews asking parents to reflect on the qualities they hope to instill in their children indicate that U.S. adults favor self-confidence and independence in children’s thinking more than obedience and conformity (Paguio, Robinson, Skeen, & Deal, 1987; Raina, Kumar, & Raina, 1980). U.S. children, particularly those from middle and high SES Euro-American families, are encouraged to be independent, assertive, and intellectually curious (Lawton, Schuler, Fowell, & Madsen, 1984; Maccoby & Martin, 1983; Tobin et al., 2009). U.S. socialization, as least as it is represented in parent interviews and questionnaires, is based on encouraging children *not* to follow the example set by others, including arguably more knowledgeable adults. This cultural invitation to engage in non-conformist and creative behavior stands in stark contrast to the kinds of conformist behavior children readily engage in.

To illustrate how these differences in socialization may impact beliefs about children’s competence, imagine an adult showing two children how to complete a task. One child imitates everything the adult does. The other child does not copy the adult and instead eliminates some of the behaviors modeled and adds others that she did not see demonstrated. How might the second child be evaluated? From a WEIRD perspective, this child might be

[1]Vanuatu, a Melanesian island nation, consists of 65 different islands, each with villages that speak their own language and maintain distinct cultural traditions. Our participants lived on Tanna, Vanuatu, the most highly populated island in the Tafea Province. The total population of the island of Tanna is 28,800 inhabitants. Most adults have not participated in formal education beyond primary school and families engage in subsistence agriculture. Seventy-two percent of the population of Tanna has completed primary school, 36% of the population has attended some secondary school, and 70% of the adult population is literate.

seen as creative or an independent thinker, particularly if the child had seen the behavior before. In a context in which conformity is valued, however, this child's behavior may be, at worst, viewed as disrespectful and, at best, viewed as the child potentially not paying attention or being able to properly complete the behavior. By examining judgments of the value of conformity versus creativity in children's behavior in populations that represent each of these perspectives, this research increases our understanding of the interaction between children's social learning strategies and culturally-specific socialization practices and values.

This example illustrates the importance of having adults directly assess children's behaviors rather than having them reflect on the meaning of specific terms or their socialization goals. In two studies, we used a novel methodology based upon *multivocal* ethnography (Tobin et al., 2009; Tobin, Wu, & Davidson, 1989) to assess adults' beliefs about the traits of children from their own cultural group or a comparison cultural group. Adults from the U.S. and Vanuatu were told that they were going to watch videos of an adult teaching children something new and then saw a video of an adult demonstrating an activity followed by two videos – one of a child engaging in high conformity behavior and replicating exactly what the adult demonstrated and another of a child engaging in low conformity behavior and imitating the demonstrated activity with low fidelity. Half of the participants saw videos that featured actors from their own cultural background (e.g., U.S. adults watching videos of a U.S. adult and children) and half saw videos that featured actors from a different cultural background (e.g., U.S. adults watching videos of a Ni-Vanuatu adult and children). Adults from each cultural group were then asked to indicate which child was more intelligent and which child was better behaved and to explain their choices. We investigated how variation in children's conformity and whether participants were watching children from their in-group or out-group impacted their assessments of children's intelligence and good behavior. We studied adults' assessments of these two traits in particular because they are evaluative traits (i.e., traits that tend to be value-laden or socially desirable; Heyman & Giles, 2004). Beginning in late childhood, evaluative traits in others are assessed based on observable behaviors rather than self-report (Heyman & Legare, 2005).

In two studies, we examined variation in how much adults from different cultural and socioeconomic backgrounds consider behavioral conformity when evaluating children's intelligence and behavior. In Study 1, we conducted a "far" cultural comparison by examining the role of conformity in evaluations of children's competency among adults from dramatically different social and cultural contexts. In doing so, we studied two ends of the spectrum of beliefs about the importance of children's conformity—one with a strong emphasis on children's conformity and another that encourages creativity.

We hypothesized that cultural differences in the value of conformity versus creativity in the U.S. and Vanuatu impact evaluations of children's intelligence and behavior. We predicted that U.S. adults would be less likely than Ni-Vanuatu adults to select the high conformity child as intelligent, reflecting a cultural preference for creativity and individuality. As a point of contrast to intelligence, we also asked participants to select which child was well-behaved. We predicted that U.S. and Ni-Vanuatu participants would show similar preferences for high levels of conformity in this category given that non-conformity is not

necessarily associated with good behavior. We were also interested in whether or not cultural preferences for creativity versus conformity would only be salient when participants were evaluating children from their own cultural background and if adults would apply different criteria to judging out-group members. We predicted that participants might only apply their anticipated cultural distinctions in judgments of intelligence to children from their own cultural background.

We also conducted a "close" cultural comparison within the U.S. with populations that varied based on socioeconomic status (SES). In Study 2, we examined the impact of SES (measured through education level) on the role of conformity in participants' evaluations of children's competency. Expanding our knowledge of children's socialization beyond the examination of WEIRD cultures is not limited to examining cultures outside of the U.S. It is also important to consider the variation in socialization goals that might exist within the U.S. Childrearing environments often differ significantly between high and low socioeconomic (SES) families (Heath, 1982; Hoff, Laursen, & Tardif, 2002; Rowley & Camacho, 2015), including parents' beliefs about how children should behave (Harwood, 1992; Harwood, Miller, & Lucca Irizarry, 1995) and the extent to which children should be self-directed and independent (Tudge, Hogan, Snezhkova, Kulakova, & Etz, 2000).

Although many factors are considered when evaluating and categorizing SES (Duncan & Magnuson, 2001), in the present study, we were interested in how education might impact the attention paid to conformity in judgments of children's competency. Parent education level has been closely tied with parenting beliefs and behaviors (Davis-Kean, 2005; Hoff et al., 2002). Examining education also allows for closer comparisons between countries (Rogoff, Correa-Chávez, & Navichoc Cotuc, 2005), since comparing income level typically cannot accurately capture differences between industrialized countries with high levels of participation in a cash economy (e.g., the U.S.) and non-industrialized countries with little participation in a cash economy (e.g., Vanuatu).

To our knowledge, to date, no research has directly assessed the value American adults from different educational backgrounds place on children's behavioral conformity. Previous research that has examined the impact of parents' education on beliefs about conformity have focused on beliefs about the importance of children's ability to follow rules and maintain high levels of obedience. Although some studies have indicated that parents from lower-education backgrounds place higher value on children's rule following (Tudge et al., 2000), others have found that experience with formal education did not impact Euro-Americans' childrearing beliefs (Okagi & Sternberg, 1993).

We hypothesized that education may impact the role of behavioral conformity in adults' evaluations of children's intelligence. We predicted that adults with lower levels of formal education would be more likely to endorse the high conformity child. As in Study 1, we predicted that participants might only apply their anticipated cultural distinctions in judgments of intelligence to children from their own cultural background. In a cross-study comparison, we predicted that all U.S. adults would be less likely to endorse the high conformity child than Ni-Vanuatu adults.

By conducting both far and close cultural comparisons, we were able to examine variation in whether adults view conformity as indicative of intelligence and good behavior between countries (U.S. and Vanuatu, Study 1) and within a country (U.S., Study 2). These two comparisons provide the foundation for understanding the interplay between the development of children's social learning strategies and culturally-specific socialization practices.

Study 1

The objective of Study 1 was to examine the role of conformity in adults' evaluations of children's competency and good behavior in the U.S. and Vanuatu. We predicted that U.S. adults would be more likely to select the low conformity child as intelligent, reflecting a cultural preference for creativity and individuality. For our comparison assessment of good behavior, we predicted that U.S. and Ni-Vanuatu adults would show similar preferences for high levels of conformity given that creativity and non-conformity are not necessarily associated with good behavior. To examine if adults only apply culturally-specific beliefs about children's behavior, we asked adults to evaluate children from their own versus a different cultural background.

Method

Participants.

Tanna, Tafea Province, Vanuatu.: Sixty-four participants were recruited from Vanuatu (36 female; M_{age}= 31 years, *range* = 18 years – 70 years; exact birthdates were not available for most participants). Ni-Vanuatu participants were recruited in the markets and neighborhoods in Lenakel, Tanna, Vanuatu. Data from 7 additional participants were dropped due to interference from an observer during testing procedures and 2 additional participants were dropped due to experimenter error. Sample size was determined prior to data collection in Vanuatu based on anticipated access to participants and data collection ceased when we reached our goal of 64 usable participants.

Austin, Texas, United States.: Sixty-four participants were recruited from the United States (44 female, 4 participants did not report sex; M_{age}= 37 years, 1 month; *range* = 18 years, 9 months to 52 years, 2 months). U.S. participants were recruited at the research university and a children's museum from parents of children participating in other studies. Participants were primarily Euro-American and from middle- to high-socioeconomic status families and, based on previously-collected demographic information at the children's museum, approximately 95% of the participants had attended college. Sample size was selected to match the number of participants tested in Vanuatu.

Procedure and Coding.: In the U.S., testing was conducted in English in a quiet room in the university children's research lab or in a quiet office at the children's museum. In Vanuatu, testing was conducted in a quiet room or secluded outdoor area in each of the recruitment locations. The study protocol was translated into Bislama (one of the official languages of Vanuatu) and back translated into English by two Ni-Vanuatu teachers with high English proficiency. Two female Ni-Vanuatu research assistants were recruited from

local villages and were extensively trained by the first author on how to execute the protocol. The first or second author was present for all studies in Vanuatu. All studies were transcribed and translated back to English to ensure compliance with the experimental protocol.

Video demonstration.: Using a between subjects design, participants were assigned to one of two video country conditions (same country video or different country video) and one of two conformity framing conditions (low or high). In the same country video condition, participants saw videos of actors from the same country as themselves (i.e., U.S. participants saw U.S. actors; Ni-Vanuatu participants saw Ni-Vanuatu actors). In the different country video condition, participants saw videos of actors from a different country from themselves (i.e., U.S. participants saw Ni-Vanuatu actors; Ni-Vanuatu participants saw U.S. actors). Over the course of the experimental session, each participant watched three videos – one of the adult demonstrator and a video of a high conformity child and a video of a low conformity child. Actor nationality was kept constant throughout the experimental session, so participants either only saw videos of Ni-Vanuatu actors or U.S. actors.

At the beginning of each experimental session, the following words appeared on the screen (and in Vanuatu, the research assistant read them aloud as well), “I am going to show you some videos from the U.S./Vanuatu.” In the U.S., an extra slide was read that clarified where Vanuatu was on a map (since many participants were unfamiliar with the country), and the slide read, “Vanuatu is a group of islands in the South Pacific.” Because all Ni-Vanuatu participants were familiar with where the U.S. was, there was no need to clarify with a map.

The slide then read, “Two children watch an adult demonstrate something new. Before the adult shows the children something new, she says…” At this point, the participants were presented with one of two frames for the task – the high conformity frame, “Everyone always does it like this. Let’s watch what I’m doing. Everyone always does it like this.” Or the low conformity frame, “I’m going to make a necklace. Let’s watch what I’m doing. I’m going to make a necklace.” These two different frames varied in cues to conformity and were used in order to ensure that the instructions given about the task did not influence participants’ judgments. The words then read, “Now you’ll watch the adult.” Participants watched a video of an adult actor (a U.S. or Ni-Vanuatu female actor) demonstrating a necklace-making sequence while engaging in both causally relevant and irrelevant actions. This necklace-making task has been used in past research examining the impact of culture on children’s imitative behavior as a tool for social learning and has been validated as a task that represents typical social learning situations in both the U.S. and Vanuatu (Clegg & Legare, 2016a; 2016b).[2]

The actor sat in front of a set of necklace-making materials (a plastic placemat with one row of 3 circle beads in front of a row of 3 square beads in front of two folded strings) on the table (see Figure 1). The actor began the sequence by looking down and picking up one of

[2]Necklaces made of shells, glass beads, and pig-tusks have long been a part of Ni-Vanuatu culture. Necklaces have been found in many Ni-Vanuatu burial sites (Valentin, Spriggs, Bedford, & Buckley, 2011) and were documented as ornamentation worn by Tannese men in the 1700s (Bonnemaison, 1986/1994; Forster, 1777). Today, Ni-Vanuatu women make necklaces to sell at markets (Douglas & Douglas, 2004; Singh & Hemstock, 2013) and men, women, and children were observed wearing necklaces during the authors’ time in Tanna.

the strings. She held one end of the string in each hand, stretched the string into a straight line, and then brought the ends back together in front of her. Next she repeated this action once more before stretching the string into a straight line and placing it in front of the tray (the side closest to the child) and removing both of her hands. She then picked up a circle bead and touched it to her forehead before stringing it on the right side of the string and moving the bead to the middle of the string. She repeated this sequence for a square bead and a circle bead. After the experimenter placed the last bead on the string, she picked one end of the string up in each hand, held the necklace up, and smiled.

Participants were told, “Now you’ll watch Child 1” and then watched a video of a girl completing the necklace making sequence with the same objects as the adult. Participants were then told, “Now you’ll watch Child 2” and watched a video of another girl completing the necklace making sequence with the same objects as the adult. The videos of the children were taken from previous studies using the necklace-making task, so the behaviors were naturally occurring, rather than scripted videos. Videos of children from both cultures were matched for child age, length, and the types of the behaviors the high and low conformity children displayed. One girl imitated the adult with higher fidelity, engaging in all the same actions as the adult (high conformity child). The other girl eliminated the causally irrelevant actions (did not stretch the string and did not touch the beads to her forehead) and put all of the beads on the string (low conformity child). It is important to note that the low conformity girls from both the U.S. and Vanuatu conformed to some degree in that they placed beads on the string. Here, however, we consider conformity from the perspective of flexible imitation (Legare, et al., 2015) – with high conformity defined as children’s high fidelity imitation of the demonstrated sequence and low conformity defined as children’s elimination of causally-irrelevant actions from the demonstrated behavior (Clegg & Legare, 2016a). The same videos were used for all participants (participants who watched the U.S. videos saw the same two American girls each time; participants who watched the Ni-Vanuatu videos saw the same two Ni-Vanuatu girls). Video order (high versus low conformity child) was counterbalanced across participants.

After watching the videos, participants were told “Remember what the adult told the children-Everyone always does it like this. Let’s watch what I’m doing. Everyone always does it like this.” Or “Remember what the adult told the children – I’m going to make a necklace. Let’s watch what I’m doing. I’m going to make a necklace.” The participants were then asked to indicate “Which one is smart?” and “Which one is well-behaved?” (*forced choice selection*). Participants were asked to choose one of the children, but if participants insisted on endorsing both children this was noted. Following each question, the participants were asked why they made their selection (*explanation*). Using both the forced choice measure (a selection between the high conformity and low conformity child) and an open explanation measure allowed us to assess each participants’ use of conformity as a factor in their decision and their justification of their choice.

Preference for conformity.: Participants’ forced choice selections and explanations were considered together in order to determine whether they endorsed high levels of conformity as important in their evaluations of the two traits of interest. Participants were classified into one of three categories that indicated their endorsement of a particular child for each

question: high conformity, low conformity, and no preference. For an explanation of the boundaries of each category, see Table 1.

Results

A mixed-effects binary logistic regression was performed to test the effects of participant country (2: U.S., Vanuatu), video country (2: same, different), trait (2: smart, well-behaved), and the interaction between participant country and video country on participants' likelihood of endorsing the high conformity child (i.e., the likelihood that participants' responses were coded as belonging to the high conformity category). There were no predicted significant effects of framing (2: high, low) for participants' responses, but this component was retained in the model to control for any variance due to differences in preference across frames for this and all subsequent analyses in Studies 1 and 2. Given that participants' preference for conformity by trait were not independent (i.e., each participant provided an answer for each trait), a random effect of participant was included to control for error variance due to each participants' pattern of responses. For this and all subsequent logistic regression analyses, all predictor variables were standardized, so odds could be interpreted as the odds of endorsing the child who imitated with higher fidelity (high conformity) over the child who imitated with lower fidelity (low conformity) or not indicating a preference (no preference) for a one standard deviation change in a predictor variable[3].

There was a significant interaction between participant country and video country (*odds ratio* = 0.43, $p = .036$). This indicates that U.S. participants were less likely to endorse the high conformity child when evaluating U.S. children (same country) than when evaluating Ni-Vanuatu children and Ni-Vanuatu participants were more likely to endorse the high conformity child when evaluating Ni-Vanuatu children (same country) than when evaluating U.S. children. There was also a significant main effect of trait (*odds ratio* = 0.61, $p = .008$) and a significant main effect of participant country (*odds ratio* = 0.45, $p = .005$). These findings suggest that participants were less likely to endorse the high conformity child when asked, "Which one is smart?" and that, overall, Ni-Vanuatu participants were more likely to endorse the high conformity child than U.S. participants. See Table 2 for the percentage of participants endorsing the high conformity child versus the low conformity child or showing no preference. See Table 3 for a summary of the mixed-effects logistic regression.

To further understand the effects of participant country and video country for each individual trait, binary logistic regressions were performed to test the effects of participant country and video country on preference for conformity for each question.

Smart.—When asked "Which one is smart?", there was a significant interaction between participant country and video country (*odds ratio* = 0.23, $p = .003$) and a significant main effect of video country (*odds ratio* = 2.31, $p = .021$). See Table 4 for a full summary of the binary logistic regression. Post-hoc comparisons with Bonferroni corrections ($p = .05/4 = .0125$ for all post-hoc analyses) to examine this interaction indicate that U.S. participants evaluating U.S. children (same country) were less likely to endorse the high conformity

[3]The logistic regression model was fit to a probit curve due to cell size ($n = 16$/cell).

child than Ni-Vanuatu participants evaluating Ni-Vanuatu children (X^2 = 30.37, df = 1, p < .001). In contrast, U.S. participants evaluating Ni-Vanuatu children and Ni-Vanuatu participants evaluating U.S. children were equally likely to endorse the high conformity child (X^2 = 3.07, df = 1, p = .080).

We also conducted post-hoc analyses to compare the distribution of U.S. and Ni-Vanuatu participants' responses among the three preference for conformity categories. Based on the significant interaction between participant country and video country, we first compared U.S. participants evaluating U.S. children and Ni-Vanuatu participants evaluating Ni-Vanuatu children. There was an effect of participant country on participants' likelihood of endorsing the high conformity child, low conformity child, or showing no preference (X^2 = 32.00, df = 2, p < .001). An examination of the standardized residuals suggests that U.S. participants were less likely to endorse the high conformity child (−2.67) and more likely to indicate no preference (2.55) than Ni-Vanuatu participants when evaluating children from their cultural group. Second, we compared U.S. participants evaluating Ni-Vanuatu children and Ni-Vanuatu participants evaluating U.S. children. There was an effect of participant country on participants' likelihood of endorsing the high conformity child, low conformity child, or showing no preference (Fisher's exact test p = .011), though the absolute values of all standardized residuals were less than 2. This difference may be attributed to a greater number of U.S. participants indicating that they had no preference, or did not view one child as more intelligent than the other.

Overall, when considering the initial binary logistic regression and post-hoc analyses, these data demonstrate a difference in the value of high conformity behaviors in evaluations of intelligence between the U.S. and Vanuatu, with Ni-Vanuatu participants being more likely to endorse the high conformity child as smart, especially when evaluating children from their culture. In contrast, U.S. participants, particularly when evaluating U.S. children, were less likely to endorse the high conformity child as smart, and were more likely to indicate no preference between the children.

Well-behaved.—Participant country (*odds ratio* = 0.40, p =.012) significantly contributed to the model. When asked "Which one is well-behaved?", U.S. participants were less likely to endorse the child who imitated with higher fidelity than Ni-Vanuatu participants since. See Table 4 for a full summary of the logistic regression.

We conducted post-hoc analyses to compare the distribution of U.S. & Ni-Vanuatu participants' responses among the three preference for conformity categories collapsing across video county since it was not found to have a significant impact. There was an effect of participant country on participants' likelihood of endorsing the high conformity child, low conformity child, or showing no preference (X^2 = 37.22, df = 2, p < .001). An examination of the standardized residuals suggests that overall U.S. participants were more likely to indicate no preference (3.74) than Ni-Vanuatu participants.

Discussion

In Study 1, we adapted a novel multivocal methodology (Tobin et al., 1989) to assess differences in cultural attitudes about children's intelligence and, as a counterpoint, good

behavior. Our objective was to better understand the role of conformity in adults' evaluations of children in a far cultural comparison between two distinct cultural contexts – the U.S. and Vanuatu. By having adults observe and compare children's actual behavior rather than only reflect on what a smart or well-behaved child is like, we gained an objective and nuanced view of the role of conformity in adults' evaluations of these two traits.

Our data demonstrate there are cultural differences between the U.S. and Vanuatu in the association between conformity and beliefs about children's intelligence, particularly when adults were evaluating children from their own cultural background. When evaluating children from their in-group, U.S. adults were less likely to endorse the high conformity child as smart and Ni-Vanuatu adults were more likely to endorse the high conformity child as smart. Our data also indicate that conformity is not evaluated in the same way when judging good behavior. Ni-Vanuatu adults were more likely to endorse the high conformity children from both the U.S. and Vanuatu as well-behaved than U.S. adults, but U.S. adults were more likely to endorse the high conformity child as well-behaved than intelligent.

U.S. adults were less likely than Ni-Vanuatu adults to endorse the high conformity child from their own cultural background as smart, indicating that creativity or non-conformity is associated with intelligence in the U.S. to a greater extent than in Vanuatu. When making their selections, U.S. adults who did not select the high conformity child tended to provide reasons consistent with this interpretation, noting the low conformity child's choice to "do her own thing" or "think outside of the box", or indicated no preference for either child, explaining that they were "not sure 'smarts' are a by-product of following directions and copying". In contrast, Ni-Vanuatu adults endorsed the high conformity child as intelligent, citing her ability to "follow the way the big one made it". Ni-Vanuatu adults' endorsement of the high conformity child as intelligent provides the first experimental evidence of what we would expect based on previous ethnographic research. Although the role children's behavioral conformity in perceptions of children's intelligence has not been directly assessed previously, this finding is consistent with multiple ethnographic assessments of what constitutes intelligence across a great variety of world populations, in which adults often remark that an intelligent child is one that can learn by watching adults (Booth, 2002).

This cultural difference in the value of conformity in conceptions of intelligence is further reflected by evidence that adults judged children from their own culture differently than when assessing children from a different culture. U.S. adults selected the high conformity child as smart less often when watching U.S. children than when watching Ni-Vanuatu children. This finding suggests that U.S. adults may view creativity as a trait related to intelligence only in their own culture. In contrast, Ni-Vanuatu adults selected the high conformity child as intelligent more often when watching Ni-Vanuatu children than when watching U.S. children. In both of these cases, the adults were evaluating the children from their in-group with a standard that reflected their cultural conceptions of whether conformity is indicative of intelligence. When asked to evaluate children from the other cultural group, however, adults did not display a similar bias toward their own cultural conceptions of intelligence as U.S. and Ni-Vanuatu adults' likelihood of endorsing the high conformity child were not significantly different from each other. The difference between assessments

of in-group versus out-group members has important methodological implications. In order to obtain an accurate representation of differences in beliefs across cultures, it may be critical to provide situations and examples that are clearly culturally-specific.

When asked to evaluate which child was well-behaved, adults from both cultures displayed greater preference for the high conformity child than when evaluating intelligence, though Ni-Vanuatu adults were more likely to endorse the high conformity child than U.S. adults. Moreover, whether the children belonged to their cultural in-group or out-group did not impact adults' judgments of which child was well-behaved, indicating that adults' perceptions of good behavior may not be as culturally-specific as when they are evaluating intelligence.

Moreover, U.S. adults were more likely than Ni-Vanuatu adults to indicate that neither child was more well-behaved than the other when asked which child was well-behaved, though rarely endorsed the low conformity child as well-behaved. Only about 4.7% percent of U.S. adults endorsed the low conformity child as well-behaved compared to 39.5% of U.S. adults who endorsed the low conformity child as intelligent. This difference in the endorsement of the low conformity child indicates that creativity may only be implicitly linked to intelligence, but not good behavior in the U.S. In contrast, our data suggest that in Vanuatu, children's conformity is linked with both intelligence and good behavior. Seventy-five percent of Ni-Vanuatu adults endorsed the high conformity child as intelligent and 82.8% endorsed the high conformity child as well-behaved. Thus, a solid majority of Ni-Vanuatu adults viewed children's behavioral conformity as related to two desirable traits.

This study provides experimental evidence of cross-cultural differences in the value of conformity in adults' evaluations of children's intelligence. Our findings indicate that behavioral conformity is a sign of intelligence in Vanuatu, which is what we would expect outside of the industrialized West. The nature of our sample, however, does not allow us to broadly generalize to the U.S. as a whole. Our U.S. sample consisted of highly educated individuals who lived in a city renowned for its celebration of individuality, as illustrated by the city's unofficial motto – "Keep Austin weird". It is possible that our results are not representative of Americans as a whole, but rather the attitudes of a particular subset of the population. To examine if adults outside of Austin also held creativity rather than conformity as indicative of children's intelligence, we conducted a follow-up study with a more geographically- and educationally-diverse sample.

Study 2

The objective of Study 2 was two-fold. First, we examined the extent to which our findings about U.S. adults' beliefs about the role of creativity in judgments of children's competency might be specific to participants from the Austin-metropolitan area by examining a broader U.S. sample. Second, we compared U.S. adults in Study 2, who had a range of levels of higher education, to the two groups sampled in Study 1—highly educated U.S. adults and Ni-Vanuatu adults, who had relatively lower levels of formal education—to examine the impact of experience with formal education on adults' judgments.

Method

Participants.—Three-hundred twenty-nine participants (216 women; M_{age}= 37 years, 4 months; *range* = 18 years, 2 months to 77 years, 4 months) were recruited using Amazon Mechanical Turk. Participants were screened prior to participation in the study to ensure that they had grown up in the U.S. and were native English speakers. Two attention check questions that asked about the content of the adult model's demonstration and the children's performance were also included at the end of the study to ensure that participants had attended to the stimuli. An additional 94 participants did not answer both of the comprehension questions correctly and were dropped from the data set. All participants were compensated $0.20. The majority of the participants (60.7%) were white, non-Hispanic, followed by white, Hispanic (24.4%), African American (7%), Asian (4.9%), American Indian or Alaskan Native (1.2%), mixed race (1.5%), and Middle Eastern (0.3%). Participants also had a wide range of educational backgrounds (reported based on highest level completed): 18.8% some high school or high school degree, 31.3% some college, 38.3% bachelor's or associate's degree, 11.6% post-graduate degree.

Procedure and Coding.—Participants followed the same procedure used in Study 1, but adapted for data collection through Amazon Mechanical Turk using Qualtrics.

Results

Comparison 1 – Examining the role of behavioral conformity in participants' judgments of children's intelligence and good behavior in a broader U.S. sample.—A mixed-effects binary logistic regression was performed to test the effects video country (2: same, different), trait (2: smart, well-behaved), and education (dummy coded with college degree—associates or bachelor's degree completed—as the referent) on participants' likelihood of endorsing the high conformity child. As in Study 1, there were no predicted significant effects of framing (2: high, low) for participants' responses, but this component was retained in the model, in addition to a random effect of participant.

Trait contributed significantly to the model (*odds ratio* = 0.53, $p < .001$). This finding suggests that, as in Study 1, participants were less likely to endorse the high conformity child when asked, "Which one is smart?" than when asked, "Which one is well-behaved?". There was also an effect of education on participants' likelihood of endorsing the high conformity child, such that participants whose highest level of education was high school were more likely to endorse the high conformity child (*odds ratio* = 1.39, $p = .044$). See Table 2 for the percentage of participants that endorsed the conformity child, the low conformity child, and showed no preference by trait and video country. See Table 5 for a summary of the mixed-effects logistic regression.

Comparisons by trait.—To further understand the effects of participants' education level for each individual trait, binary logistic regressions were performed to test the effects of participant education level and video country on preference for conformity for each trait. There were no significant effects of video country or education in either analysis. See Table 6 for a full summary of the binary logistic regressions.

When considered together, the mixed-effect logistic regression and logistic regressions by trait indicate that the effect of education is only evident when considering the overall likelihood of a participant endorsing the high conformity child. Thus, we are cautious in interpreting the effect of education found in the mixed-model.

Comparison 2 – Examining the impact of education on responses in Study 1.—A mixed-effects binary logistic regression was performed to compare the data collected in Study 1 with that of Study 2. Video country (2: same, different) and trait (2: smart, well-behaved) were included in the model as fixed effects. We also examined the effect of grouping, distinguished by education level for participants in Study 2 and by country in Study 1, resulting in six groups – Study 2 – high school, some college, college degree, and post-graduate degree and Study 1 – U.S. and Ni-Vanuatu participants. Group membership was dummy coded group membership with Study 1 Ni-Vanuatu participants as a referent. This comparison allowed us to see if U.S. groups differed significantly from the Ni-Vanuatu participants. A random effect of participant was also included.

Trait contributed significantly to the model (*odds ratio* = −0.54, $p < .001$). This finding suggests that participants were less likely to endorse the high conformity child when evaluating which child was smart. In addition, group membership significantly impacted on participants' likelihood of endorsing the high conformity child. U.S. participants whose highest level of education was high school did not differ significantly from the referent Ni-Vanuatu sample (*odds ratio* = −0.69, $p = .062$). All other U.S. groups were significantly less likely than the Ni-Vanuatu sample to endorse the high conformity child (see Table 7 for odds ratios and *p*-values and for a full summary of the mixed-effects logistic regression).

To further examine the effects of group membership for each individual trait, binary logistic regressions were performed to test the effects of group membership and video country on preference for conformity for each trait. Significant effects are reported below. See Table 8 for a full summary of the binary logistic regressions.

Smart.—There was a significant effect of group membership on participants' likelihood of endorsing the high conformity child as smart—all U.S. participant groups, including those whose highest level of education was high school, were less likely than Ni-Vanuatu participants to endorse the high conformity child.

Well-behaved.—There was a significant effect of video country on participants' likelihood of endorsing the high conformity child as well-behaved, such that participants were less likely to endorse the high conformity child if watching videos of actors from their own country (*odds ratio* = −0.76, $p = .033$). Unlike when asked to endorse a child as smart, there was not a significant difference between all of the U.S. participant groups and the Ni-Vanuatu sample—participants in the high school, some college, and post-graduate degree groups were all equally likely as the Ni-Vanuatu group to endorse the high conformity child as well-behaved. The U.S. college degree group and U.S. Study 1 sample were both less likely to endorse the high conformity child as well-behaved.

Taken together, the mixed-effect logistic regression and logistic regressions by trait demonstrate that the effect of education indicated by the mixed model is being driven by participants' responses to "Which child is well-behaved?" rather than which child is smart. Overall, we replicate our finding from Study 1 that U.S. participants are less likely than Ni-Vanuatu participants to endorse the high conformity child as intelligent. The findings from this comparison indicate that Ni-Vanuatu and U.S. adults, particularly those that participated in Study 2, may be equally likely to endorse the high conformity child as well-behaved.

Discussion

To examine the extent to which our findings in Study 1 could be generalized to represent broader U.S. cultural attitudes about the role of children's behavioral conformity in adults' judgments of children's competency, we recruited a more diverse U.S. sample online. Here, we conducted a close cultural comparison by examining groups with different levels of education in the U.S., motivated by previous work suggesting that education level may impact the emphasis adults place on reinforcing behaviors related to children's conformity, such as obedience (Tudge et al., 2000). We found that adults whose highest level of education was high school were more likely to endorse the high conformity child overall than adults from other educational backgrounds. There was no effect of education level, however, when examining adults' preference for conformity by trait. Critically, all U.S. adults in Study 2—regardless of education level—were equally-likely to endorse the high conformity child as intelligent.

To examine the effect that education may have had on the results of Study 1, we compared our samples from Study 1 to that of Study 2. We found that, with the exception of the high school education group, all U.S. groups were significantly less likely than the Ni-Vanuatu sample to endorse the high conformity child. This suggests that experience with formal education may have an impact on adults' judgments of children's competency and highlights the importance of considering samples that draw from a diverse group of individuals even within the same country. We interpret this effect with caution given that comparisons between the groups by trait indicated that all U.S. groups—even the U.S. high school group—were less likely than the Ni-Vanuatu sample to endorse the high conformity child as intelligent.

One key difference between the findings of the first and second studies is that participants in the second study did not display different patterns of endorsement in their evaluations of children's intelligence when evaluating in-group versus out-group children. In Study 1, U.S. participants evaluating U.S. children were less likely to endorse the high conformity child as intelligent than Ni-Vanuatu participants evaluating Ni-Vanuatu children, but U.S. participants evaluating Ni-Vanuatu children and Ni-Vanuatu participants evaluating U.S. children were equally likely to endorse the high conformity child. There was not a significant interaction between video country and participant country on judgments of children's intelligence in Study 2 or in the cross-study comparison. In contrast, in the cross-study comparison, participants were less likely to endorse the high conformity child from their own culture as well-behaved. It is possible that evaluating children in person versus online has an impact on whether adults are more sensitive to group membership. It is

also possible that awareness of group membership and cultural differences in judgments of intelligence may have been more salient for participants in Study 1 than in Study 2. Further research is needed to examine what impact, if any, evaluating children in person has on whether adults are more sensitive to group membership and why this might change when evaluating different traits.

Close and far cultural comparisons allow us to understand what may explain differences between cultures in evaluations of children's intelligence based on behavioral conformity. By examining diversity between and within cultures, we are more able to consider the impact of experiences, such as exposure to Western educational practices, on adults' perceptions about children's competency.

Conclusions

There is a growing recognition that Western concepts, practices, and socialization goals may be the global exception rather than the rule (Haun & Nielsen, 2016; Henrich et al., 2010; Lancy, 2015). Yet the vast majority of measures of intelligence have been developed in the West (Kathuria & Serpell, 1998; Serpell, 2011; Sternberg & Grigorenko, 2004) with little consideration about how little Western concepts of intelligence may generalize to other cultures. Differences in how children's competency is judged and the kinds of behaviors that are encouraged as a result may impact the development of children's social learning strategies.

The present studies provide the first experimental evidence for cultural variation in the impact of children's conformity on adults' judgments of intelligence. Data from Study 1 revealed that U.S. adults evaluating U.S. children were less likely than Ni-Vanuatu adults evaluating Ni-Vanuatu children to equate conformity with intelligence. To assess if this effect was specific to the samples in our first study, we recruited a more diverse sample of U.S. adults.

Our data from Study 2 and our cross-study comparison demonstrate three key findings: First, Study 2 participants were more likely to endorse the high conformity child than the participants in Study 1. Second, when considering Study 2 data only, there was no significant impact of education level (high school education through post-graduate degree) on participants' likelihood of endorsing the high conformity child as intelligent. Finally, our cross-study comparison indicated that overall, regardless of experience with formal education, U.S. adults were less likely to endorse the high conformity child as intelligent than Ni-Vanuatu adults. Thus although the Austin, Texas-based adults in our first sample were less likely to equate conformity with intelligence than adults in the broader U.S. sample, overall, there are distinct cultural differences in adults' evaluations of children's competency between the U.S. and Vanuatu.

Adults' justifications for their judgments also provide insight into cross-cultural differences in the role of conformity versus creativity in adults' evaluations of children's intelligence. In the U.S., adults commented on the low conformity child's creativity and individuality as signs of intelligence. In contrast, Ni-Vanuatu adults often mentioned the high conformity child's ability to watch and closely follow the actions of an adult as a sign of her

intelligence. Here, we note that U.S. adults, but not Ni-Vanuatu adults, also frequently mentioned that they did not consider children conforming or not conforming as a sign of intelligence. Rather, approximately 30% of U.S. adults across both studies indicated that behavioral conformity was not enough to evaluate children's intelligence or behavior. This difference in beliefs about intelligence has consequences for understanding the types of behaviors that are socialized and encouraged in each culture. Critically, if behaviors other than conformity are encouraged in children at an early age, this may have implications for social learning (Corriveau, Kim, Song, & Harris, 2013; DiYanni, Corriveau, Kurkul, Nasrini, & Nini, 2015).

Our data demonstrate that experience with formal education does not impact how U.S. adults evaluate children's behavioral conformity in judgments of competency. This is not to say, however, that differences in experience with Western education may not contribute to the differences found between U.S. and Vanuatu adults' judgments (Mesoudi, Chang, Murray, & Lu, 2014). Primary school is not compulsory in Vanuatu and few Ni-Vanuatu adults have completed secondary school, leading to differences in experience with education between our U.S and Ni-Vanuatu participants. This is changing, however, as more Ni-Vanuatu children are attending and completing primary school and secondary schools and as the schools themselves gain access to different resources. Future research is needed to examine the trends associated with changing levels of education in Ni-Vanuatu culture, given that rates of development have been found to effect parent beliefs about children's socialization.

These two studies set the stage for further investigation of the relations between the development of children's social learning and changing socialization patterns in WEIRD cultures. Intelligence and good behavior, however, are only two of many traits that could vary cross-culturally. Additional research is needed to examine the importance of other traits and desired developmental outcomes, such as independence and congeniality, and their behavioral indicators. Moreover, previous work has indicated distinct cognitive, emotional, and motivational outcomes associated with cultural distinctions in the value of independence (Markus & Kitayama, 1991; Varnum et al., 2011). Future work is needed to examine the impact of independent versus interdependent cultural practices on how behavioral conformity is perceived.

Examining cultural variation in the role conformity plays in adults' evaluations of children will inform our understanding of how socialization may impact the development of children's conformity bias. This is especially important when considering that some cultural patterns of beliefs seem to be counterintuitive to the kinds of behaviors children display early in our development. Given the culturally-bound nature of intelligence, it is also critical to consider how our understanding of what intelligence is impacts how the kinds of measures developed to evaluate intelligence and whether they generalize across cultures. We examined adults' judgments of children's competency and behavior in two cultural contexts—Vanuatu, which is representative of childrearing environments, and the U.S., which is highly unrepresentative. Our findings suggest that Ni-Vanuatu conceptions of intelligence privilege conformity. In contrast, U.S. conceptions of intelligence, which privilege non-conformity, are WEIRD and reinforce behavior that may even contradict the kinds of conformist behavior children readily engage in.

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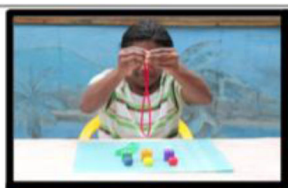
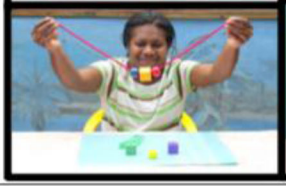
Component of action sequence	Description of model's (M) behavior	Ni-Vanuatu Model	U.S. Model
1. Stretch string	M brings the ends of the string together and then opens it twice.		
2. Place string	M lays the string out on the table above the tray.		
3. Three bead to forehead touches	M touches the purple, yellow, & green beads to forehead before placing them on the string.		
4. Circle, square, circle	M's necklace consists of three beads in order– a circular bead, a square bead, and a circular bead.		
5. Three beads	M's necklace consists of only three beads.		

Figure 1.
Video demonstrations of adult models in the U.S. and Vanuatu.

Table 1.

Preference for conformity coding categories.

Category	Forced choice selection	Explanation	Examples of explanations
High conformity	High conformity child	Participant provided explanation for selecting high conformity child that was consistent with forced choice selection. Often these explanations mentioned the child's conformity or provided normative reasoning.	"She was able to completely duplicate the adult's actions." "Watched the teacher and made the same."
Low conformity	Low conformity child	Participant provided explanation for selecting low conformity child that was consistent with forced choice selection. Often these explanations mentioned the child's deviation from the adult's demonstration.	"[She] shows thinking on her own and outside of the box, not doing what everyone else does." "She used all of the beads."
No preference	Either child	Participant indicated that they would like to select both children, that both children are smart/well-behaved, or that they could not evaluate who fit the trait based on the task.	"They are both smart." "Both children sat quietly and completed the task." "This task is not an assessment of intelligence."

Table 2.

Percentage of participants in each preference for conformity category by question, participant category (location in Study 1, education level in Study 2), and video country. The number of participants in each category is noted below the category name.

			Smart			Well-behaved		
Study	**Participant Category**	**Video Country**	**High conformity**	**Low conformity**	**No preference**	**High conformity**	**Low conformity**	**No preference**
1	Austin, TX (N = 64)	Same	18.8%	40.6%	40.6%	43.75%	0%	56.25%
		Different	40.6%	37.5%	21.9%	59.4%	9.4%	31.2%
	Tanna, Vanuatu (N = 64)	Same	87.5%	12.5%	0%	78.1%	21.9%	0%
		Different	62.5%	37.5%	0%	87.5%	12.5%	0%
2 (MTurk)	High school (N = 62)	Same	55.2%	20.7%	25.9%	75.9%	0%	24.1%
		Different	57.6%	30.3%	12.1%	84.8%	0%	15.2%
	Some college (N = 103)	Same	54.9%	23.5%	21.6%	68.6%	3.9%	27.5%
		Different	53.8%	25.0%	21.2%	76.9%	1.9%	21.2%
	College degree (N = 126)	Same	50.0%	18.4%	31.6%	60.5%	6.6%	32.9%
		Different	44.0%	32.0%	24.0%	76.0%	4.0%	20.0%
	Post-graduate degree (N = 38)	Same	33.3%	38.9%	27.8%	83.3%	5.6%	11.1%
		Different	40.0%	10.0%	50.0%	60.0%	0%	40.0%

Table 3.

Mixed-effects binary logistic regression analyses for fixed effects of participant country, video country, & trait and random effect of participant on preference for conformity.

Predictors	*β*	*SE β*	*Z-Value*	*p*	*Odds Ratio*
Constant	0.97	0.26	3.67	<.001***	2.63
Participant Country (U.S.)	−0.79	0.28	−2.78	.005**	0.45
Video Country (same)	0.28	0.29	0.95	.343	1.32
Conformity Framing (high)	0.14	0.20	0.71	.477	1.15
Trait (smart)	−0.50	0.19	−2.65	.008**	0.61
Participant Country (U.S.) x Video Country (same)	−0.85	0.40	−2.09	.036*	0.43

* p < .05,

** p < .01,

*** p < .001

Table 4.

Binary logistic regression analyses for effects of participant country and video country on preference for conformity by question.

Evaluation of Child	Predictors	*β*	*SE β*	*Z-Value*	*p*	*Odds Ratio*
Smart	Constant	0.24	0.26	0.94	.349	1.27
	Participant Country (U.S.)	−0.56	0.32	−1.75	.080	0.57
	Video Country (same)	0.84	0.36	2.31	.021 *	2.31
	Conformity Framing (high)	0.16	0.25	0.66	.510	1.17
	Participant Country (U.S.) X Video Country (same)	−1.49	0.50	−2.99	.003 **	−0.23
Well-behaved	Constant	1.10	0.31	3.60	<.001 ***	3.01
	Participant Country (U.S.)	−0.91	0.36	−2.53	.012 *	0.40
	Video Country (same)	−0.37	0.38	−0.99	.32	0.69
	Conformity Framing (high)	0.10	0.24	0.40	.69	1.10
	Participant Country (U.S.) X Video Country (same)	−0.02	0.49	−0.04	.96	0.98

* p < .05,

** p < .01,

*** p < .001

Table 5.

Mixed-effects binary logistic regression analyses for fixed effects of video country, trait, & education and random effect of participant on preference for conformity in U.S. Mechanical Turk sample (Study 2).

Predictors	*β*	*SE β*	*Z-Value*	*p*	*Odds Ratio*
Constant	0.48	0.14	3.39	<.001***	1.62
Video Country (same)	−0.10	0.12	−0.82	.410	0.91
Conformity Framing (high)	0.20	0.12	1.69	.090	1.22
Trait (smart)	−0.64	0.11	−5.70	<.001***	0.53
Education (vs. college degree) High school	0.33	0.16	2.01	.044*	1.39
Some college	0.19	0.14	1.37	.172	1.21
Post-graduate degree	−0.12	0.19	−0.62	.536	0.89

* p < .05,

*** p < .001

Table 6.

Binary logistic regression analyses for effects video country and education level on preference for the high conformity child by question.

Evaluation of Child	Predictors	*β*	*SE β*	*Z-Value*	*p*	*Odds Ratio*
Smart	Constant	−0.12	0.16	−0.78	.438	0.89
	Video Country (same)	0.03	0.14	0.24	.815	1.03
	Conformity Framing (high)	0.08	0.14	0.59	.556	1.09
	Education (vs. college degree) High school	0.23	0.20	1.15	.250	1.25
	Some college	0.18	0.17	1.05	.292	1.19
	Post-graduate degree	−0.28	0.24	−1.17	.243	0.76
Well-behaved	Constant	0.43	0.17	2.61	.009**	1.54
	Video Country (same)	−0.23	0.15	−1.52	.13	0.80
	Conformity Framing (high)	0.28	0.15	1.91	.056	1.33
	Education (vs. college degree) High school	0.40	0.22	1.83	.067	1.49
	Some college	0.16	0.18	0.93	.354	1.18
	Post-graduate degree	0.06	0.25	0.24	.813	1.06

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 7.

Mixed-effects binary logistic regression analyses for fixed effects of video country, trait, & group membership and random effect of participant on likelihood of endorsing the high conformity child.

Predictors	*β*	*SE β*	*Z-Value*	*p*	*Odds Ratio*
Constant	1.19	0.18	6.71	<.001***	3.29
Video Country (same)	−0.12	0.10	−1.20	.230	0.89
Conformity Framing (high)	0.18	0.10	1.81	.071	1.20
Trait (smart)	−0.60	0.10	−6.27	<.001***	0.55
Group membership (vs. Study 1 Ni-Vanuatu participants)					
U.S. high school	−0.37	0.20	−1.87	.062	0.69
U.S. some college	−0.52	0.18	−2.87	.004**	0.60
U.S. college degree	−0.70	0.18	−4.02	<.001***	0.49
Post-graduate degree	−0.82	0.23	−3.65	<.001***	0.44
U.S. Study 1	−1.19	0.20	−5.89	<.001***	0.28

** p < .01

*** p < .001

Table 8.

Binary logistic regression analyses for effects of group membership and video country on preference for conformity by question.

Evaluation of Child	Predictors	*β*	*SE β*	*Z-Value*	*p*	*Odds Ratio*
Smart	Constant	0.61	0.19	2.21	.001**	1.84
	Video Country (same)	0.04	0.12	0.32	.750	1.04
	Conformity Framing (high)	0.10	0.12	0.82	.415	1.10
	Group membership (vs. Study 1 Ni-Vanuatu participants)					
	U.S. high school	−0.52	0.23	2.21	.027*	0.60
	U.S. some college	−0.57	0.21	−2.68	.007**	0.57
	U.S. college degree	−0.74	0.20	−3.64	<.001***	0.48
	Post-graduate degree	−1.02	0.27	−3.79	<.001***	0.36
	U.S. Study 1	−1.21	0.24	−5.10	<.001***	0.30
Well-behaved	Constant	0.98	0.21	4.74	<.001***	2.67
	Video Country (same)	−0.27	0.13	−2.13	.033*	0.76
	Conformity Framing (high)	0.23	0.13	1.84	.066	1.26
	Group membership (vs. Study 1 Ni-Vanuatu participants)					
	U.S. high school	−0.10	0.26	−0.39	.698	0.90
	U.S. some college	−0.33	0.23	−1.48	.139	0.71
	U.S. college degree	−0.50	0.22	−2.26	.024*	0.61
	Post-graduate degree	−0.44	0.29	−1.54	.123	0.64
	U.S. Study 1	−0.92	0.24	−3.77	<.001***	0.40

* p < .05,

** p < .01,

*** p < .001