



Published in final edited form as:

Cogn Dev. 2009 July 1; 24(3): 284–292. doi:10.1016/j.cogdev.2009.06.003.

Developmental Changes in Judgments of Authentic Objects

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Abstract

This study examined the development of an understanding of authenticity among 112 children (preschoolers, kindergarten, 1st-graders, and 4th-graders) and 119 college students. Participants were presented with pairs of photographs depicting authentic and non-authentic objects and asked to pick which one belongs in a museum and which one they would want to have. Results suggest that both children and adults recognize the special nature of authentic objects by reporting that they belong in a museum. However, this belief broadens with age, at first just for famous associations (preschool), then also for original creations (kindergarten), and finally for personal associations as well (4th grade). At all ages, an object's authentic nature is distinct from its desirability. Thus, from an early age, children appear to understand that the historical path of an authentic object affects its nature. This work demonstrates the importance of non-obvious properties in children's concepts. For preschool as well as older children, history (a non-visible property) adds meaning beyond the material or functional worth of an object.

For adults, objects can become special by virtue of their history: the first edition of a book, a dress worn by Princess Diana, your grandmother's engagement ring—all are judged differently when one knows their origins. Placing value on authentic things (those that have an historical link to a person, event, time, or place of some significance) often entails overlooking outward appearances and focusing instead on non-obvious qualities. Two items can be otherwise identical but treated very differently because of their history (e.g., a copper U.S. 1943 penny is worth a small fortune, whereas a copper U.S. 1942 penny is worth just 1 cent).

Adults show an appreciation for authenticity in many ways in their everyday lives. We visit museums, we collect objects associated with “famous” people or events, and we place sentimental value on objects associated with loved ones and special moments in our personal lives. Prior research has shown that college students in both the U.K. and the U.S. consistently treat several different types of authentic items (ranging from Picasso paintings, to handwritten Beatles lyrics, to moon rocks) as more valuable than matched control (non-authentic) objects, more desirable to keep, and more desirable to touch (Frazier, Gelman, Wilson, & Hood, 2009). This effect was particularly strong among participants who had an attachment object as a child (a special blanket or stuffed animal with which a child has a strong emotional bond), although even those who had not had an attachment object evaluated authentic objects more highly than non-authentic objects.

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How or when does an appreciation for or understanding of authenticity develop? There are two competing hypotheses. One possibility is that an understanding of authenticity is late-developing, as it requires overlooking the current perceptual and functional features of an object. An authentic object may appear identical to an inauthentic object (e.g., a forged painting may look just like the original), or even may appear less desirable than an inauthentic object (e.g., the first edition of a book may be shabby and mildewed, compared to a brand-new reprinting). Given the significance of outward perceptual and functional features in early childhood (Piaget, 1990; Rakison & Oakes, 2003), children may at first care more about the material qualities of an object than its history. One example of developmental change of this sort can be found in a series of experiments conducted by Gutheil, Bloom, Valderrama, and Freedman (2004). Children were shown various objects that were altered by means of some transformation (e.g., a crushed, shredded paper cup). Most adults judged that the object was still a member of its original kind (e.g., it was still a cup), thereby privileging its origins. In contrast, preschoolers focused on its current state, judging that its identity was not maintained (e.g., it was no longer a cup). Gutheil et al. concluded that children at first judge an object's identity based on its current properties, only later attending to the object's history.

A contrasting view is that understanding an object's history is an outgrowth of children's early attention to spatiotemporal continuity when perceiving objects and determining identity. Even infants are highly adept at tracking the identity of individual objects (Spelke, Kestenbaum, Simons, & Wein, 1995), and by preschool age children skillfully monitor spatiotemporal cues to determine identity (Gutheil, Gelman, Klein, Michos, & Kelaita, in press; Gutheil & Rosengren, 1996; Hall, 1996; Marcus, 2001). Patterns of naming also generally rely on historical continuity, in that we typically give the same name to someone as he or she grows, despite radical changes from infancy to old age—a point that even preschoolers appreciate (Sorrentino, 2001). On this view, even young children may attend to an item's history and may be capable of appreciating the special nature of authentic objects.

This attention to historical path can also be found when preschool children are asked to reason about drawings (Bloom & Markson, 1998; Gelman & Ebeling, 1998) or everyday artifacts (Gelman & Bloom, 2000). In Gelman and Ebeling's study, preschoolers saw simple drawings roughly shaped like various nameable objects (e.g., a bear). 1998). One group of children were told that each item was created *intentionally* (e.g., someone painted the picture). Another group were told that the same items were created *accidentally* (e.g., someone spilled some paint). Participants were then asked to say what the corresponding drawing was. Children were strongly influenced by the origins of the pictures. For intentional creations, participants named the shapes (e.g., "a bear"); for accidental creations, participants referred to the pictures in some other way, such as describing the literal materials (e.g., "paint").

Another source of evidence suggesting early attention to historical path comes from studies of "magical contagion"—the belief that qualities (positive or negative) can be transferred from one individual to another on the basis of contact. For example, adults may prefer not to wear freshly laundered clothing that was once worn by someone who suffered a misfortune or committed a crime (Nemeroff & Rozin, 2000). Adults may also think there is positive value in wearing clothes that a well-respected or beloved individual had once worn (although judgments of positive contagion tend to be weaker than judgments of negative contagion; Rozin, Nemeroff, Wane, & Sherrod, 1989).

We are aware of only one study that has examined children's sensitivity to positive contagion. Johnson and Jacobs (2001) examined what children (ages 4-5 and 6-8 years) and adults believe about the effects (if any) of wearing the same sweater that had been worn by a beloved public figure: Mr. Rogers (host of a children's television program). In the experiment, two items were contrasted: a sweater said to be worn by Mr. Rogers and an identical sweater that was said

never to have been worn by Mr. Rogers. Most adults and some older children reported that wearing Mr. Rogers's sweater would lead to behavior changes (acting friendlier), emotion changes (feeling more special), and even transfer of essence (the sweater will pass “something of Mr. Rogers” to its wearer). However, the most consistent finding was that most children of both ages reported that the sweater worn by Mr. Rogers would be more appropriate than the other sweater for display in a museum. This judgment implies that the original sweater was regarded as more authentic.

One further indication of an early sensitivity to origins and authenticity can be found in children's sensitivity to ownership from a very young age (Eisenberg-Berg, Haake, & Bartlett, 1981; Hay, 2006). An example of this can be found in children's attachment to transitional objects (e.g., a beloved blanket; Litt, 1986; Winnicott, 1969). Parents report that children are highly attentive to cues that their attachment object is indeed the original, and they reject other replacements. Hood and Bloom (2008) conducted an experimental study that provided a strong test of this belief. They showed children (3-6 years of age) a machine that was said to create exact duplicates of objects. When their own attachment object was placed in the duplicating machine, preschool children reported that they preferred to keep the original object and not the copy.

The goal of the present study was to determine if and when children attribute special meaning to items based on their historical path. As illustrated by the studies reviewed here, children in a range of contexts (naming, concepts of contagion, judgments of ownership) display attention to historical path and corresponding sensitivity to the non-obvious properties of objects. In this study we examine whether history (a non-visible property) adds meaning beyond the material or functional nature of an object. In examining this question, we make a distinction between intrinsic value of an object versus value to oneself personally. These judgments seem intuitively distinct in adults (e.g., I might highly value my oldest pair of shoes because they are comfortable on my feet, but I don't judge them to have special value to anyone else; similarly, I might personally dislike a famous work of art but recognize its value to the larger community). We were interested in whether children have a sense of the authentic nature of objects even when such judgments diverge from subjective value.

Accordingly, we focused on two dimensions along which authentic objects can be evaluated: whether or not they belong in a museum and whether or not the participant would want to have them. The *Museum* question was included to gauge concepts of authenticity (one's understanding that objects have meaningful historical paths and therefore are appropriate for public display). We selected this measure to assess children's understanding of the intrinsic authentic nature of objects. Museums display objects of special value to the public at large and thus provide a means to assess children's judgments of authenticity. Museums are also of interest because they are an educational setting used to present historical artifacts, and it is of great practical interest to know how children interpret this context. The *Want* question was included as a baseline control to gauge the desirability of each item. By comparing responses to the Museum question to responses to the Want question, we can assess the extent to which authenticity adds meaning to children's judgments of the nature of an object, beyond its desirability.

We examined three distinct types of authentic objects: original creations (e.g., the very first teddy bear), famous associations (e.g., the U.S. President's flag pin), and personal associations (e.g., one's own baby blanket). Original creations and famous associations present an important contrast because, although both are significant because of their historical path, only famous associations include an element of positive contagion. We therefore predicted that children would appreciate famous associations first. Finally, personal associations were included as a control. Prior research showed that adults judged original creations and famous associations

to be of greater inherent value than personal associations (Frazier et al., 2009). Adults judged personal associations to be of value to the owner only and therefore much less appropriate for display in a museum. By including personal associations, we can determine whether children treat any authentic item as belonging in a museum, or instead whether they appropriately limit this judgment to those that are appropriate for public display.

Method

Participants

Participants included preschoolers ($N = 43$, mean age = 4-1, $SD = 4.44$ months; 22 girls, 21 boys), kindergartners ($N = 24$, mean age = 5-7, $SD = 4.68$ months; 11 girls, 13 boys), 1st graders ($N = 22$, mean age = 7-3, $SD = 4.32$ months; 11 girls, 11 boys), 4th graders ($N = 23$, mean age = 10-1, $SD = 4.08$ months; 15 girls, 8 boys), and college undergraduates ($N = 119$, mean age = 19; 62 women, 57 men). One preschool-aged child was eliminated because she answered both warm-up items incorrectly on the Museum task.

Preschool and kindergarten children were recruited from a university preschool in a midwestern U.S. university town. Elementary school children were recruited from a school in a western U.S. town and were of middle-class backgrounds similar to those of the younger children. Adults were participants in an undergraduate psychology subject pool at a midwestern U.S. university.

Materials

Materials included 12 pairs of photographs of an authentic object contrasted with an inauthentic object. We used three different types of authentic objects: *original creations* (the very first teddy bear, computer, bicycle, and game of Candy Land); *famous associations* (the rubber ducky owned by Ernie of Sesame Street, Cookie Monster's cookie, the (U.S.) President's flag pin, and Dorothy's ruby slippers [from the Wizard of Oz]); and *personal associations* (the participant's own baby blanket, baby hat, baby toy, and baby shoes). The inauthentic object paired with each authentic object was of the same category but was not associated with any source of authenticity (e.g., the match for the very first teddy bear was a brand-new teddy bear).

We chose to use photographs of the original creation items that were either the actual very first of their kind or were of the same era. Consequently, the original creations and their inauthentic contrasts differed in appearance. For example, the very first bicycle was wooden and old-looking, whereas the brand-new bicycle was metal and shiny. Thus, the authentic item was typically less attractive than the inauthentic item. For this reason, the original creation items provided an especially clear test of whether children's judgments of authenticity extend beyond their desire for an object. For both the famous associations and the personal associations, the authentic and inauthentic items were equivalent in appearance, and we counterbalanced across participants which photo in a pair was deemed the authentic one. The famous association item sets also included photos of the famous individuals that were linked to these items (e.g., Ernie, for the rubber ducky set). The inauthentic items for the famous association items were described as belonging to individuals in the experimenter's life (e.g., her dad, her sister). For the personal association item sets, the pictures were not actual photos of objects from participants' past, but were instead photos depicting gender-neutral objects (e.g., two baby hats).

Procedure

Children—Children were tested individually in a quiet room at their school. First they were presented a task designed to assess their basic knowledge of what a museum is. Preschool and kindergarten children saw three pictures of local museums (an art museum, a natural history museum, and a children's hands-on science museum) and were asked if they had ever visited

them, if they knew what a museum is, and what is inside a museum. Children in these two younger age groups also were presented with two warm-up questions in which they were asked which of two items belonged in a museum (e.g., a dinosaur bone or a fried chicken leg). Preceding the Want question block, these children received two additional warm-up questions in which they were asked which of two items they would want to have (e.g., roller skates or a dirty sock). The majority (86%) of preschoolers' responses to the warm-up questions were correct, and all of the kindergarteners answered both warm-up questions correctly.

The first- and fourth-grade children were asked three open-ended questions: "Do you know what a museum is?", "What are some museums that you have visited?", and "Do you know what is inside a museum?"

Following this initial assessment, the main task was introduced. A researcher presented each set of pictures with short descriptions for each authentic and inauthentic item. For example, the teddy bears (authentic and inauthentic) were introduced as follows: "This [pointing to picture of authentic item] is a picture of the very first teddy bear that was ever made. This [pointing to picture of inauthentic item] is a picture of a brand-new teddy bear from the store." The personal association items were worded to clarify that the photo was not actually of the child's possessions. For example, for an "authentic" object, the researcher said, "When you were a baby you probably had a favorite baby blanket. When I show you this picture, I want you to think about your baby blanket." Children often provided additional details (e.g., "I still have my baby blanket and I still use it, had it since I got born") and said "mine" when choosing between the new item and the personal association item, suggesting that this procedure was effective in prompting children to remember these items from their past. For the inauthentic object, the description was the same as with the other types of objects, "This picture is a brand-new baby blanket from the store."

For each item set, following the descriptions the child was asked one of two questions: "Which one belongs in a museum?" or "Which one would you want to have?" The child was reminded of the choices (e.g., "The brand-new teddy bear or the very first teddy bear?"). The researcher presented all 12 item sets twice, once for each of the two questions. The order of the questions was balanced across participants, with half responding to the "belongs in a museum" questions first and the other half responding to the "want to have" questions first.

Items were presented in blocks (original creations, famous associations, and personal associations), with order counterbalanced across participants. The order of presentation of each picture set was randomized within each block, and the left-right position of the authentic object was also counterbalanced within and across participants.

Adults—Adults received a paper-and-pencil version of the task. Block of the tasks, presentation of the picture sets, and balancing of the questions were identical to the presentation orders used with the child participants. Adults received the main task only (no museum knowledge task or warm-up questions).

Results

Museum Knowledge

We coded children's responses to the museum questions in two respects: a) whether they reported ever having been to a museum (coded as "yes" if the child indicated they had visited a museum, including when the younger children pointed to one of the pictures of museums we provided), and b) whether they were able to accurately describe a museum and/or its contents. Responses were classified into 7 categories: original creations, famous associations, personal associations, items that are "old" such as dinosaur bones, items typical of a children's science

museum or describing a museum as someplace you go to play, giving an accurate description of a museum or its contents that does not fit in one of the previous categories (e.g., art; things that you can't touch), or an inaccurate or “don't know” response. A 20% sample of the data was coded by a second coder, with 96% agreement between coders for whether the participant had ever been to a museum and 89% agreement for descriptions of museums and their contents.

The majority of children in each age group (42 of 43 preschoolers, 24 of 24 kindergartners, 15 of 22 first graders, and 23 of 23 fourth graders; 93% of children overall) demonstrated basic museum knowledge by indicating that they had visited at least one museum and/or giving an accurate answer regarding the nature of a museum and its contents. Even the youngest children were able to provide insightful descriptions about the nature of museums. Sample descriptions included: “a thing that has old things that they don't use anymore” (preschooler), “a place where famous discoveries are put” (kindergartner), “a place where you get to see special stuff that is very fragile and special and amazing” (first grader), and “a building that has to do with a certain thing with stuff in it that you can learn about, like trains” (fourth grader).

Although the vast majority of children were familiar with the concept of a museum, they rarely mentioned authentic objects of the sort used in this study (original creations, famous associations, or personal associations). Altogether, only 9 of 112 children (8%) did so: 0 preschoolers, 2 kindergartners, 1 first grader, and 6 fourth graders. This result is important, as it indicates that children's acceptance of items on the primary task is unlikely to be due to analogizing to particular examples of museum items they had seen previously.

Authentic versus Inauthentic Object Choices

To analyze responses to the main task, we scored choice of the authentic object as “1” and choice of the inauthentic object as “0,” yielding scores ranging from 0-4 for each type of authentic object (original creations, famous associations, and personal associations) for each participant (Table 1). We conducted a 5 (age: preschool, kindergarten, 1st grade, 4th grade, adult) \times 2 (question: Museum, Want) \times 3 (object type: original creation, famous association, personal association) analysis of variance (ANOVA), with age as a between-subjects factor and question and object type as within-subject factors. This analysis showed significant main effects for question, $F(1, 226) = 163.63, p < .001, \eta^2 = .42$, authentic object type, $F(2, 452) = 15.44, p < .001, \eta^2 = .06$, and age, $F(4, 226) = 40.82, p < .001, \eta^2 = .42$. Significant two-way interactions appeared between question and age, $F(4, 226) = 12.38, p < .001, \eta^2 = .18$, authentic object type and age, $F(8, 452) = 2.34, p < .05, \eta^2 = .04$ and question and authentic object type, $F(2, 452) = 55.63, p < .001, \eta^2 = .20$. (All eta-squared (η^2) results use the partial eta-squared formula [$SS_{\text{effect}} / (SS_{\text{effect}} + SS_{\text{error}})$]. Tabachnick and Fidell (1989) suggest that partial η^2 is an appropriate alternate computation of η^2 .) The predicted three-way interaction among question, authentic object type, and age was also significant, $F(8, 452) = 5.77, p < .001, \eta^2 = .09$, so we conducted Bonferroni post-hoc comparisons to interpret these results. We also conducted *t*-tests to compare responses to chance (equivalent to a score of 2).

Famous Associations—At all ages, participants chose famous association authentic objects as belonging in a museum significantly above chance, $ps < .05$. In contrast, only the adults were significantly above chance in choosing the famous association authentic objects as the objects they would want to have, $t(118) = 2.51, p < .05$. As predicted, preschoolers, 4th graders, and adults chose famous association authentic objects more often as belonging in a museum than as objects they wanted to have, $ps < .05$.

Original Creations—All but the preschoolers selected the original creations as belonging in a museum significantly above chance, $ps < .05$. In contrast, participants in all age groups chose original creations as the objects they wanted to have at a level significantly below chance

(i.e., selecting the brand-new objects above chance), $ps < .05$. As predicted, participants at all ages picked original creations as belonging in a museum more than as items they would want to have, $ps < .05$.

Personal Associations—Only 4th graders and adults judged personal associations as museum-worthy and as items they would like to have, above chance, $ps < .01$. There were no significant differences between the two dimensions at any age group and no significant differences from chance for the younger participants.

Consistent Response Patterns—We also examined the proportion of each age group showing consistent authenticity responses (i.e., selecting the authentic items on 3 or 4 of 4 trials), for each of the three types of authentic items (Table 2). These results largely duplicate those reported above. By preschool, participants judge famous associations as museum-worthy; by kindergarten, participants judge original creations as museum-worthy; and in all age groups, the authentic items are rarely preferred on the “want” measure. The one respect in which the results differ is that a subset of participants in all but the youngest age group viewed *personal associations* as more appropriate for a museum than the corresponding control items. However, a closer examination of responses on the personal association item type reveals that, although a significant subset of participants viewed these items as museum-worthy, another subset consistently treated them as clearly *not* museum-worthy. For all but the youngest age group, more participants rejected personal associations as museum-worthy (with scores of 0 or 1 of 4) than for either of the other two item types. Altogether then, there occurred a bimodal distribution of scores on the personal association items, in contrast to the consistent endorsement seen in the famous association and original creation items.

Discussion

By 3 to 4 years of age, children have a nascent understanding that the historical path of an authentic object affects its nature, even in the absence of visible evidence. Children appear to recognize the special nature of authentic objects by reporting that objects that are original, or that belong to a famous individual, belong in a museum. This result cannot be attributed to the overall desirability of the objects, for three reasons: (1) the famous associations were physically equivalent to the inauthentic matched items, (2) the original creations were less desirable than the inauthentic matched items, and (3) ratings of “want to have” were consistently lower than ratings of museum-worthiness, for both kinds of items. A striking aspect of this result is that all instances were novel and not previously seen by children in museums. This indicates that children have formed general expectations regarding the kinds of objects that are authentic. The results also demonstrate that even by preschool age, children appreciate the special nature of museums.

At the same time, there is clear developmental change in children's appreciation for different types of authentic objects. First, the size and stability of effects increased with age. Furthermore, appreciation for famous associations emerged earlier than that for original creations. This latter result is unsurprising when we consider that famous associations include positive contagion. Nonetheless, children's appreciation for original creation objects emerged earlier than might have been expected based on previous research. Evans et al. (2002) suggested that it is not until 8-10 years of age that children grasp the idea that “the very first” means that an object was previously non-existent. In contrast, our results suggest that children may begin to recognize the special nature of original creations as early as age 5 (kindergarten).

Importantly, personal associations showed a distinct pattern of results distinct from the other items. As predicted, the personal-association items were not overall judged to be museum-worthy, and for these items we found no gap between museum and want-to-have judgments.

These items therefore provide an important control, showing that the youngest three age groups did not judge all kinds of “special” items as museum-worthy, but rather only those items of general (rather than personal) significance. Alternatively, it is possible that children rejected these items due to a reluctance to put items in a museum if they already had an identifiable owner. This seems unlikely, however, as children had no difficulty judging famous items as museum-worthy, despite having identifiable owners.

Some aspects of these data were surprising. First, older participants (10-year-olds and college students) unexpectedly judged the personal associations to be museum-worthy (as did a subset of the kindergartners and first-graders). We had predicted that these items would be judged not to belong in a museum, because their special historical path would be strictly personal. However, this unanticipated result makes sense when one considers that participants were forced to make a selection and may have reasoned that an object with *some* history to it has more museum potential than a brand-new object with no prior associations. Perhaps these older participants were better able to identify contexts in which one of these seemingly ordinary items could plausibly be judged to be museum-worthy. Perhaps an ordinary individual would eventually become famous, or perhaps the item could be displayed in a museum depicting the cultural lifestyle of typical 21st-century Americans. We suspect that, had participants been tested with a task that did not present a forced choice, personal associations would be deemed inappropriate for a museum (Frazier et al., 2009).

The other surprising result was that the younger children did not place greater *personal* value on the personal associations (rating them as ones they would want to have). However, it may be that including baby items (e.g., baby blanket, baby shoes) was off-putting to the younger children, who wanted to distance themselves from such objects to demonstrate their maturity.

This research presents evidence that, from a young age, children distinguish authentic from inauthentic objects. However, it leaves open the question of whether children make this distinction based on an understanding that authentic objects are more valuable than their non-authentic counterparts, or if children's ideas of what makes an object worthy of belonging in a museum may differ from those of adults. As adults, we appreciate that often objects that belong in museums are those that are valuable (not just personally, but on a public level), but in future research, it will be important to examine children's assessment of value using dependent measures in addition to that of belongingness in a museum. For example, it would be interesting to examine children's monetary judgments or their desire to keep or touch an object (see Frazier et al., 2009, for examples of such tasks with adults). Evidence from such tasks could provide converging evidence regarding the nature of communal versus personal value in young children. Another possibility might be that children associate museum-worthiness with the age of an object (i.e., museums are where old things are kept). Therefore, another goal for future research is to tease apart age from authenticity by examining, for example, items that are “merely” old (but not historically significant) – for example, a 5-year-old computer versus a brand-new computer.

Finally, it will also be of interest to consider the link between authenticity and the larger issue of how children come to understand their own (or human) historical continuity.¹ This is a central aspect of human reasoning, and relatively unexplored in prior research (but see Chandler, Lalonde, Sokol, & Hallett, 2003; Csikszentmihalyi & Rochberg-Halton, 1981).

The attention to historical path that we have identified may be an important component of essentialism (Gelman, 2003). Historical paths are non-obvious properties that take precedence over outward features, and historical paths have causal implications (e.g., contact with a famous

¹We thank Paul Rozin for this suggestion.

person renders an ordinary object extraordinary). Analogously, on essentialist tasks, historical paths also take precedence. When children report that a lion wearing a tiger costume is truly a lion (Keil, 1989), or that a pig reared by cows will still oink (Gelman & Wellman, 1991), they have chosen to privilege historical path over appearances or current context. By privileging historical paths, people judge in effect that an underlying reality determines identity. The present findings indicate that authenticity confers special meaning on objects for children as young as preschool age.

Acknowledgments

This research was supported by an NSF graduate research fellowship to the first author and NICHD grant HD-36043 to the second author. We are grateful to the parents, teachers, and children at the University of Michigan Children's Centers and the Charles Brown School of El Dorado, California, for participating in this research.

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Table 1

Mean Number of Trials in which Participants Chose the Authentic Objects

	Preschoolers	Kindergartners	1 st Graders	4 th Graders	Adults
Famous Associations					
Belongs in a Museum	2.44 *	2.83 **	2.77 **	3.78 **	3.86 **
Want to Have	1.95	2.33	2.32	2.13	2.24 *
Significant difference between the dimensions	+			++	++
Original Creations					
Belongs in a Museum	1.72	2.83 *	3.07 **	4.00 **	3.95 **
Want to Have	1.30 **	1.21 **	1.27 **	1.13 **	1.72 *
Significant difference between the dimensions	+	++	++	++	++
Personal Associations					
Belongs in a Museum	2.13	2.00	2.46	3.48 **	3.21 **
Want to Have	2.12	2.00	2.32	2.83 **	3.35 **
Significant difference between the dimensions					

* $p < .05$,

** $p < .01$ significantly different from chance (.5);

+ $p < .05$,

++ $p < .01$ significant difference between dimensions

Table 2
 Proportion of Trials on which Participants Consistently Chose the Authentic Objects (i.e., 3 or 4 of 4 trials).

	Preschoolers	Kindergartners	1 st Graders	4 th Graders	Adults
Famous Associations					
Belongs in a Museum	.53 *	.58 *	.55 *	.91 *	.97 *
Want to Have	.37	.42	.32	.35	.39 *
Original Creations					
Belongs in a Museum	.21	.67 *	.73 *	1.00 *	.99 *
Want to Have	.14	.17	.14	.09	.23
Personal Associations					
Belongs in a Museum	.35	.46 *	.59 *	.91 *	.78 *
Want to Have	.35	.33	.41	.61 *	.83 *

* $p < .05$, significantly greater than chance (.3125)

Note: Chance selection is .3125.