Children's Categorization of Human Qualities



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Background

Humans use concepts and categories to make sense of the world. Concepts provide information for identifying new instances of any given kind and supporting inferences about members of that category. By three months of age, infants form categories based on perceptual similarity and can discriminate, for example, cats from dogs (Quinn & Eimas, 1996). By age one, infants begin to form conceptual categories, grouping items based on deep, unseen properties, rather than superficial appearance.

Using the sequential-touching (ST) task, Mandler, Bauer, & McDonough (1991) concluded that 2-year-olds differentiate globallevel categories. In the ST tasks toddlers are allowed to play with eight small toys arranged randomly on the table, each belonging to one of two categories (e.g., dog, horse, cow, pig, orange sedan, brown sedan, van, fastback). Toddlers demonstrated categorization by touching all the toys from one category (e.g., animals) before touching items from another category (e.g., vehicles).

While most studies using the ST task have examined general, global-level categorization, the present study uses the ST task to explore categorization in the social domain. Using other methods, socially-relevant dimensions like age, gender, and race/ethnicity are salient cues to grouping for both adults and older children (Axt, Ebersole, & Nosek, 2014; Hirschfeld, 1997; Levy, 1999; Pauker, Williams, & Steele, 2016; Zhao & Bentin, 2008). Here we ask (1) whether preschool aged children spontaneously categorize humans in the ST task along the dimensions of age, gender, and race/ethnicity, and (2) whether any of these dimensions is more or less salient than the others.

Results: Baseline Preferences

Results: Children's Initial Groupings

frequencies for pretest and posttest.

Methods

Procedure: Children were randomly assigned to experimental or control groups before participation. Children completed ST and a "go to park" (GTP) task twice, separated by a brief exposure where the experimenter demonstrated the same grouping (control) or a different grouping (experimental) than that chosen by the child in the first GTP. For ST, nine dolls (Asian, Black, and White families each with adultfemale, adult-male, and gender-neutral infant) are poured onto the table. Then, after 2 minutes of undirected play, the GTP task began and the child was asked to pick three dolls to "go to the park". Exposure followed with the experimenter choosing three of the nine dolls to "go to the park". For experimental children, their homogeneous grouping was followed by the experimenter's heterogeneous grouping, while their heterogeneous grouping was followed by a homogeneous grouping. For control, the experimenter chooses the same dolls chosen by the child.

Analyses: Data from the GTP task is still being analyzed and is not reported here. Instead, we focus on Children's Initial Groupings (i.e.,. first three dolls chosen) in the first and second round of the ST task. Coding of the order in which children touched the dolls during the 2-min period of undirected play were done from videotaped records of the testing sessions. Four categories emerged from children's initial groupings: (a) age, where the first three dolls touched were all similar in age (adult or infant), (b) gender, where the first three dolls were similar in gender (all female or all male), (c) **family**, where the first three dolls contained two adults of different genders and one infant, (d) **no grouping** (NG), in which the first three dolls were not similar along any of the dimensions of interest (gender, age, or race/ethnicity). We did not keep a separate category for race because there were only two instances in the whole dataset, and each instance could equally well belong to another dimension (gender or age grouping).

Preliminary analyses confirmed that children (n=27) did not show a preference for any specific doll in either pre-test or post-test. Two separate I x 7 (toy identity, 2 were never chosen) chi-squares showed that all the dolls were chosen first with equal frequency at pretest ($X^2(6) = 2.30, p > 2.30$) .05, two-tailed) and at posttest ($X^2(6) = 9.56$, p > .05, two-tailed). This did not vary between control and experimental groups pretest ($X^2(6) = 4.42$, p > .05, two-tailed) or at posttest ($X^2(6) = 3.01$, p > .05, two-tailed), or between participants' gender at pretest ($X^2(6) = 5.24$, p > .05, two-tailed) or posttest ($X^2(6) = 3.44$, p > .05, two-tailed). We thus collapsed over experimental and control groups, and also subject for subsequent analyses.

Initial groupings represented the first three dolls touched by the child. Out of 27 pretest groupings, <u>age</u> was the most frequent dimension (56%), followed by NG (22%), while gender and family were equally infrequent (11% each). This pattern was significantly different from chance $(X^2(3) = 14.33, p = .002, \text{ two-tailed})$, indicating that age may be more salient to preschoolers compared to gender and race/ethnicity. The relative frequencies also varied significantly at posttest ($X^2(2) =$ 13.56, p = .001, two-tailed), with <u>age</u> again the most frequent dimension (67%), family next most common (18%), and NG the least common grouping (15%). There were no instances of grouping by gender at posttest. Figure 1 displays these



Taken together, these results suggest that, at least compared to gender and race/ethnicity, age was the most salient social grouping characteristic for preschoolers in this study. This is consistent with previous findings by Hirschfeld (1997) which showed that age and gender were more likely than race to determine playmate choice in children. Preschoolers' tendency to group the dolls by age did not vary as a function of preschoolers' own gender, or whether or not they received diversity intervention. The latter fact suggests that age is not only a natural grouping dimension for young children, but also that it resistant to change, though our "intervention" was brief presented as if incidental.

We continue to analyze the GTP data, to further corroborate these findings. Future studies will gather demographic data on the participations so we can investigate whether children's own racial/ethnic makeup is related to their choices. Understanding how children categorize people is important for understanding their conceptualization of human relationships, and hopefully can prompt new methods for early prevention of racism, ageism, and sexism in the future.

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Discussion

References

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