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When Does Knowledge about Gender-Stereotyped Activities Emerge in Infancy?

— At about two years of age. In a recent study [1], Hill and Flom used a preferential looking paradigm to show that 24-month-olds but not 18-month-olds look significantly longer at gender-inconsistent as compared to gender-consistent activities. In turn, I will outline the experimental setup employed in their study, researchers' motivation, the results they obtained and how these were interpreted. Finally, I will remark on restrictions and possible improvements.

What was done?

Participants were 36 toddlers, eighteen 18-month-olds and eighteen 24-month-olds. They were seated in front of two screens on which videos of a male and female actor performing six different activities were presented. Activities were either stereotypical masculine (m_1: shaving, m_2: necktie tying), stereotypical feminine (f_1: using lipstick, f_2: polishing nails), or neutral (n_1: eating, n_2: drinking); pairs (m_1/f_1, m_2/f_2, n_1/n_2) were matched for degree of typicality and remained constant throughout the experiment.

Twelve 15s test-trials were performed after two 7s warm-up trails. Trials 1-3 showed the same actor performing each pair of activities—one of which on either screen. Trials 4-6 differed only in so far, as the other actor was shown. Trials 7-9 and 10-12 repeated 1-3 and 4-6, respectively, with the movies shown on the left and right screen being reversed. While children were looking, observers recorded looking times and fixations on the screens.

Why was it done?

The above setup was used to verify predictions drawn from earlier studies. More specifically, Hill and Flom asked whether (1) 24-month-olds look longer at gender-inconsistent actor-activity pairings, i.e. males performing feminine activities or vice versa, as compared to gender-consistent ones; (2) whether looking times differ for males and females performing neutral activities; and (3) whether 18-month-olds show any such preferences.

What did they find?

Comparison of toddlers' proportions of total looking times (PTLT) for each actor-activity pairing revealed no significant effects for 18-month-olds. In all subjects, no preferences for either of the actors or either of the neutral activities could be identified. No effects of subjects' gender or differences between activity pairs were found.

However,—compared to neutral and gender-consistent conditions—24-month-olds spent significantly longer times looking at males performing feminine and females performing masculine activities (cf. [1] figure 2); the effect was observed within and across subjects.

What does it mean?

These results indicate that 24-month-old children prefer watching gender-inconsistent activities, whereas 18-month-olds do not. Increased looking-times are interpreted as an effect of increased salience due to mismatch with acquired stereotype knowledge. Thus, knowledge about gender-stereotyped activities is claimed to emerge at the age of about 24 months.

What's wrong/ left?

Now that we have seen how Hill and Flom reach their conclusion, let us turn to a few remarks. First, detailed data about the subjects is missing in the present article. For instance, it would have been useful to report participants' proportions of gender; especially since the authors claim that it did not have an effect. Second, to verify the activities being gender stereotypic and to determine how strongly they are so—and thus how they were paired—parents of subjects from a former study were consulted; but asking *actual* participants' parents might have yielded different results. Third, Hill and Flom report that a bell located between the screens was used to attract childrens' attention if necessary. Including how attentive infants were during throughout the experiment into evaluation could have been useful for attention might have influenced infants' abilities to recognize gender inconsistencies. Fourth, some children were seated on chairs while others were seated on their parent's laps. The latter case is problematic in so far, as the parent might have distracted them or induced biases.

Finally, there is a simple improvement that would have increased reliability of the present data. The observers recording a child's fixations and looking times could have been replaced by an eye-tracking system. This way, data would have been obtained more accurately. Furthermore, sanpath analysis might have revealed whether or not children really looked at an actor, while looking at a screen. Comparison between 18- and 24-month-olds might have revealed characteristic differences. It is possible that different performance in gender-inconsistency detection is a matter of what information was extracted from the stimuli rather than of a gender-stereotype recognition ability.

Anyway, all the results can tell us is where infants preferentially look, *not* why.

References

[1] Hill, S.E. and Flom, R. (2007): 18- and 24-month-old's discrimination of gender-consistent and inconsistent activities. *Infant Behavior and Development*, 30, 168-173.