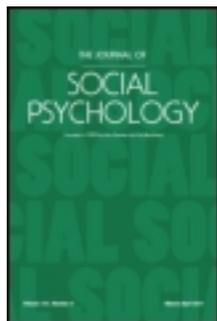


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Overgeneralizing Belonging: Limited Exposure to Baby-Faced Targets Increases the Feeling of Social Belonging

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Running head: BELONGINGNESS OVERGENERALIZATION EFFECT

REPLICATIONS AND REFINEMENTS

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ABSTRACT. We tested the hypothesis that exposure to babyish faces can serve a social surrogacy function, such that even limited exposure to babyish faces can fulfill social belongingness needs. We manipulated the sex and facial maturity of a target face seen in an imagined social interaction, on a between-participants basis. Regardless of target sex, individuals indicated greater satisfaction of social belongingness needs following an imagined interaction with a babyish, compared to a mature adult face. These results indicate that brief exposure to babyish (relative to mature) faces, even without an extensive interaction, can lead to the satisfaction of social belongingness needs.

KEY WORDS: Facial morphology, Social belonging, Social perception, Face perception

HUMANS' ABILITY TO EXTRACT THE FEELING of belongingness from even limited social stimuli is surprisingly robust. Research has reliably demonstrated a *social surrogacy* effect (Knowles, 2013), showing that individuals can experience actual belongingness from limited relationships (brief interactions; Twenge et al., 2007), faux relationships (television characters; Derrick, Gabriel, & Hugenberg, 2009), or even non-relationships (pretend interactions; Wirth, Sacco, Hugenberg, & Williams, 2010).

The current work extends this social surrogacy effect to babyish faces. We test the hypothesis that babyish adult faces serve a social surrogacy function, such that even minimal exposure to babyish adult faces will satisfy social belongingness needs more than exposure to a mature-faced adult. We predict that people will experience belonging from babyish faces because of the *baby-face overgeneralization effect*, a phenomenon whereby adults with babyish faces are ascribed childlike traits (e.g., submissiveness, warmth; Zebrowitz & Montepare, 2008). More

importantly, adults with babyish faces cue approach responses and elicit help, whereas mature or dominant faces cue avoidance (Keating, Randall, Kendrick, & Gutshall, 2003). Given that babyish adult faces cue affiliative tendencies in others, we hypothesized that individuals who interacted with babyish adults (relative to mature-faced adults) would indicate more satisfied social belongingness needs: a *belongingness overgeneralization effect*.

To test this hypothesis, we had participants engage in an imagined interaction with a male or female face that was either facially babyish or mature and complete a needs satisfaction measure. Because women's faces tend to be more babyish than male faces (Becker, Kenrick, Neuberg, Blackwell, & Smith, 2007), and cue positivity (Eagly, Mladinic, & Otto, 1991), we wanted to rule out any effects of target sex and participant mood as alternate explanations for our predicted results. Thus, we manipulated both targets' facial babyishness and maturity, and predicted that babyish faces would elicit greater belongingness need satisfaction than would mature faces.

Method

Participants

Two hundred six undergraduates participated at two time periods (at two different universities). Eighty-one individuals (53 females) participated at Time 1 and 125 (86 females) participated at Time 2.

Materials and Procedure

Seated at individual computer cubicles, participants were told they would view a face onscreen and were instructed to mentally visualize having a social interaction with this person (for details of this paradigm, see Wirth et al., 2010). Participants were then shown a face onscreen for 2.5 minutes. Participants were randomly assigned to target sex and maturity (babyish male; babyish female; mature male; mature female face) conditions. Face stimuli were taken from previous research (Zebrowitz, Bronstad, & Lee, 2007) which demonstrated that they vary in babyishness and maturity.

Participants then completed a commonly used measure assessing their satisfaction of four basic social belongingness needs: belonging, self-esteem, control, and meaningful existence, as well as positive and negative mood (Williams, 2007; Wirth et al., 2010). Using a 5-point Likert scale (*1=not at all; 5=very much*), participants indicated their responses based on the “feelings you were experiencing during the interaction.” Participants were then debriefed.

Results

Due to the high interrelatedness ($\alpha=.86$) of the four basic needs, we computed a composite belongingness need satisfaction score for each participant (higher scores indicating greater need fulfillment), as is common practice in the literature (McConnell, Brown, Shoda, Stayton, & Martin, 2011; Sacco, Bernstein, Young, & Hugenberg, in press). We also computed participants’ average positive ($\alpha=.80$) and negative mood ($\alpha=.78$).

Preliminary Analyses: Mood

We first assessed whether our manipulations influenced participant mood. A 2(mood valence: positive, negative) \times 2(participant gender: male, female) \times 2(target sex: male, female) \times 2(target morphology: baby, mature) \times 2(time: time 1, time 2) mixed ANOVA, with mood as a within-subjects factor, revealed an interaction between mood valence, target sex, and target morphology, $F(1,190)=9.89$, $p<.01$, $\eta_p^2=.049$; study timing did not qualify this interaction; $F(1,190)=0.82$, $p=.37$, $\eta_p^2=.004$. For positive mood, we observed a target sex \times target facial morphology interaction, $F(1,202)=7.27$, $p=.01$, $\eta_p^2=.035$ (see Table 1). Exposure to babyish male faces led to marginally more positive mood than exposure to mature male faces, whereas exposure to mature female faces led to more positive mood than babyish female faces. For negative mood, we observed a target sex \times target facial morphology interaction, $F(1,202)=8.92$, $p<.01$, $\eta_p^2=.042$. Exposure to mature male faces led to more negative mood than exposure to babyish male faces, whereas exposure to babyish female faces led to more negative mood than exposure to mature female faces. Though the mood effects for male faces are sensible, the counterintuitive results for female faces could be caused by the specific female stimuli used, or alternately to shifting standards for male versus female targets (Biernet & Manis, 1994).

Primary Analyses: Basic Belongingness Needs

We conducted a 2(participant gender: male, female) \times 2(target sex: male, female) \times 2(target facial morphology: baby, mature) \times 2(time: time 1, time 2) univariate ANCOVA with composite belongingness needs satisfaction level as the dependent measure and mood scores as covariates.

Because positive and negative mood interacted with target sex and morphology, it was necessary to control for mood in this analysis; both variables were significant covariates in the model, $p < .01$. This analysis yielded only the predicted main effect of target morphology on participants' belongingness needs satisfaction, $F(1,188) = 6.24$, $p = .01$, $\eta_p^2 = .032$. Participants reported greater belongingness needs satisfaction following an interaction with a baby-face target ($M = 3.12$, $SD = 0.75$) than a mature-face target ($M = 2.98$, $SD = 0.64$). Importantly, there were no effects of target or participant sex, nor did these variables interact with any other variables (all $p > .05$). Additionally, study timing did not interact with the main effect of target morphology, $F(1,188) = 1.75$, $p = .19$, $\eta_p^2 = .009$.

General Discussion

Participants exposed to babyish targets indicated greater belongingness needs satisfaction than participants exposed mature-faced targets. Thus, individuals' moment-to-moment levels of belongingness needs satisfaction may in part be a function of the physical characteristics of their interaction partner. Although past research demonstrates that people over-perceive babyfaced individuals as possessing childlike traits (e.g., Zebrowitz & Montepare, 2008) and that babyish faces cue approach behavior (Keating et al., 2003), the current study is the first to demonstrate that even brief, imagined interactions with babyish faces (relative to mature faces) can increase belongingness needs satisfaction.

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Table 1: Mood Effects

Positive Mood			
	Babyish Faces	Mature Faces	Comparison
Male Faces	2.79 (1.05)	2.47 (.79)	$p=.09, d=.34$
Female Faces	2.55 (.92)	2.93 (.91)	$p=.04, d=.42$
Negative Mood			
	Babyish Faces	Mature Faces	Comparison
Male Faces	2.15 (1.01)	2.53 (.88)	$p=.04, d=.40$
Female Faces	2.30 (.80)	1.96 (.76)	$p=.03, d=.44$