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FlashReport

A preference for genuine smiles following social exclusion

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ABSTRACT

Research indicates that rejected individuals are better than others at discriminating between genuine (Duchenne) and deceptive (non-Duchenne) smiles (i.e., true versus false signals of affiliative opportunity). We hypothesized that rejected individuals would show a greater preference to work with individuals displaying Duchenne versus non-Duchenne smiles. To test this, participants wrote essays about experiences of inclusion, exclusion, or mundane events. They then saw a series of 20 videos of smiling individuals (10 with Duchenne and 10 with non-Duchenne smiles). Participants then indicated how much they would like to work with each target. Analyses revealed that compared to included and control participants, excluded individuals showed a greater preference to work with individuals displaying "real" as opposed to "fake" smiles. This effect was partially mediated by threats to "relational needs" (Williams, 2007) and fully mediated by threats to self-esteem. These results suggest that exclusion yields adaptive responses that could facilitate reconnection with others.

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Introduction

Being included in groups is essential, and failing to secure stable social relationships feels highly aversive (Baumeister & Leary, 1995). Inclusion is so important that humans appear to have evolved mechanisms capable of detecting deficits in belongingness to facilitate reconnection with others (e.g., Leary, Tambor, Terdal, & Downs, 1995). For example, individuals dispositionally high in their need to belong better identify social information, like facial expressions (Pickett, Gardner, & Knowles, 2004), and those who experience exclusion engage in greater behavioral mimicry (Lakin, Chartrand, & Arkin, 2008), an indication that individuals fearing or experiencing rejection show increased attention to social cues useful for securing reaffiliation.

One rather powerful cue of affiliation intent is positive affect, which is often communicated by smiling (e.g., Brown, Palameta, & Moore, 2003). Specifically, "Duchenne" (genuine) smiles occur automatically in response to the experience of happiness (Ekman, Davidson, & Friesen, 1990). Non-Duchenne smiles, which are under greater performer control, can conceal negative emotions or fake the desired positivity associated with a real smile (Ekman, Friesen, & O'Sullivan, 1988). Unlike non-Duchenne smiles, Duchenne smiles are strong signals of the person's cooperative intent (Brown & Moore, 2002); people tend to exhibit more Duchenne smiles while engaging in pro-social behaviors than when not (Mehu, Grammer, & Dunbar, 2007). Thus, "real" smilers are good candidates for potential affiliation whereas fake smilers are potentially deceptive.

Given the hazards facing the socially rejected, it may be useful for such persons to quickly and accurately discriminate between facial expressions of emotion (e.g., happy versus sad), and to accurately distinguish between real and false signals of motivational intent, especially affiliation intentions. Consistent with this logic, we previously found that those recalling an exclusion experience could better discriminate between Duchenne and non-Duchenne smiles than those recalling an acceptance or mundane experience (Bernstein, Young, Brown, Sacco, & Claypool, 2008). Accurate identification of non-verbal signals of approach affords an avenue for successful reaffiliation. Because excluded persons have a greater reaffiliative need, it would be essential for them to focus on partners most likely to meet these needs, which may be facilitated by accurate perception of real and deceptive smiles.

Though this previous work showed that rejected individuals have an acute ability to differentiate between Duchenne and non-Duchenne smiles, it did not show whether rejected individuals "use" this information in any way. The identification of such smiles is only beneficial if such discrimination produces responses useful for satiating current needs. Thus, excluded individuals should also prefer to interact with persons expressing true approach displays (e.g., Duchenne smiles) rather than those not expressing such displays, which is an untested hypothesis. Moreover, previous researchers explicitly directed participants' attention to the veracity of the smiles. It remains unclear whether rejected individuals

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will attend to and act on these differences in smile types spontaneously, without having their sincerity explicitly questioned.

The current research will investigate these issues. We randomly assigned participants to an exclusion, inclusion, or control condition and asked them to rate their desire to work with targets displaying both Duchenne and non-Duchenne smiles. Importantly, we did not draw participants' attention to the targets' smiles, nor did the instructions ever suggest that smile sincerity varied. We predicted that all perceivers would show a preference for working with targets exhibiting Duchenne rather than non-Duchenne smiles, but that this pattern would be strongest for rejected individuals.

Furthermore, we examined possible mechanisms driving this outcome. Williams (2007) has shown that four basic needs are thwarted following rejection which can be grouped into two categories: "relational" needs (belonging, self-esteem) and "efficacy/existence" needs (control, meaningful existence). He has proposed that individuals engage in reaffiliative (rather than antisocial) reactions when "relational needs" are most impacted. Given that the outcome under investigation is affiliative, these "relational" as opposed to "efficacy" needs may operate as the mediator of the Duchenne preference. Additionally, work on the sociometer model (Leary et al., 1995) argues that self-esteem drops following perceived inclusion threats and motivates humans to engage in behaviors to re-establish their social ties. From this perspective, self-esteem alone may be the key mediator of our proposed finding. This work will investigate which of these need threats mediate differential preferences for working with individuals displaying real versus deceptive smiles.

Methods

Participants and design

One hundred and twenty-five individuals (81 females) participated for course credit and were randomly assigned to a 3 (social experience: exclusion, inclusion, or control) × 2 (smile: Duchenne, non-Duchenne) mixed-model design with repeated measures on the latter. There were no effects of target or participant sex which are not discussed further.

Materials

The facial stimuli were those used in Bernstein et al. (2008) and were obtained from the BBC science website (http://www.bbc.co.uk/science/humanbody/mind/surveys/smiles).[1] Participants watched 20 videos (approximately 4 s each) one at a time, each depicting an individual with an initially-neutral expression that shifted to a smiling expression, that then returned to a neutral expression (10 Duchenne and 10 non-Duchenne smiles). Thirteen men and seven women were depicted in the videos.[2] Presentation order was counterbalanced, such that participants saw one of two possible stimuli orders.[3]

Procedure

Participants performed two ostensibly unrelated tasks. They first completed an essay task constituting the manipulation of social experience. Participants wrote about a time they felt "rejected or excluded," "accepted or included," or "their morning yesterday" (control condition). This manipulation has been used previously with success (e.g., Maner, DeWall, Baumeister, & Schaller, 2007). Participants then responded to 16 items assessing their levels of belonging, control, self-esteem, and meaningful existence (four items each) felt during the experience (adapted from Zadro, Williams, & Richardson, 2004).

Once completed, participants were told they would see videos of individuals and that they were to imagine that the person in each was a potential partner for a project on which they might work. Participants were to indicate how much they would like to work with each person on a Likert-scale (1 = not at all; 7 = very much) for all 20 videos. Upon completion, participants responded to demographic questions, were probed for suspicion, thanked, and debriefed.

Results

Basic needs

To examine if the social-experience manipulation was successful, we calculated each of the four basic needs (belonging, control, self-esteem, meaningful existence) separately for each participant. In all cases, exclusion led to less basic-need satisfaction compared to control and included participants ($ps < .001$), while the latter two groups did not differ from one another ($ps > .35$).

Preference scores

Of primary interest was whether social exclusion influences the desire to work with targets exhibiting Duchenne and non-Duchenne smiles. For each participant, we averaged (separately) their preference scores for targets with real smiles and those with fake smiles. These averages were subjected to a 3 (social experience: exclusion, control, inclusion) × 2 (smile: Duchenne, non-Duchenne) mixed-model ANOVA, with repeated measures on the latter. There was no main effect of social experience ($p > .52$), but there was a main effect of smile. Participants preferred working with individuals exhibiting Duchenne rather than non-Duchenne smiles, $F(1, 122) = 24.46$, $p < .001$, $\eta^2 = .17$. As predicted, this effect was qualified by an interaction between social experience and smile, $F(2, 122) = 3.26$, $p = .04$, $\eta^2 = .05$ (Fig. 1). Participants in the control condition showed a marginal preference for individuals exhibiting Duchenne ($M = 4.43$, $SD = .76$) versus non-Duchenne smiles ($M = 4.28$, $SD = .67$; $p = .096$; $\eta^2 = .02$). Participants in the inclusion condition showed a similar marginal effect, Duchenne ($M = 4.60$, $SD = .88$) versus non-Duchenne smiles ($M = 4.43$, $SD = .83$; $p = .055$; $\eta^2 = .03$). Excluded participants, however, showed a significant and larger preference for working with those with Duchenne ($M = 4.57$, $SD = .74$) versus non-Duchenne smiles ($M = 4.15$, $SD = .71$; $p < .001$; $\eta^2 = .17$).

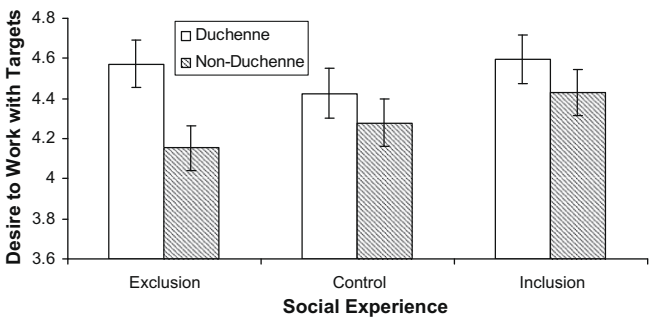

Fig. 1. The effect of social experience on desire to work with targets exhibiting real and fake smiles (error bars represent the standard error of the mean).

[1] Pre-testing revealed that faces displaying Duchenne versus non-Duchenne smiles did not differ in perceived attractiveness, trustworthiness, or positivity ($p > .37$).

[2] The stimuli included three ethnic minorities. Removing these from the analyses left the results unchanged. Thus, all analyses included all stimuli.

[3] There were no counterbalancing effects on any results.