Case Report

Beyond "birds of a feather": A social inference approach to attachment-dependent grouping

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ABSTRACT

Homophily—social grouping on the basis of similar traits—is a well-established intergroup dynamic. However, some evidence suggests that homophily emerges as a byproduct of people's inferences about desirable qualities (e.g. trustworthiness, openness to experience) in others. We apply this social inference approach to studying how people form groups on the basis of their attachment styles. In a behavioral tracking study involving large samples of strangers interacting in a sports stadium, we found that people affiliate with others who share their degree of attachment avoidance, but who do *not* share their degree of attachment anxiety. These findings are consistent with evidence that avoidantly attached individuals—but not anxiously attached individuals—display qualities they find desirable in others. It also suggests that accounts of intergroup behavior and social identity that treat similarity as an interpersonal goal might not capture the psychological processes behind group formation, and that a more nuanced social inference approach is needed to explain large-scale patterns of social grouping.

"I don't want to belong to any club that will accept me as a member."

—Groucho Marx

1. Introduction

Imagine that you are a socially anxious person entering a party, and nervously hoping to avoid an evening of uncomfortable small talk and awkward silences. Other guests have arrived before you, and are mingling around the living room. In one corner, you see a group of kindred spirits who are fidgeting and avoiding eye contact. In the other, you see a smiling group of strangers who wave and beckon you over. Which group do you join?

This dilemma alludes to a major social psychological question—do people search for similarity in their social groups, or do they search for qualities that they think are objectively desirable (Kalick & Hamilton, 1986)? Early studies in the social identity and interpersonal relationships literatures treated similarity as a potent interpersonal motive (Byrne, 1997; Palmer & Kalin, 1985; Tajfel, Billig, Bundy, & Flament, 1971), and there is evidence that large and small groups of strangers cluster based on similar traits (Bahns, Crandall, Gillath, & Preacher, 2016; Bahns, Pickett, & Crandall, 2011; Halberstadt et al., 2016). But other studies suggest that people do not seek out similarity per se from

their social groups, but rather traits that they infer from similarity. For example, Jackson, Halberstadt, Jong, and Felman (2015) found that personality inferences mediate religious homophily (grouping based on shared religious identity), and studies on interpersonal attraction have shown that people seek out similar others because they believe that these partners will be trustworthy (Singh et al., 2009), and will like them in return (Condon & Crano, 1988).

This latter literature supports a "social inference" approach to homophily, in which a bias towards similar others is simply a byproduct of our search for desirable social qualities. Because people often believe they themselves have desirable social qualities (Robins & Beer, 2001), this search will frequently look like the pursuit of similarity, but the two should be separable. That is, there should be cases in which desirable traits are in fact associated with *dissimilar* others, in which people affiliate with others unlike themselves. Like Groucho Marx, people should sometimes avoid the clubs with members like them.

2. Adult attachment, social inference, and group formation

Adult attachment theory, which speaks directly to people's preferences for social relationships, provides an ideal framework in which to apply the social inference approach. Attachment theory assumes that people have stable styles of interacting with others, which are rooted in

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childhood experience (Hazan & Shaver, 1987, 1994), but also manifest in subtle social cues (e.g. body language and interpersonal distance; Fraley & Shaver, 1998; see Shaver, Schachner, & Mikulincer, 2005 for a review).

Attachment theorists have a particular focus on two types of "insecure" attachment styles: attachment avoidance and attachment anxiety. Individuals high in attachment avoidance often avoid intimacy and tend to distance themselves physically and emotionally. They also prefer these traits in their romantic and non-romantic relationship partners (Birnie, McClure, Lydon, & Holmberg, 2009; Mayseless & Scharf, 2007). Therefore, both similarity and social inference approaches predict that avoidants will seek out other avoidants in social groups.

In contrast, anxiously attached individuals have high desire for intimacy and closeness (Mikulincer & Selinger, 2001), but are ineffective caregivers themselves (Collins & Feeney, 2000), displaying cues that indicate low intimacy and self-disclosure (Grabill & Kerns, 2000). Perhaps as a result of these qualities, attachment anxiety is linked to low speed-dating success (McClure & Lydon, 2014, Study 1), and even when anxiously attached individuals show more social engagement and humor, they simultaneously communicate neuroticism and insecurity (Brumbaugh & Fraley, 2010). Therefore, if people high in attachment anxiety do indeed look for stable, warm, and secure caregivers (Simpson, Rholes, & Nelligan, 1992, p. 434), "similar others" are just the kind of people they would prefer to *avoid* and to the extent that anxiously attached individuals can interpret each other's social predilections, groups of anxiously attached individuals should be rare.

In the most systematic previous investigation on attachment matching, Klohnen and Luo (2003) found that people had a strong aversion to hypothetical insecurely (i.e., avoidantly or anxiously) attached partners, coupled with a small preference for hypothetical partners who share their own attachment style. However, beliefs about one's attraction in hypothetical contexts may not coincide with one's actual affiliative behavior (Eastwick & Finkel, 2008). Any critical test of the social inference approach should measure such behavior directly, and in contexts that simulate real group formation—for example, where individuals choose group members from many potential interaction partners who also might also be trying to approach or avoid them.

3. The present study

The present study uses a novel technique, "in-vivo behavioral tracking" (Jackson, Bilkey, Jong, Rossignac-Milon, & Halberstadt, in press) to examine attachment-driven affiliation in large-scale face-to-face contexts. We surreptitiously filmed a crowd of experimental participants during an experimental task in which they assembled themselves into groups, and used their attachment styles—measured prior to the day of the study—to predict which crowd members they would approach. Because avoidants, in theory, not only distance themselves during social interaction (Kaitz, Bar-Haim, Lehrer, & Grossman, 2004; Simpson et al., 1992), but also prefer partners who value such distance (Klohnen & Luo, 2003), both the similarity and social inference hypotheses predict attachment-based homophily: emergent groups should be more similar in their level of attachment avoidance than expected by chance. However, because anxiously attached individuals' interpersonal behavior is misaligned with their interpersonal preferences—they seek security and warmth but do not exhibit it—we also hypothesized attachment-based *heterophily*: emergent groups would be *dissimilar* in their level of attachment anxiety.

In a previous investigation of repeated group formation, Halberstadt et al. (2016) found that attractiveness- and gender-based homophily decreased over time. This may be because as people become more familiar with their grouping partners, they also become less dependent on superficial interpersonal and physical traits when picking grouping partners. We therefore hypothesized that homophily on the basis of attachment avoidance and heterophily on the basis of attachment

anxiety would decrease over time.

Finally, we also measured interpersonal distance prior to the study, for use as a behavioral measure of distance preferences. We expected that this measure would mediate the relationship between individuals' attachment style and the attachment style of the groups they joined, suggesting that their desire for physical distance informed their affiliative decisions later in the study. However, since previous investigations have only linked attachment avoidance—but not anxiety—to interpersonal distance (Kaitz et al., 2004), we tentatively predicted that interpersonal distance would only mediate avoidance-based grouping.

4. Method

4.1. Participants

The current data come from a large in-vivo behavioral tracking study that was conducted in May 2014 to test four independent hypotheses concerning the earliest moments of group formation.[1] One hundred seventy-two (M_{age} = 21.43, SD = 4.50; 41 men, 130 women, 1 who identified as "other") individuals were recruited in Dunedin, New Zealand, through a student employment website. Given the novelty of in-vivo behavioral tracking, we could not confidently estimate an expected effect size for a formal a priori power analysis. Therefore, we had no explicit target sample size, but rather sought to recruit as many participants as possible in the period we had use of the stadium facility. However, given the effect size of Halberstadt et al.'s (2016) study on attractiveness-based matching (f^2 = 0.04), our sample was powered at .75 to detect significant effects at the a = 0.05 level.

Participants were explicitly instructed not to sign up with friends, and participants who indicated knowing another individual in their session were reassigned prior to participation. Participants were paid NZ$30 to cover any travel costs to the venue. All participants gave written, informed consent before participation and were fully debriefed after completing the study. They were also given the option (which nobody chose) to have their video data deleted from the sample.

4.2. Venue, equipment, and software for in vivo tracking

The study was conducted at the Forsyth-Barr Stadium, Dunedin, in four sessions over the course of a single day. An Elphel NC535 network camera was mounted 25 m overhead, and continuously captured video of the 30 m × 20 m experimental area for the duration of the study, at 30 frames/s at the full resolution of 2592 × 1944 pixels. The Theia SY110 lens used provides a 120° view with almost 0% distortion. Following data collection, individual participants were tracked using custom proprietary software developed by Animation Research Ltd. See Halberstadt et al. (2016) for more detail concerning this software, and for a description of how we translate the tracking data into measures of group membership and interpersonal proximity.

4.3. Measures

Prior to the day of the study, participants were emailed an online survey with a set of questionnaires relevant to the four hypotheses being tested, including Simpson's (1990) adaptation of Hazan and Shaver's (1987) adult attachment questionnaire, Rosenberg's (1965) measure of self-esteem, Luhtanen and Crocker's (1992) measure of collective self-esteem, Gómez and colleagues' (2011) measure of

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[1] The other hypotheses concerned (a) the influence of ritual elements on group cohesion and cooperation, (b) the moderating role of individual and collective self-esteem on attitude-based grouping, and (c) the extent to which attractiveness and gender influence emergent social groups. While we do not discuss these other hypotheses in the current paper, we have explained them and listed the measures relevant to each hypothesis on the Open Science Framework (osf.io/fd7y5).