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To cite this article: Veronica Schneider, Gabriela S. Pascuzzi, Nicole Koepler & Shira Gabriel (04 Dec 2025): Me in this crowd is like me in that crowd: evidence for a crowd self, *Self and Identity*, DOI: [10.1080/15298868.2025.2599334](https://doi.org/10.1080/15298868.2025.2599334)

To link to this article: <https://doi.org/10.1080/15298868.2025.2599334>



Published online: 04 Dec 2025.



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Me in this crowd is like me in that crowd: evidence for a crowd self

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ABSTRACT

Research suggests that crowds can be psychologically meaningful and present a pathway to social connection. Based on that research and research on relational selves, we propose that there are “crowd selves” (self-concepts that are activated when in a crowd; Hypothesis 1); that the crowd self is more likely to occur when a crowd is psychologically meaningful (Hypothesis 2); and that the crowd self transfers to similar crowds (Hypothesis 3). In Studies 1, 2a, and 2b we found that the self-concept shifts when participants were primed with crowds (Hypothesis 1) and that this shift was larger when the crowd was psychologically meaningful (Hypothesis 2). Study 3 found that the crowd self transferred to a novel but similar crowd (Hypothesis 3). Thus, across four studies and three different measures of self-change, we found support for the existence of a crowd self. The implications for the flexibility of the self and the importance of crowds are discussed.

ARTICLE HISTORY

Received 28 May 2025

Accepted 27 November 2025

KEYWORDS

Relational self; transference; crowds; collective effervescence

Introduction

Imagine a county fair. People from different towns nearby gather to enjoy a day of fun; some peruse the tents of vendors selling handmade goods and food. Others enjoy music from a live band or watch a juggler toss bowling pins in the air. The street bustles with the sounds of music and laughter and the scents of popcorn and funnel cake. Strangers from all over gather at the fair for all different reasons, and though they may not ever see each other again after this, on this day, there is something special in the air – a liveliness that connects the crowd. John, one face in the crowd, walks among these strangers, and though they are unfamiliar to him, he feels a connection to them and a sense that this event is special. Unbeknownst to John, his sense of self shifts slightly as he becomes immersed in the crowd experience – he feels curious, outgoing, and open-minded. A few weeks later, John finds himself at a different public event at a nearby park. The crowd of strangers is completely different, but he feels similar to when he was at the county fair – curious, outgoing, and open-minded. Despite being at two different events and being

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Gabriela Pascuzzi and Nicole Koefler were involved in review and editing.

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surrounded by different people, John had a sense of self—a *crowd self*—that had transferred from the first event to the second event.

A flexible social self

People's self-concepts are derived not only from their own individual traits and motivations but also from external sources such as relationship partners or groups. For example, the relational self, proposed by Andersen and Chen (2002), suggests that different relationship partners such as a romantic partner, close friend, or family member activate different versions of the self. For example, Judy may have a specific Judy-with-Beverly self when with her best friend Beverly, which may be a fun-loving, outgoing, and silly version of herself, as well as a Judy-with-mom-self activated by her mother, which may be a hardworking, serious, and affectionate version of herself.

The relational self is not the only social self. Brewer and Gardner (1996) argued that the self can be divided into (at least) the individual, relational, and collective levels. The collective self is based on long-standing and meaningful associations such as bonds with a college fraternity (Brewer & Gardner, 1996; Sedikides & Brewer, 2001) and on collective identities such as one's religion, nationality, or political alignment. Similarly, Social Identity Theory (Tajfel, 1978) and Self-Categorization Theory (Turner, 1999) suggest that individuals form identities around social groups (Hogg & Williams, 2000; Hornsey, 2008; Tajfel, 1978; Tajfel & Turner, 1979; Trepte & Loy, 2017) and that when those groups are salient, people think of themselves in terms of being a prototypical and interchangeable member of the group (Hornsey, 2008; Trepte & Loy, 2017). In other words, people shift themselves to a "group self" when thinking about psychologically meaningful groups. In support, research suggests that people sometimes take on the attributes of their important groups (e.g., Biernat et al., 1996; Simon & Hamilton, 1994; Simon et al., 1991), in particular when cues to the group identity are present in the environment (Cadinu et al., 2013), when one's minority identity is salient (Hogg & Turner, 1987) or even when seeing a group flag (Castano et al., 2023; Hong et al., 2000; Wong & Hong, 2005).

In summary, there is evidence that the self is not static, but shifts based on social circumstances and relationships. People have social selves that are tied to meaningful bonds (e.g., Cadinu et al., 2013). In the current paper, we argue that because crowds of strangers can feel meaningful, there is also a crowd specific self.

The crowd self

A crowd is a concentrated gathering of people where at least some of the people are strangers to one another (Gabriel & Schneider, 2024). Traditionally, psychologists have viewed crowds negatively. Le Bon (1895) argued that "in a crowd ... a man descends several rungs in the ladder of civilization. Isolated, he may be a cultivated individual; in a crowd, he is a barbarian." Festinger et al. (1952) argued that crowds lead to anti-social behavior. Zimbardo (1969) contended that crowds lead to aggressive and anti-social behavior. Allport (1924) argued that being in a crowd leads to the activation of basic survival instincts. However, despite those theoretical arguments, empirical research

instead suggests that crowds tend to be highly supportive, altruistic, friendly, and fun (Bod, 2014). Interactions with crowds tend to lead to an increase in wellbeing, positive behaviors (Tewari et al., 2012), and positive emotions (Novelli et al., 2013).

Some crowds share an existing collective identity, such as diehard fans of the same team at a game. Other crowds have no obvious shared identity such as spontaneous crowds at art festivals, people attending concerts when they are not familiar with the music, and even strangers waiting in line together (Gabriel et al., 2020). Even without preexisting social identities, crowd experiences with other strangers can lead to a sense of meaning and connection (e.g., Drury et al., 2009) and may even shift one's sense of self. Thus, we propose a new level of self-conceptualization. Just as people have relational and collective selves, we propose that people also have crowd selves – that is a sense of self that is attached to who they are and how they feel when they are in particular crowds.

Because previous research suggests that self-shifts are more likely for social bonds that are psychologically meaningful (e.g., Cadinu et al., 2013), we propose that crowd selves will be more likely when crowds are psychologically meaningful. Specifically, we predict that crowd selves will be most likely to occur when people experience collective effervescence in a crowd.

Collective effervescence and the crowd self

Recent research suggests that being in a crowd with strangers can sometimes lead to an experience called *collective effervescence* (Gabriel et al., 2017, 2020).¹ Collective effervescence differentiates meaningful crowd experiences from ordinary ones via two key components: a sense of connection to others in the crowd and a sensation of sacredness (Gabriel et al., 2020). In other words, when people are engaged in collective activities, they may feel a connection to the other people present in combination with a feeling that something special and sacred is taking place. Research on collective effervescence suggests that these two components occur together and collectively differentiate meaningful crowd experiences from those that are not meaningful (Gabriel et al., 2020; Koefler et al., 2024; Naidu et al., 2022). For example, collective effervescence explains why large musical events lead to lasting positive feelings (Koefler et al., 2024) and why religious events with strangers feel meaningful (Gabriel et al., 2024). Collective effervescence triggered by interactions with large crowds leads to feelings of connection to humanity and increases in wellbeing which can then last for months (Gabriel et al., 2020; Gabriel et al., [in preparation a](#)).

Research on collective effervescence suggests that crowds can be meaningful when they include established collectives (such as fans of a musical artist; Koefler et al., 2024) but they also be meaningful when no prior bond exists (such as groups of strangers brought together to learn and perform a song together; Gabriel et al., [in preparation a](#)). In those crowds of strangers, the experiencing of collective effervescence is accompanied by a shift in the way that the strangers are conceptualized – from a random assortment of people to a psychologically meaningful entity. For example, experiencing collective effervescence in a crowd of strangers waiting in line predicts seeing that crowd as a meaningful group and not just a collection of strangers (Gabriel et al., [in preparation b](#)). Therefore, we propose that crowd specific selves will be activated when people

experience collective effervescence in a crowd. We also propose that when people encounter a similar crowd to the first crowd, the self activated by the first crowd will transfer onto the similar crowd.

Transference of the crowd self

Research on relational selves suggests that people's relational selves *transfer* to new people who remind them of an existing relationship partner. This transference causes the cognitions, motivations, and self-regulatory behaviors tied to one relationship partner to activate when interacting with a new person who reminds us of that specific close other (Andersen & Chen, 2002). For example, if Judy meets Jane, who reminds Judy of Beverly, then Judy's Judy-with-Beverly self might be activated when she is with Jane.

In support, Kraus and Chen (2010) found that when participants expected to interact with a person who physically resembled a relationship partner, participants rated themselves as more similar to the self that was associated with that relationship partner. Researchers have also found that people transfer their attachment patterns to new hypothetical partners that remind them of a previous romantic partner (Brumbaugh & Fraley, 2006, Brumbaugh & Fraley, 2007). In other words, research suggests that relational selves transfer onto novel people who remind one of existing relationship partners.

Thus, in line with our proposal of the crowd self as a level of self-conceptualization, we propose that transference of the crowd self will also occur. For example, a person who is in a crowd at a concert may feel that they are open-minded and boisterous. If they find themselves in a crowd that reminds them of the concert crowd, the previous crowd self would become activated and they would feel open-minded and boisterous in this novel crowd.

Self-shifts in crowds

One potential obstacle to measuring a crowd self is that unlike individuals, crowds are not singular entities and thus cannot be mapped onto the self in a straightforward manner. For example, Aunt Betty may be known in the family as the good-natured but slightly overbearing relative. Knowing her traits means researchers can assess those traits and then assess the traits of her relatives to probe for an "Aunt Betty" self. However, large crowd events are not composed of a single individual with measurable traits. This lack of one-to-one correspondence makes it difficult to measure the existence of a "crowd self" that is specific to an individual crowd. To address this, we utilized two different measures of self-change in the hopes of finding convergent supporting evidence for our hypotheses which would increase our confidence in the existence of a crowd self. Specifically, we measured the crowd self by assessing self-expansion when in a crowd and including the crowd in the self.

Self-expansion

One way that people can shift their sense of self is by self-expansion. Self-expansion is both a motivation to expand one's sense of self and the experience of feeling one's self concept change, often by including new perspectives, knowledge, skills or abilities, and other attributes into the self that facilitate self-efficacy and the ability to reach one's goals

(Aron et al., 1992, 2022; Mattingly & Lewandowski, 2013a). And although the self is often expanded through one's relationships, the self can also be expanded through non-relational activities such as hobbies (e.g., Aron et al., 1992, 2000, 2002, 2022; Mattingly & Lewandowski, 2013a, 2013b, 2014; Tomlinson et al., 2019). There is also evidence that self-expansion can occur in large groups (Besta & Zawadzka, 2017; Besta et al., 2017). We therefore found it plausible that crowds could lead to self-expansion, which would provide initial evidence for a crowd self.

Including the crowd in the self

Including others in the self is another way to measure whether one's self-concept has shifted. As proposed by Aron et al. (1991), people sometimes include close others, such as a romantic partner, in their self-concept and thus attribute the identities, perspectives, cognitions, and attributes of those partners onto the self (Aron et al., 1991, 2022; Smith et al., 1999). Including others in the self is context dependent – it is more likely to happen when those relationships are present or cognitively accessible (Gardner et al., 2002).

The concept of including others in the self can be understood by examining the most common measure of it – the Inclusion of Other in the Self (IOS) scale (Aron et al., 1992, 2022). This scale pictorially uses a series of increasingly overlapping circles with one circle representing the self and the other circle representing the relationship partner. Participants examine the pairs of circles and are asked to choose which pair of circles best reflects their relationship with the other person (Aron et al., 1992). Thus, including others in the self is defined as an overlap between one's self concept and the self-concept of someone else. Tropp and Wright (2001) adapted the IOS to be used with an individual's ingroup and the IOS has been successfully adapted for use in evaluating how much a person's sense of self includes their community (Mashek et al., 2007). These adaptations of the IOS for use with large groups suggests that it can also be adapted to evaluate including a crowd in the self. We therefore predicted that priming a crowd would lead people to include the crowd in the self, which would provide additional evidence for a crowd self.

In summary, by using two different measures of relationship specific self-concept change – self-expansion and including others in the self – we hoped to find converging evidence for a crowd self.

The current research

Combining past research on relational selves and the psychological importance of crowds, we propose three hypotheses.

Hypothesis 1: People have crowd selves. Specifically, people will experience shifts to their self-concept (as measured by self-expansion and inclusion of a crowd in the self) when primed with crowds.

Hypothesis 2: A Crowd self will be more likely to occur in psychologically meaningful crowds (i.e., when people experience collective effervescence in a crowd).

Hypothesis 3: An individual's crowd self will transfer to a new crowd when a similar meaningful crowd is salient.

Study 1 examined Hypotheses 1 and 2 by priming a crowd experience in all participants. Study 2a and 2b further examined Hypothesis 2 by priming a collective effervescence crowd experience (versus a non-collective effervescence crowd experience). Study 3 used an experimental priming design to examine whether one's crowd self would transfer when imaging themselves in a new crowd that reminded them of the old crowd. Study 2a and Study 3 were pre-registered on Open Science Framework Preregistration of Study 3 and can be found at: <https://doi.org/10.17605/OSF.IO/DG8HY>. Preregistration of Study 2a and the data and syntax from all four studies can be found at: https://osf.io/y5jpt/?view_only=ec801f77ae2c4bf6b46d63febf6c5d35.

All studies were approved by the institutional review board at the University at Buffalo in protocol #00002070.

Study 1

Methods

Participants

This sample was collected as part of a larger study. The sample size was based on the needs of that study and was determined a priori based on guidelines set by Fritz and MacKinnon (2007). Five hundred one participants (231 women, 265 men, 4 non-binary or agender, 1 participant did not identify their gender) were recruited from the University at Buffalo. The racial breakdown was 49% White, 24% Asian, 13% Black or African American, 7% Hispanic or Latino/a, 6% bi- or multi-racial, and 1% no race reported. The average age of the sample was 18.99 years old ($SD = 1.82$) and the age range was 18 to 49. Participants provided informed consent prior to beginning the study and were compensated at the end of the study with partial credit toward a course research requirement.

Procedure

This study was completed via a Qualtrics online survey. All participants were asked to "think of a time when you were in a large group activity, such as a concert, sporting event, festival, or rally," think about the experience for two minutes, list four words related to the experience, and finally, write about the experience for three minutes. Participants were instructed to immerse themselves in the experience as they wrote about it. This technique has been used successfully in other studies to prime participants with a collective experience (e.g., Naidu et al., 2023). After writing, participants were asked to fill out measures assessing their current state collective effervescence, self-expansion, and including the crowd in the self. All questionnaires were presented in a randomized order.

Collective effervescence

Participants were given the State Collective Effervescence (SCE) scale to evaluate collective effervescence experienced in the crowd (Gabriel et al., 2020). This scale has eight items. Four items measure connecting to others (e.g., “I felt as if most everyone there felt the same emotions.”) Four items measure a sensation of sacredness (e.g., “I felt as if there was something sacred about the event.”) Items were on a 7-point Likert scale, 1 = *Strongly Disagree*, 7 = *Strongly Agree*; $\alpha = .86$ (Gabriel et al., 2020).

Crowd self

Self-expansion and Inclusion of Other in the Self (IOS) were used as two ways to operationalize the crowd self. Self-expansion taps into perceptions that one’s self-concept expands when in the crowd whereas the IOS gauges perceptions that attributes of the crowd are included in one’s self-concept.

Self-expansion was measured using two items adapted from Emery et al. (2014) and Emery et al. (2022): “I added to my sense of who I am” and “I expanded my sense of the kind of person I am” (1 = *Not Very Much*, 7 = *Very Much*; $\alpha = .91$). Including the crowd in the self was assessed using an adapted version of the IOS scale (Aron et al., 1992). This scale pictorially represented circles of increasing overlap where more overlap indicated more perceived overlap between the participant’s sense of self and the crowd they recalled from their prompt. The scale was anchored from 1 (*least overlap*) to 7 (*almost entirely overlapping*). For both scales, participants were asked how thinking about the event made them currently feel (i.e., “Thinking about this event makes me feel...”). In other words, rather than having them try to remember how they felt when at the event, we capitalized on the priming of the event to measure the participants crowd selves in the research lab (Naidu et al., 2023).

At the end of the study, participants reported their demographics, were debriefed, and compensated for their participation.

Results

To examine our first hypothesis, that people have crowd selves, we ran two single sample t-tests. Those tests tested whether the means were significantly different from 1. Scores of 1 indicate that participants indicated “not very much” to the self-expansion items and did not include the crowd in the self (i.e., picked the only picture with non-overlapping circles). As predicted, we found that people self-expanded when in a crowd, ($M = 4.48$, $SD = 1.49$), $t(500) = 52.25$, $p < .001$; $d = 2.34$. Similarly, we found that participants included the crowd in the self, ($M = 4.58$, $SD = 1.68$), $t(500) = 47.69$, $p < .001$; $d = 1.68$. We also ran more stringent versions of the one sample t-tests where we compared the means to the scale midpoints of 4. Using that more stringent criteria, we found further evidence that people self-expanded when in a crowd, $t(500) = 7.17$, $p < .001$; $d = .32$ and included the crowd in the self, $t(500) = 7.79$, $p < .001$; $d = .35$.²

To examine our second hypothesis, that people develop a crowd self when they experience collective effervescence, we correlated our measures of crowd self with the collective effervescence reported during the prompted event. As predicted, we found that collective effervescence was positively correlated with self-expansion, $r = .57$, $p < .001$, and

with including the crowd in the self $r = .56$, $p < .001$. In other words, higher collective effervescence was associated with more crowd self on both measures.

Discussion

In summary, Study 1 found evidence for our first hypothesis – that there is a crowd self that becomes active when we are in a crowd. We found this across two different measures of self-concept change. We also found support for our second hypothesis that a crowd self is strongly related to collective effervescence. Feelings of collective effervescence were highly related to activation of a crowd specific self.

Although consistent with Hypothesis 2, Study 1 only was able to examine Hypothesis 2 using correlations between the variables of interest. To increase our confidence that the collective effervescence is related to the crowd self, Studies 2a and 2b experimentally manipulated collective effervescence. We predicted that participants primed to mentally relive an event with high collective effervescence would experience more of a crowd self than those who were asked to relive an event with low collective effervescence.

Study 2a

Methods

Participants

The sample size for this study was determined a priori by using G*Power (Faul et al., 2007). To detect a small effect ($d = .30$) and achieve power of 0.80 ($\alpha = .05$), 352 participants would be required. Participants were undergraduate students recruited from the University at Buffalo and were compensated by receiving partial course credit toward a research requirement. Four hundred nineteen participants were initially enrolled in the study but, after removing 24 participants for not completing all of the measures, the final sample was 395 (227 women, 161 men, 4 non-binary or genderfluid, 3 participants did not report their gender). The sample was racially diverse with 59% of participants identifying as White, 24% Asian, 7% Black, 5% Hispanic or Latino/a, 3% bi- or multi-racial, and 2% unreported. The average age of the sample was 19.01 years ($SD = 2.20$) and the age range of participants was 18–52 years old. Participants provided informed consent prior to beginning the study.

Procedure

Participants completed this study via an online Qualtrics survey. Participants were randomly assigned to one of two crowd priming conditions: high or low collective effervescence. In the high collective effervescence condition, participants were asked to read a prompt that had an explanation of what collective effervescence is and were asked to think of a time they experienced it when in a crowd. This prompt has been successfully used in past studies to prime collective effervescence (Naidu et al., 2023). In the low collective effervescence condition, participants read a prompt that instructed them to think of a time they were in a crowd, but it did not feel special or out of the ordinary. Both conditions included the instructions to think about crowds where “you were with a crowd of strangers, but they were people you DIDN’T feel a sense of shared identity with” such as

being in a random crowd of people or at a concert where they did not know the artist ahead of time. In both conditions, participants were then given two minutes to think about the group experience, wrote four words that described it, and then had three minutes to write about the group experience.

Psychological meaningfulness of the crowd. After their respective prompts and writing, all participants completed two manipulation check questions taken from the State Collective Effervescence Scale to assess the two aspects of collective effervescence: connectedness to others and sacredness (i.e., if they “felt a sense of connection to the people who were at that event” and “felt as if life has moments that are special or even sacred”) (Gabriel et al., 2020).

Crowd self. Following the manipulation check, participants responded to items assessing including the crowd in the self (IOS) and self-expansion in a randomized order.

At the end of the study, participants reported their demographics followed by being debriefed and being compensated with partial research credit.

Results

Manipulation check

An independent samples t-test was conducted to compare the manipulation check questions between the high collective effervescence and low collective effervescence group. The manipulation was successful. Participants in the high collective effervescence condition ($M = 6.32$, $SD = 0.94$) reported significantly more connectedness than participants in the low collective effervescence condition ($M = 2.94$, $SD = 1.81$), $t(393) = -23.32$, $p < .001$, $d = -.24$. Participants in the high collective effervescence condition also reported significantly more sacredness ($M = 6.42$, $SD = 0.95$) compared to those in the low collective effervescence condition ($M = 5.46$, $SD = 1.68$), $t(393) = -6.99$, $p < .001$, $d = -.70$.

Hypothesis testing

As predicted, self-expansion differed significantly between conditions, with participants in the high collective effervescence condition ($M = 5.08$, $SD = 1.40$) reporting significantly more self-expansion compared to participants in the low collective effervescence condition ($M = 3.85$, $SD = 1.176$), $t(393) = -7.70$, $p < .001$, $d = -.77$. In addition, participants in the high collective effervescence condition ($M = 5.17$, $SD = 1.32$) reported significantly more inclusion of the crowd in the self, compared to participants in the low collective effervescence condition ($M = 2.62$, $SD = 1.62$), $t(393) = -17.23$, $p < .001$, $d = -1.73$. These findings are consistent with Hypothesis 2.³

Discussion

The results from Study 2a support our hypotheses, suggesting that there is a crowd self and that the crowd self is more likely to occur in meaningful crowd experiences. Both measures of shifting of the self – self-expansion and including the crowd in the self – were higher in the high collective effervescence condition versus the low collective

effervescence condition. Thus, when participants thought about a time they were in a group setting that felt meaningful, their sense of self shifted to include the crowd in the self.

Although Study 2a was supportive of our hypotheses, there were some limitations. First, because people could pick whatever crowd activity they wanted, it is possible that people chose activities that included established collectives (e.g., a Buffalo Bills fan attending a Buffalo Bills game). Thus, it is possible that the study activated the collective self instead of, or in addition to, the crowd self.

Second, because we did not include the full measure of state collective effervescence, we could not test to see if collective effervescence mediated the effect of condition on changes to the self. Although we attempted to vary just the amount of collective effervescence felt between the two events (by manipulating only that variable) it is possible that events listed differed on some other variable and it was that variable, and not collective effervescence, that was responsible for the self-shift.

To address those concerns, a replication of Study 2a was run in which participants were instructed to think of events that specifically did not include established collectives. In addition, state collective effervescence was measured so that mediation could be examined.

Study 2b

Methods

Participants

The sample size for this study was determined a priori by using G*Power (Faul et al., 2007). Based on the effect size detected in Study 2a, we made a conservative estimate of a $d = 0.50$ to achieve power of 0.80 ($\alpha = .05$), 210 participants would be required. Power analyses for the mediation analysis were done using MedPower (Kenny, 2017) suggested smaller sample sizes than the estimate using G*Power, so the G*power suggestion of 210 was used. Participants were undergraduate students recruited from the University at Buffalo and were compensated by receiving partial course credit toward a research requirement. Two hundred and eleven participants were enrolled in the study (106 women, 100 men, three non-binary or genderfluid, two participants did not report their gender). The sample was racially diverse with 51.5% of participants identifying as White, 25.4% Asian, 8.2% Black, 5.2% Hispanic or Latino/a, 8% bi- or multi-racial, 1% Middle Eastern and 1% unreported. The average age of the sample was 19.32 years ($SD = 1.92$) and the age range of participants was 18–31 years old. One person did not complete all the measures and was not included in the analyses. Participants provided informed consent prior to beginning the study.

Procedure

The procedure was the same as Study 2a with two exceptions. First, the psychological meaningfulness of the crowd was measured with the full State Collective Effervescence scale (Gabriel et al., 2020) and not just the two manipulation check items used in Study 2a. Second, the priming conditions explicitly asked participants to write about a time when they were in a crowd of strangers that *did not* include a meaningful collective. Specifically,

all participants were told “Sometimes a crowd of people shares a strong group identity with us. In other words, a Bills fan might be at a Bills game. Or a Swiftie at a Taylor Swift concert. However, that is NOT the kind of crowd that we want you to think about today. Instead, we want you to think of a time you were with a crowd of strangers, but they were people you DIDN’T feel a sense of shared identity with. An example of this might be someone who isn’t that into football attending a Bills game, so they don’t have a shared identity with Bills fans. Or someone at a concert watching a band that they don’t really like, so they don’t have a shared identity with fans of the band.” As with Study 2a, participants were then randomly assigned to one of two crowd priming conditions: high or low collective effervescence. All other procedures were the same.

Results

Independent samples t-tests were conducted to compare the high collective effervescence and low collective effervescence group. As predicted, participants in the high collective effervescence condition ($M = 5.24$, $SD = 1.04$) reported significantly higher levels of collective effervescence as compared to participants in the low collective effervescence condition ($M = 3.45$, $SD = 1.05$), $t(209) = 12.47$, $p < .001$; $d = 1.72$. Also as predicted, self-expansion differed significantly between conditions with participants in the high collective effervescence condition ($M = 4.58$, $SD = 1.55$) reporting significantly more self-expansion compared to participants in the low collective effervescence condition ($M = 3.45$, $SD = 1.78$), $t(209) = 4.89$, $p < .001$; $d = .67$. Finally, participants in the high collective effervescence condition ($M = 3.97$, $SD = 1.52$) reported significantly more inclusion of the crowd in the self, compared to participants in the low collective effervescence condition ($M = 2.77$, $SD = 1.59$), $t(209) = 5.84$, $p < .001$; $d = .77$.⁴ Thus, when thinking about a crowd that did not contain a meaningful collective, people who experienced collective effervescence were more likely to shift to a crowd self.

We next examined if the shift to a crowd self was explained by collective effervescence. Two mediation analyses (bootstrapping with 5000 samples; Preacher & Hayes, 2008, Model 4) were run—one for each dependent variable. Each model provided evidence consistent with collective effervescence mediating the relationship between condition and self-change. We present models and relevant statistics in Figure 1. For both dependent variables, the crowd collective effervescence prime increased collective effervescence; when controlling for the prime, collective effervescence was associated with increased self-expansion (DV1) and inclusion of the group in the self (DV2); and the indirect effects of the prime on self-expansion and inclusion of the group in the self via collective effervescence were significant. Finally, in both cases, the c path was robust and the c' path was no longer significant and even trended in the opposite direction. Thus, evidence suggested that collective effervescence may be a mechanism through which meaningful crowds lead to a crowd self.

Discussion

The results from Study 2b replicated and extended the findings from Study 2a. When participants thought about a time they were in a crowd setting that had high collective effervescence, their sense of self shifted. In addition, Study 2b

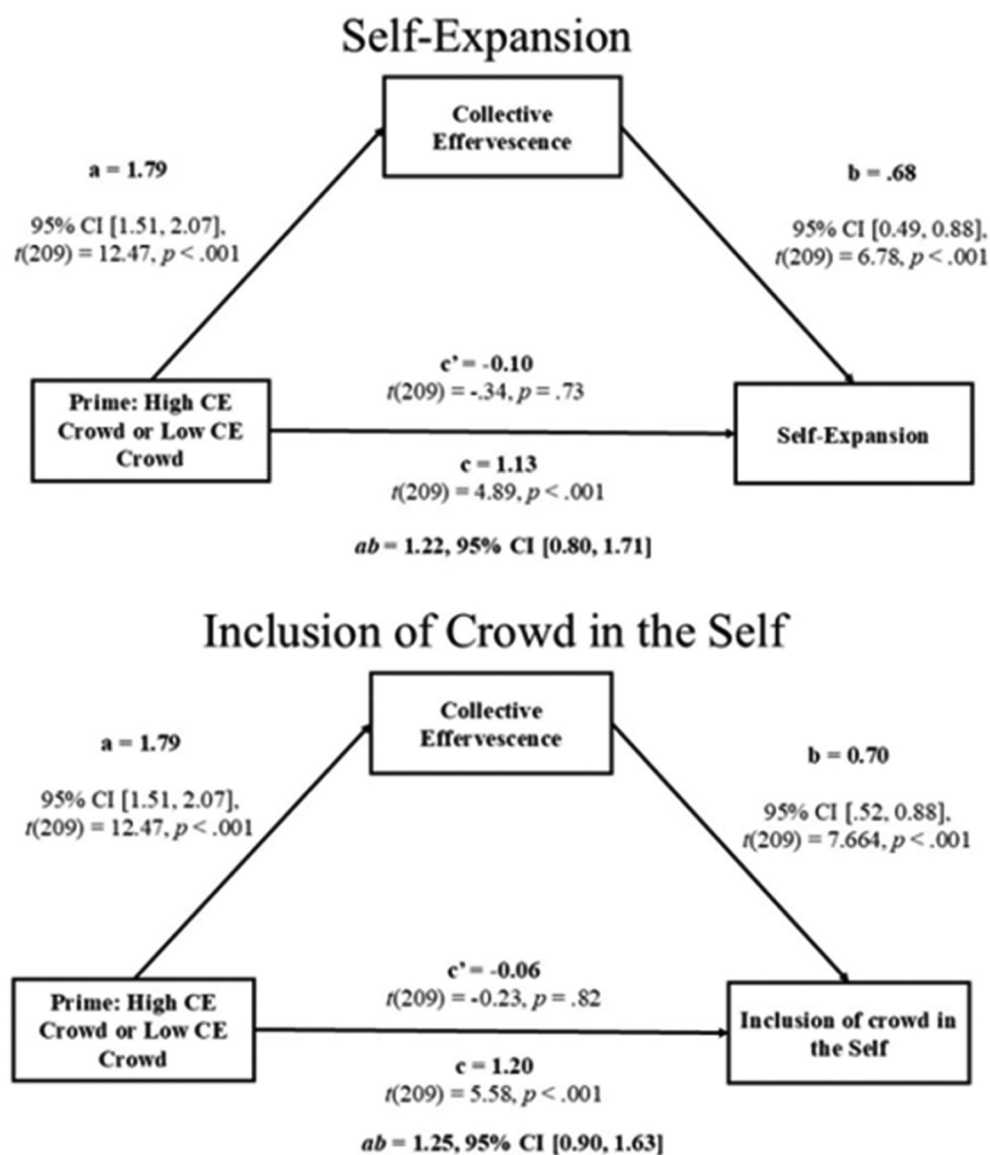


Figure 1. Mediation models showing that the crowd self, evidenced by more self-expansion and including the crowd in the self, was activated via collective effervescence from the high CE prime.

explicitly asked participants to list crowd events that did not involve a meaningful collective and where they specifically *did not* feel an affiliation with others at the event. The most common events described were sporting events and concerts.⁵ Thus, this study provided increased confidence that the crowd self is different from the collective self. Finally, by measuring state collective effervescence, we were able to conduct mediation analyses and find evidence consistent with the hypothesis that collective effervescence felt when in a crowd led to the shifts to a crowd self.

Study 3

Study 3 was designed to test the hypothesis that the crowd self would transfer to a new crowd. In addition, because we were examining transference, we were able to use a more traditional measure of self-change (instead of the self-expansion and inclusion of others measures used in Studies 1, 2a, and 2b). In typical studies testing transference and self-concept changes, researchers measure an individual's self when engaging with a relationship partner. They then measure the sense of self when the individual is with another person who is similar to the relationship partner (e.g., Chen et al., 2013; Kraus & Chen, 2010). Utilizing a variation on this technique (Hinkley & Andersen, 1996), we had participants list traits they associated with themselves in different scenarios they had been previously experienced – alone, spending time with an individual close other, and in a crowd – followed by a filler task. After the filler task, we primed half the participants with meeting a new person who reminded them of the close other whom they recalled at the start of the study and the other half of the participants with being in a similar crowd to the crowd they recalled at the start of the study. Following this, we measured self-concept to see how similar it was to the original crowd and relational selves (see Figure 2 for a visual representation of the methodology). We predicted that people would transfer their crowd self to the new crowd (in the crowd condition) and, consistent with past research, their relational self to the new person (in the relationship partner condition).

Method

An a priori power analysis was conducted using G*Power (Faul et al., 2007) to detect a small effect ($f = .10$) and achieve power of 0.80 ($\alpha = .05$). For a repeated measures ANOVA with a within-between interaction, the recommended sample size was 200. Two hundred four undergraduate students from the University at Buffalo participated in this study for partial credit toward a research requirement. After removing 25 participants for not following directions (they did not list traits nine traits at Time 1), the final sample was 178 participants. The final sample comprised 93 women, 84 men, and 1 non-binary person. The racial breakdown was 55% White, 24% Asian, 8% Black or African American, 5% Latino/a or Hispanic, 5% bi- or multi-racial, 1% Native American, and 2% not reporting their race. All participants provided informed consent before participating in the study. The average age of the final sample was 18.92 years old ($SD = 1.57$) and age range was 18–29 years old. Participants provided informed consent prior to beginning the study.

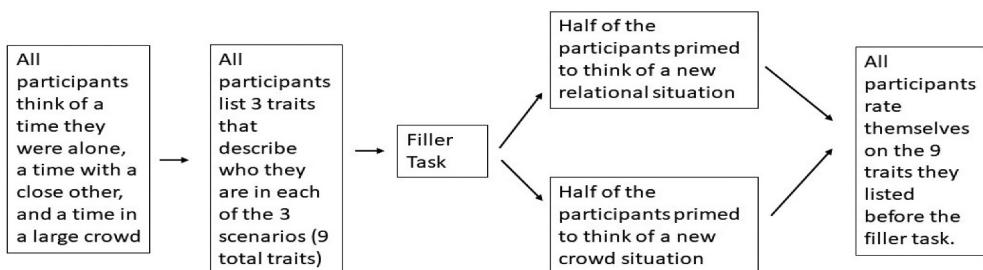


Figure 2. Overview of procedure for study 3.

Procedure

Participants completed this survey online through Qualtrics. At the beginning of the study participants were asked to describe a time they were in three different scenarios: when they were spending time with a close other (e.g., romantic partner, friend, or family member), a time when they were in a large crowd of people (e.g., at a festival, concert, or sporting event), and a time when they were alone (e.g., watching TV or studying). Participants were asked to name each experience (e.g., hanging out with Jamel, Bills game, studying for my chem test) and list three traits or words (e.g., funny, carefree, kind) that they associated with themselves during each situation for a total of nine traits.

To separate the two parts of the study, participants then completed a filler task where they were instructed to make as many small words as they could out of two larger words. Participants were given one minute per word meaning the filler task took two minutes. This task has been used successfully before (Galinsky et al., 2003; Todd et al., 2012).

After the filler task, participants were randomly assigned to one of two New Situation conditions: the relationship partner or crowd condition. In the relationship partner condition, participants were asked to imagine that they were spending time with a new person who reminded them of the close other that they wrote about earlier in the experiment. In the crowd condition, participants were asked to imagine they were in a new crowd that reminded them of crowd event that they wrote about earlier in the experiment. In both conditions, participants were given one minute to think about this hypothetical scenario. Specifically, they were told:

Relationship Partner

"For the next task, we want you to imagine that you are in a new situation that reminds you a lot of [the relational situation the participant named earlier in the study]. So, this is a NEW situation but it reminds you a lot of [the relational situation the participant named earlier in the study]. You have one minute to think about this event and imagine what it would be like (we will ask you about it later)."

Crowd

"For the next task, we want you to imagine that you are in a crowd of people and it reminds you a lot of [the crowd event the participant named earlier in the study]. So, this is a NEW situation – a new crowd – but it reminds you a lot of [the crowd event the participant named earlier in the study]. You have one minute to think about this event and imagine what it would be like (we will ask you about it later)."

After one minute, participants were given a list of all nine traits they previously reported in a random order: the traits they used to describe themselves when alone, with their relationship partner, and in a crowd. No mention was made of where these traits originated. Participants rated how much they thought they would be described by each trait in the hypothetical scenario they just thought about, on a 5-point Likert scale (1 = *Does not describe me*, 5 = *Describes me extremely well*).⁶ At the end of the study, participants reported their demographics, were debriefed, and were compensated for their participation.

Results

We examined the hypothesis that one's crowd self would transfer to a new crowd (and that one's relational self would transfer to a new relationship partner). We averaged participant's ratings for both their relational and crowd traits and compared them in a mixed-design ANOVA where New Situation (Relationship Partner or Crowd) was the between-subject variable and Trait Level (Relational or Crowd) was the within-subject variable. There was a main effect of Trait Level, $F(1,176) = 6.67$, $p = .011$, $\eta_p^2 = .04$ and this effect was further qualified by a significant interaction between the New Situation condition and Trait Level $F(1,176) = 100.30$, $p < .001$, $\eta_p^2 = .36$. In support of transference of the crowd self, after being primed with a similar crowd, participants rated themselves as being higher in their previously listed crowd traits ($M = 3.97$, $SD = 0.87$) than their relational traits ($M = 2.98$, $SD = 1.08$), $F(1,176) = 45.54$, $p < .001$, $\eta_p^2 = .21$. Consistent with past work showing transference of the relational self, participants who were primed with a new relationship partner rated themselves higher on their previously listed relational traits ($M = 4.13$, $SD = 0.76$) than crowd traits ($M = 3.29$, $SD = 1.03$), $F(1,176) = 31.80$, $p < .001$, $\eta_p^2 = .18$ (See Figure 3).

In exploratory qualitative analyses, we examined the kinds of words used to describe the relational and crowd selves. For both the relationship partner and the crowd self conditions, the words listed to describe the self in that situation were primarily positive (e.g., happy). For words reported about relationships, 74.5% were positive, 14.3% were negative (e.g., bored, anxious), and 11.3% were neutral (e.g., neutral, casual). For crowd

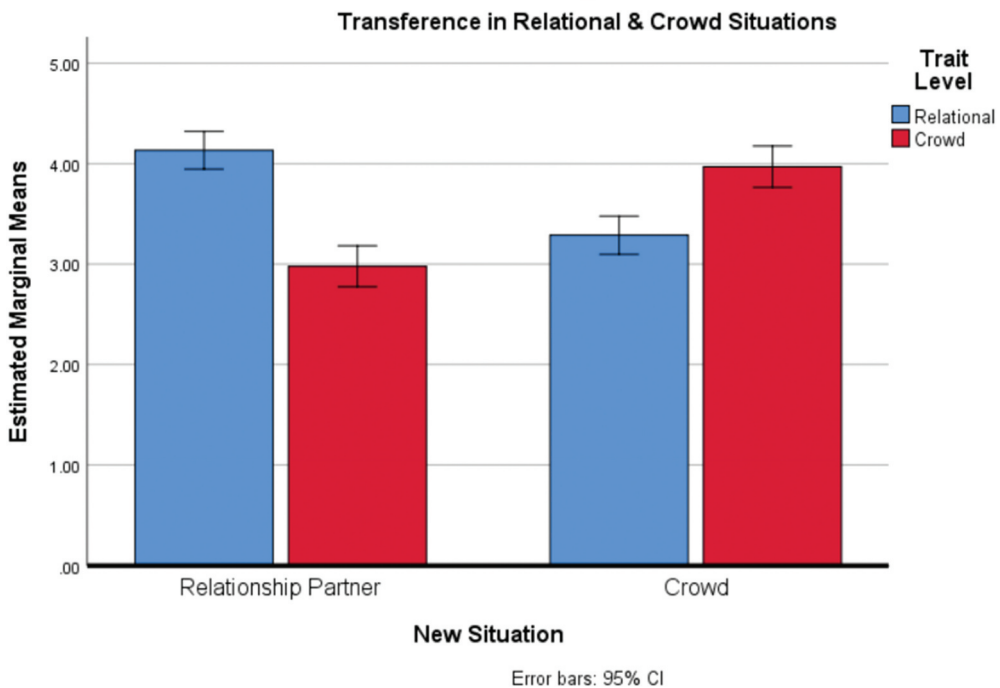


Figure 3. Participants' average ratings of their traits when imagining themselves spending time with a new but familiar relationship partner or a new but familiar new crowd.

words, 60.6% were positive, 33.2% were negative and 6.3% were neutral. More specifically, in the crowd self condition, 37.1% of participants listed traits (e.g., outgoing, ambitious) whereas 30.1% listed traits in the relationship condition. Emotions or mood words (e.g., energetic, relaxed) were listed 24.5% of the time for the crowd condition and 32% of the time for the relationship condition. Physical states (e.g., cold, warm) were listed 9.2% of the time for the crowd self condition and 7.6% of the time for the relationship condition. Actions or behaviors (e.g., laughing) were reported 17.9% of the time for the crowd self condition and 13.4% of the time for the relationship condition. Finally, words that did not fall cleanly into any other category (e.g., best, good) were reported in the crowd condition 11.3% of the time and in the relationship condition 16.9% of the time.

Although this should be interpreted with caution, these words suggest that both relational and crowd selves are generally viewed positively, with crowd selves viewed slightly more negatively. This makes sense as some people indicated strong anxiety about being in the midst of a crowd of people in their descriptions of the events. Finally, the fact that less than a third of crowd words were emotion words suggests that people are not focusing primarily on synchronized emotion when thinking of themselves in a crowd.

Discussion

The results of Study 3 support our hypothesis that when people imagine themselves in a new crowd that reminds them of a previous crowd, people showed transference of their crowd self, akin to transference of the relational self. Specifically, when participants were primed with a new but familiar crowd they rated themselves higher in traits associated with a past crowd compared to traits associated with a past relational experience. In addition, Study 3 provided evidence for the existence of the crowd self using a new measurement – ratings of the self on relevant traits.

General discussion

Based on Andersen and Chen's (2002) Relational Self Theory and research showing the psychological importance of crowds, we proposed that individuals have crowd selves. In other words, we predicted that groups of strangers can be included in the self. Specifically, we predicted that people have a crowd self (Hypothesis 1), that the crowd self is activated in a crowd they find meaningful (Hypothesis 2), and that transference occurs between crowd selves similar to how transference occurs between relational selves (Hypothesis 3). To test these hypotheses, we conducted four studies.

Results from Study 1 supported our first and second hypotheses. Being primed with a crowd led to self-expansion and including the crowd in the self. Further, both measurements of crowd self – self-expansion and including the crowd in the self – were positively related to collective effervescence suggesting that people are more likely to experience a crowd self in meaningful crowds. Studies 2a and 2b experimentally manipulated the meaningfulness of crowd experiences via collective effervescence and found more evidence that people develop a crowd self when in meaningful crowds. Study 2b demonstrated that the crowd self can occur even when the crowd contains no meaningful collectives and that collective effervescence mediates the relationship between the crowd and the crowd self. The results of Study 3 found evidence that participants

experienced transference when thinking of a new crowd that reminded them of an old crowd, just as they do when thinking of a new relationship partner that reminds them of a known relationship partner. In summary, our three hypotheses were supported. Our work suggests that there is a crowd self, that individuals shift to a crowd self when people experience collective effervescence, and that transference occurs when in a new, but familiar, crowd. Evidence for the crowd self was found on three different measures: including the crowd in the self, self-expansion due to the crowd, and taking on the same traits that one had when with a previous crowd. Although each of these measures has its weaknesses, the converging evidence increases confidence in the existence of a crowd self.

The establishment and exploration of the crowd self provides a new level of abstraction at which to look at the self and how the self is influenced by others, specifically those that may be unknown to us and with whom we do not have any obvious connections. Although past work examined how engaging with relationship partners or established collectives can lead to the development of relational and collective selves, we find evidence that people develop a self that changes in the presence of a crowd of strangers. In other words, one's concept of the self need not proceed from already-established relationships. We found evidence that the crowd self is most likely to occur when crowds are meaningful; that is, when crowds involve a feeling of collective effervescence. We see this work as contributing to a body of literature suggesting that people's selves are flexible and social in nature. The capability of the crowd self to activate and transfer between different crowds also expands the concept of transference as defined by Andersen and Chen (2002), suggesting that transference occurs not only with known relationship partners but also with groups, and even more strikingly, groups of strangers.

The results of these studies also have implications for better understanding crowds. Recent research suggests that spending times in crowds and interacting with strangers is psychologically meaningful and important for people (e.g., Gabriel et al., 2017, 2020). These studies provide an additional pathway through which crowds may affect wellbeing. Crowds, especially meaningful crowds where people experience collective effervescence, may serve as an opportunity for the self to shift and expand. This may provide a new utility for crowds. Crowds may provide an opportunity for one's self-perception to change. These results provide more evidence to support the significant role that crowds – even crowds made of total strangers – play in our lives. They determine who we are, even if for a limited period of time.

We view these studies as the first step in defining the crowd self and we recognize that more work will be necessary to fully understand this construct and differentiate it from related constructs. For example, although crowds can comprise people with no obvious shared identity (e.g., the county fair John attended) crowds may also be comprised of people with obvious shared social identities (e.g., fans at a football game). The latter may activate a collective self in addition to a crowd self. Within a crowd, there may be people for whom the collective self is salient and others for whom the crowd self is salient. For example, even at a football game where most people share the same fan identity, there may be individuals in the crowd for whom that identity is less important. For example, some people may be at the game because they were brought by a friend but do not identify with the other fans. Study 2b demonstrated that the crowd self is not contingent on the collective self. However, it

is clear that there is overlap between the two and future work could examine the nuances of a crowd versus collective self, the antecedents and outcomes for each self, and what happens when a crowd contains people with varying levels of shared identities.

Future work may further differentiate how the crowd self differs from, and is similar to, other social selves. In the current work, for example, the first studies made use of measures of self change that are different than the measures that are traditionally used in studies examining the relational self. Specifically, instead of looking at shifts on specific traits and goals, our measures examined the expansion of the self. From these studies, we do not know precisely *how* the self expanded, only that it did expand. When people reported feeling the self expand, it is possible they were thinking of traits, goals, and identities, similar to what shifts in relational and collective selves, but it is also possible that they were thinking of other things. Further work should aim to distinguish whether crowd selves involve primarily an expansion of the self rather than a shifting of the self, and how the two processes might differ. The third study suggested that, at least in that context, there were many similarities between how people described a crowd self and a relational self. Participants described their selves using emotion words, traits, physical states, and actions in roughly equal proportions. In addition, they were generally positive, although the crowd self did include slightly more negative responses than the relational self. This may be due to crowds eliciting anxiety or discomfort in some people as reflected in the descriptions of the events. Nonetheless, this is the first set of studies studying this construct and future work may want to more thoroughly examine how the crowd self is both similar to, and dissimilar to, other selves.

One potential limitation is that although the prompts used in Studies 1 and 2a have been successfully used in the past (Naidu et al., 2023), these recall tasks may be less vivid than actively experiencing a crowd activity. Although other research has shown that people react to these recall tasks in the same way as they react to the actual events (e.g., Naidu et al., 2024; Koefer et al., 2024) replicating these studies in a more naturalistic environment, such as during or immediately after a collective event, would help to bolster the results. In addition, although past work has found that collective effervescence experiences in crowds occur across multiple age groups (e.g., Gabriel et al., 2017, 2020) examining the crowd self among a wide variety of populations (and not just college students) would be useful.

One limitation of Study 3 is that the connections between the old and new scenarios were made explicit (i.e., we explicitly described the new person or new crowd as reminding participants of the old person or crowd), which is a departure from previous transference paradigms that used more subtle context cues to activate similar others. Although we were hopeful that our distraction task would mean participants may not have recalled the exact traits they used for each original scenario, and although no participants reported being suspicious of the hypotheses in open-ended responses, it is possible that demand effects led participants to rate themselves higher on the traits they remembered listing earlier because the instructions explicitly drew a comparison between the original and new scenario. Therefore, future work investigating transference of the crowd self should aim to use more subtle context cues to trigger similar crowds and use a more careful suspicion probe.

Despite their limitations, these four studies serve as initial evidence, using three different techniques and multiple measures of self, that – like relational and collective selves – people have crowd selves. This investigation paves the way for future research to explore this novel construct in more depth, including in real world situations.

Future studies may also examine if features of the crowd beyond collective effervescence also lead to a crowd self. For example, entitativity, or the extent that a group is perceived to be a coherent unit, can make a crowd seem more meaningful and elicit the perception of a common fate or purpose (Campbell, 1958; Lickel et al., 2000; McGarty et al., 1995). It may be easier for people to experience transference between highly entitative crowds compared to crowds low in entitativity because of the perception of similarity among crowd members. In addition, the intensity of the emotional experience may play a role (Newson et al., 2021). Future research may want to examine how entitativity, emotional intensity, and collective effervescence interact to encourage a crowd self.

The current studies add to our understanding of the self and provide more evidence for the self being both nuanced and multileveled. The self is understood as being able to be altered by one's environment and close others (e.g., Andersen & Chen, 2002; Aron & Aron, 1986, 2006; Aron et al., 1992, 1995, 2000; Mattingly & Lewandowski, 2013a, 2013b, 2014; Wright et al., 2002). This series of studies provides more evidence for the malleability of the self, in particular that not only relationship partners but large crowds play a pivotal role in shaping self-concepts. Furthermore, the crowd self is not limited to a specific crowd experience, but past crowd experiences shape who the self is in new crowd situations as well. When people are in a new but familiar crowd setting, traits from a previous crowd experience transfer to the self.

Conclusion

Life provides no shortage of opportunities for shifts and expansions of self. In addition to who we are as individuals, our selves are also acutely affected by other people – both with people we know intimately and those who are merely faces in the crowd. The four studies described here sought to expand our knowledge of the levels of the self beyond that of the individual, relational, and traditional collective selves. We proposed and found evidence for the concept of the crowd self, and how seemingly meaningless crowds of strangers can come to feel both meaningful and be the basis for a new type of self. The fact that we can give meaning to a random collection of people and incorporate that crowd into the self and transfer that self between situations is further evidence of our natural tendency to seek connections and a place within our social world.

Notes

1. The term collective effervescence is inspired by the theoretical work of Emil Durkheim (1912). Due to the wide variety of ways that Durkheim described collective effervescence in his writing, operationalizations of this construct vary across disciplines and scholars. For example, some researchers use the same term to describe a sense of shared emotion with a crowd (e.g., Páez et al., 2015; Pizarro et al., 2022) whereas others define it as a combination of sensation of sacredness and social connection (e.g., Gabriel et al., 2017, 2020, 2024; Gabriel &

Paravati, 2021; Koeﬂer et al., 2024; Naidu et al., 2022). Our usage throughout this paper refers to the latter definition. Although both definitions capture important collective experiences, research suggests that shared emotion is a separate construct from collective effervescence as we define it (Gabriel et al., 2020; Koeﬂer et al., 2024).

2. Self-expansion and including the crowd in the self were moderately correlated, $r = .37$, $p < .001$, but were conceptually different enough to be analyzed separately. However, when the two items were averaged into a composite, the results were the same for each analysis, $t(500) = 60.19$, $p < .001$ and $t(500) = 9.04$, $p < .001$, respectively.
3. Like Study 1, self-expansion and including the crowd in the self were moderately correlated ($r(393) = .42$, $p < .001$). As in Study 1, when the IOS and self-expansion questions are averaged into a composite, there is still a significant difference between groups with participants in the high collective effervescence condition reporting more of a crowd self ($M = 5.12$, $SD = 1.10$) than those in the low collective effervescence condition ($M = 3.23$, $SD = 1.32$), $t(393) = -15.47$, $p < .001$.
4. Like in Studies 1 and 2a, self-expansion and including the crowd in the self were moderately correlated ($r(211) = .38$, $p < .001$). Also like in Study 1, when the IOS and self-expansion questions are averaged into a composite, there is still a significant difference between groups with participants in the high collective effervescence condition ($M = 4.27$, $SD = 1.27$) having more of a crowd self than those in the low collective effervescence condition ($M = 3.11$, $SD = 1.33$) ($t(209) = 6.48$, $p < .001$).
5. 23 participants listed sporting events, 23 listed concerts, 4 listed religious events, 4 listed parties, 3 listed festivals, 3 listed classrooms, 2 listed memorial services. No other events were listed more than once.
6. After rating themselves on all traits in the context of the new situation (new relationship partner or new crowd), participants filled out the State Collective Effervescence scale ($\alpha = .90$; Gabriel et al., 2020) related to the crowd experience they wrote about at the beginning of the experiment. This was an exploratory measure and was not used in any analyses but is available in the online data.

Author contributions

Veronica Schneider and Shira Gabriel conceptualized the research, were involved in the investigation of the research, performed the formal analysis, writing of the original draft, review and editing. Gabriela Pascuzzi and Nicole Koeﬂer were involved in review and editing. There should be no authors note.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This research was funded by a grant from the Templeton World Charity Foundation #30296.

References

- Allport, F. H. (1924). The group fallacy in relation to social science. *The Journal of Abnormal Psychology and Social Psychology*, 19(1), 60–73. <https://doi.org/10.1037/h0065675>
- Andersen, S. M., & Chen, S. (2002). The relational self: An interpersonal social-cognitive theory. *Psychological Review*, 109(4), 619–645. <https://doi.org/10.1037/0033-295x.109.4.619>

- Aron, A., & Aron, E. N. (1986). *Love and the expansion of self : Understanding attraction and satisfaction*. Hemisphere Publishing Corp/Harper & Row Publishers.
- Aron, A., & Aron, E. N. (2006). Romantic relationships from the perspectives of the self-expansion model and attachment theory: Partially overlapping circles. In M. Mikulincer & G. S. Goodman (Eds.), *Dynamics of romantic love: Attachment, caregiving, and sex* (pp. 359–382). The Guilford Press.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63(4), 596–612. <https://doi.org/10.1037/0022-3514.63.4.596>
- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, 60(2), 241–253. <https://doi.org/10.1037/0022-3514.60.2.241>
- Aron, A., Lewandowski, G., Branand, B., Mashek, D., & Aron, E. (2022). Self-expansion motivation and inclusion of others in self: An updated review. *Journal of Social and Personal Relationships*, 39(12), 026540752211106. <https://doi.org/10.1177/02654075221110630>
- Aron, A., Norman, C. C., Aron, E. N., & Lewandowski, G. (2002). Shared participation in self-expanding activities: Positive effects on experienced marital quality. In P. Noller & J. A. Feeney (Eds.), *Understanding marriage: Developments in the study of couple interaction* (pp. 177–194). Cambridge University Press. <https://doi.org/10.1017/CBO9780511500077.010>
- Aron, A., Norman, C. C., Aron, E. N., McKenna, C., & Heyman, R. E. (2000). Couples' shared participation in novel and arousing activities and experienced relationship quality. *Journal of Personality and Social Psychology*, 78(2), 273–284. <https://doi.org/10.1037/0022-3514.78.2.273>
- Aron, A., Paris, M., & Aron, E. N. (1995). Falling in love: Prospective studies of self-concept change. *Journal of Personality and Social Psychology*, 69(6), 1102–1112. <https://doi.org/10.1037/0022-3514.69.6.1102>
- Besta, T., Jaśkiewicz, M., Kosakowska-Berezecka, N., Lawendowski, R., & Zawadzka, A. M. (2017). What do I gain from joining crowds? Does self-expansion help to explain the relationship between identity fusion, group efficacy and collective action? *European Journal of Social Psychology*, 48(2), O152–O167. <https://doi.org/10.1002/ejsp.2332>
- Besta, T., & Zawadzka, A. M. (2017). Expansion of the self of activists and nonactivists involved in mass gatherings for collective action. *Group Processes & Intergroup Relations*, 22(2), 182–199. <https://doi.org/10.1177/1368430217735903>
- Biernat, M., Vescio, T. K., & Green, M. L. (1996). Selective self-stereotyping. *Journal of Personality and Social Psychology*, 71(6), 1194–1209. <https://doi.org/10.1037/0022-3514.71.6.1194>
- Bod, M. (2014). *The power of others: Peer pressure, groupthink, and how the people around us shape everything we do*. Oneworld.
- Brewer, M. B., & Gardner, W. (1996). Who is this “we”? Levels of collective identity and self representations. *Journal of Personality and Social Psychology*, 71(1), 83–93. <https://doi.org/10.1037/0022-3514.71.1.83>
- Brumbaugh, C. C., & Fraley, R. C. (2006). Transference and attachment: How do attachment patterns get carried forward from one relationship to the next? *Personality and Social Psychology Bulletin*, 32(4), 552–560. <https://doi.org/10.1177/0146167205282740>
- Brumbaugh, C. C., & Fraley, R. C. (2007). Transference of attachment patterns: How important relationships influence feelings toward novel people. *Personal Relationships*, 14(4), 513–530. <https://doi.org/10.1111/j.1475-6811.2007.00169.x>
- Cadinu, M., Galdi, S., & Maass, A. (2013). Chameleonic social identities: Context induces shifts in homosexuals' self-stereotyping and self-categorization. *European Journal of Social Psychology*, 43(6), 471–481. <https://doi.org/10.1002/ejsp.1957>
- Campbell, D. T. (1958). Common fate, similarity, and other indices of the status of aggregates of persons as social entities. *Behavioral Science*, 3(1), 14–25. <https://doi.org/10.1002/bs.3830030103>
- Castano, E., Nicoletti, R., & Sacchi, S. (2023). Subliminal flag exposure affects voting by enhancing self-stereotyping. *TPM. Testing, Psychometrics, Methodology in Applied Psychology*, 30(4), 427–437. [https://doi.org/10.1016/s0262-4079\(07\)63010-3](https://doi.org/10.1016/s0262-4079(07)63010-3)

- Chen, S., Boucher, H. C., Andersen, S. M., & Saribay, S. A. (2013). Transference and the relational self. In J. A. Simpson & L. Campbell (Eds.), *The Oxford handbook of close relationships*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780195398694.013.0013>
- Drury, J., Cocking, C., & Reicher, S. (2009). Everyone for themselves? A comparative study of crowd solidarity among emergency survivors. *The British Journal of Social Psychology*, 48(Pt 3), 487–506. <https://doi.org/10.1348/014466608X357893>
- Durkheim, E. (1912). The elementary forms of religious life. In R. A. Jones (Ed.), *Emile Durkheim: An introduction to four major works* (pp. 115–155). Sage Publications, Inc.
- Emery, L. F., Hughes, E. K., & Gardner, W. L. (2022). Confusion or clarity? Examining a possible tradeoff between self-expansion and self-concept clarity. *Social Psychological and Personality Science*, 14(1), 194855062110670. <https://doi.org/10.1177/19485506211067040>
- Emery, L. F., Walsh, C., & Slotter, E. B. (2014). Knowing who you are and adding to it. *Social Psychological and Personality Science*, 6(3), 259–266. <https://doi.org/10.1177/1948550614555029>
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power, 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/bf03193146>
- Festinger, L., Gerard, H. B., Hymovitch, B., Kelley, H. H., & Raven, B. (1952). The influence process in the presence of extreme deviates. *Human Relations*, 5(4), 327–346. <https://doi.org/10.1177/001872675200500402>
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239. <https://doi.org/10.1111/j.1467-9280.2007.01882.x>
- Gabriel, S., Koefer, N., & Schneider, V. (2024). Creating a space for the sacred in a secular world: Shabbat dinners as a vehicle for collective effervescence, social connection, and meaning. *Studies in Religion*, 53(4), 577–592. <https://doi.org/10.1177/00084298241238680>
- Gabriel, S., Koefer, N., Schneider, V., Dvir, M., & Poulin, M. (in preparation a). The short term and long-term effects of mass singing events via collective effervescence.
- Gabriel, S., Naidu, E., Paravati, E., Morrison, C. D., & Gainey, K. (2020). Creating the sacred from the profane: Collective effervescence and everyday activities. *The Journal of Positive Psychology*, 15(1), 129–154. <https://doi.org/10.1080/17439760.2019.1689412>
- Gabriel, S., & Schneider, V. (2024). The need for social embeddedness: Human belonging goes beyond dyadic bonds. *Current Directions in Psychological Science*, 33(4), 247–253. <https://doi.org/10.1177/09637214241257880>
- Gabriel, S., Schneider, V., & Vohs, K. (in preparation b). The relationship between entitativity and collective effervescence.
- Gabriel, S., Valenti, J., Naragon-Gainey, K., & Young, A. F. (2017). The psychological importance of collective assembly: Development and validation of the tendency for effervescent assembly measure (team). *Psychological Assessment*, 29(11), 1349–1362. <https://doi.org/10.1037/pas0000434>
- Galinsky, A. D., Hugenberg, K., Groom, C., & Bodenhausen, G. V. (2003). The reappropriation of stigmatizing labels: Implications for social identity. In J. Polzer (Ed.), *Identity issues in groups*. Vol. 5, research on managing groups and teams (pp. 221–256). Emerald. [https://doi.org/10.1016/S1534-0856\(02\)05009-0](https://doi.org/10.1016/S1534-0856(02)05009-0)
- Gardner, W. L., Gabriel, S., & Hochschild, L. A. (2002). When you and I are we, you are not threatening: The role of self-expansion in social comparison processes. *Journal of Personality and Social Psychology*, 82(2), 239–251. <https://doi.org/10.1037/0022-3514.82.2.239>
- Hinkley, K., & Andersen, S. M. (1996). The working self-concept in transference: Significant-other activation and self-change. *Journal of Personality and Social Psychology*, 71(6), 1279–1295. <https://doi.org/10.1037/0022-3514.71.6.1279>
- Hogg, M. A., & Turner, J. C. (1987). Intergroup behaviour, self-stereotyping and the salience of social categories. *British Journal of Social Psychology*, 26(4), 325–340. <https://doi.org/10.1111/j.2044-8309.1987.tb00795.x>
- Hogg, M. A., & Williams, K. D. (2000). From I to we: Social identity and the collective self. *Group Dynamics: Theory, Research, and Practice*, 4(1), 81–97. <https://doi.org/10.1037/1089-2699.4.1.81>

- Hong, Y., Morris, M. W., Chiu, C., & Benet-Martínez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist*, 55(7), 709–720. <https://doi.org/10.1037/0003-066X.55.7.709>
- Hornsey, M. J. (2008). Social identity theory and self-categorization theory: A historical review. *Social and Personality Psychology Compass*, 2(1), 204–222. <https://doi.org/10.1111/j.1751-9004.2007.00066.x>
- Kenny, D. A. (2017, February). MedPower: An interactive tool for the estimation of power in tests of mediation. Computer software]. <https://davidakenny.shinyapps.io/MedPower/>
- Koefler, N., Naidu, E., Gabriel, S., Schneider, V., Pascuzzi, G. S., & Paravati, E. (2024). Let the Music Play: Live Music Fosters Collective Effervescence and Leads to Lasting Positive Outcomes. *Personality and Social Psychology Bulletin*. <https://doi.org/10.1177/01461672241288027>
- Kraus, M. W., & Chen, S. (2010). Facial-feature resemblance elicits the transference effect. *Psychological Science*, 21(4), 518–522. <https://doi.org/10.1177/0956797610364949>
- Le Bon, G. (1895). *The crowd: A study of the popular mind*. Transaction.
- Lickel, B., Hamilton, D. L., Wierzchowska, G., Lewis, A., Sherman, S. J., & Uhles, A. N. (2000). Varieties of groups and the perception of group entitativity. *Journal of Personality and Social Psychology*, 78(2), 223–246. <https://doi.org/10.1037/0022-3514.78.2.223>
- Mashek, D., Cannaday, L. W., & Tangney, J. P. (2007). Inclusion of community in self scale: A single-item pictorial measure of community connectedness. *Journal of Community Psychology*, 35(2), 257–275. <https://doi.org/10.1002/jcop.20146>
- Mattingly, B. A., & Lewandowski, G. W. (2013a). An expanded self is a more capable self: The association between self-concept size and self-efficacy. *Self and Identity*, 12(6), 621–634. <https://doi.org/10.1080/15298868.2012.718863>
- Mattingly, B. A., & Lewandowski, G. W. (2013b). Expanding the self brick by brick. *Social Psychological and Personality Science*, 5(4), 484–490. <https://doi.org/10.1177/1948550613503886>
- Mattingly, B. A., & Lewandowski, G. W. (2014). Broadening horizons: Self-expansion in relational and non-relational contexts. *Social and Personality Psychology Compass*, 8(1), 30–40. <https://doi.org/10.1111/pspc3.12080>
- McGarty, C., Haslam, S. A., Hutchinson, K. J., & Grace, D. M. (1995). Determinants of perceived consistency: The relationship between group entitativity and the meaningfulness of categories. *British Journal of Social Psychology*, 34(3), 237–256. <https://doi.org/10.1111/j.2044-8309.1995.tb01061.x>
- Naidu, E., Gabriel, S., Wildschut, T., & Sedikides, C. (2023). Reliving the good old days: Nostalgia increases psychological wellbeing through collective effervescence. *Social Psychological and Personality Science*, 15(1), 194855062211498. <https://doi.org/10.1177/19485506221149813>
- Naidu, E. S., Paravati, E., & Gabriel, S. (2022). Staying happy even when staying 6 ft apart: The relationship between extroversion and social adaptability. *Personality and Individual Differences*, 190, 111–549. <https://doi.org/10.1016/j.paid.2022.111549>
- Newson, M., Khurana, R., Cazorla, F., & van Mulukom, V. (2021). “I get high with a Little help from my Friends” - how raves can invoke identity fusion and lasting Co-operation via transformative experiences. *Frontiers in Psychology*, 12, 12. <https://doi.org/10.3389/fpsyg.2021.719596>
- Novelli, D., Drury, J., Reicher, S., & Stott, C. (2013). Crowdedness mediates the effect of social identification on positive emotion in a crowd: A survey of two crowd events. *PLOS ONE*, 8(11), e78983. <https://doi.org/10.1371/journal.pone.0078983>
- Páez, D., Rimé, B., Basabe, N., Włodarczyk, A., & Zumeta, L. (2015). Psychosocial effects of perceived emotional synchrony in collective gatherings. *Journal of Personality and Social Psychology*, 108(5), 711–729. <https://doi.org/10.1037/pspi0000014>
- Pizarro, J. J., Zumeta, L. N., Bouchat, P., Włodarczyk, A., Rimé, B., Basabe, N., Amutio, A., & Páez, D. (2022). Emotional processes, collective behavior, and social movements: A meta-analytic review of collective effervescence outcomes during collective gatherings and demonstrations. *Frontiers in Psychology*, 13, 974683. <https://doi.org/10.3389/fpsyg.2022.974683>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>

- Sedikides, C., & Brewer, M. B. (Eds.). (2001). *Individual self, relational self, collective self*. Psychology Press.
- Simon, B., Glassner-Bayerl, B., & Stratenwerth, I. (1991). Stereotyping and self-stereotyping in a natural intergroup context: The case of heterosexual and homosexual men. *Social Psychology Quarterly*, 54(3), 252. <https://doi.org/10.2307/2786654>
- Simon, B., & Hamilton, D. L. (1994). Self-stereotyping and social context: The effects of relative in-group size and in-group status. *Journal of Personality and Social Psychology*, 66(4), 699–711. <https://doi.org/10.1037/0022-3514.66.4.699>
- Smith, E. R., Coats, S., & Walling, D. (1999). Overlapping mental representations of self, in-group, and partner: Further response time evidence and a connectionist model. *Personality and Social Psychology Bulletin*, 25(7), 873–882. <https://doi.org/10.1177/0146167299025007009>
- Tajfel, H. (Ed.). (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. Academic Press.
- Tajfel, H., & Turner, J. (1979). An integrative theory of intergroup conflict. In J. A. Williams & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Wadsworth.
- Tewari, S., Khan, S., Hopkins, N., Srinivasan, N., & Reicher, S. (2012). Participation in mass gatherings can benefit well-being: Longitudinal and control data from a North Indian Hindu pilgrimage event. *PLOS ONE*, 7(10), e47291. <https://doi.org/10.1371/journal.pone.0047291>
- Todd, A. R., Galinsky, A. D., & Bodenhausen, G. V. (2012). Perspective taking undermines stereotype maintenance processes: Evidence from social memory, behavior explanation, and information solicitation. *Social Cognition*, 30(1), 94–108. <https://doi.org/10.1521/soco.2012.30.1.94>
- Tomlinson, J. M., Hughes, E. K., Lewandowski, G. W., Aron, A., & Geyer, R. (2019). Do shared self-expanding activities have to be physically arousing? *Journal of Social and Personal Relationships*, 36(9), 2781–2801. <https://doi.org/10.1177/0265407518801095>
- Trepte, S., & Loy, L. S. (2017). Social identity theory and self-categorization theory. *The International Encyclopedia of Media Effects*, 63, 1–13. <https://doi.org/10.1002/9781118783764.wbieme0088>
- Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin*, 27(5), 585–600. <https://doi.org/10.1177/0146167201275007>
- Turner, J. C. (1999). Some current issues in research on social identity and self-categorization theories. In N. Ellemers, R. Spears, & B. Dossje (Eds.), *Social identity: Context, commitment, content* (pp. 6–34). Blackwell.
- Wong, R. Y.-M., & Hong, Y.-Y. (2005). Dynamic influences of culture on cooperation in the prisoner's dilemma. *Psychological Science*, 16(6), 429–434. <https://doi.org/10.1111/j.0956-7976.2005.01552.x>
- Wright, S. C., Aron, A., & Tropp, L. R. (2002). Including others (and groups) in the self: Self expansion and intergroup relations. In J. P. Forgas & K. Williams (Eds.), *The social self: Cognitive, interpersonal and intergroup perspectives* (pp. 343–363). Psychology Press.
- Zimbardo, P. G. (1969). The human choice: Individuation, reason, and order versus deindividuation, impulse, and chaos. *Nebraska Symposium on Motivation*, 17, 237–307.