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# Shared Experiences Are Amplified

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## Abstract

In two studies, we found that sharing an experience with another person, without communicating, amplifies one's experience. Both pleasant and unpleasant experiences were more intense when shared. In Study 1, participants tasted pleasant chocolate. They judged the chocolate to be more likeable and flavorful when they tasted it at the same time that another person did than when that other person was present but engaged in a different activity. Although these results were consistent with our hypothesis that shared experiences are amplified compared with unshared experiences, it could also be the case that shared experiences are more enjoyable in general. We designed Study 2 to distinguish between these two explanations. In this study, participants tasted unpleasantly bitter chocolate and judged it to be less likeable when they tasted it simultaneously with another person than when that other person was present but doing something else. These results support the amplification hypothesis.

## Keywords

shared experience, social influence, attention, mentalizing

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Since the Wrigley Company debuted its trademark Doublemint gum in 1914, its signature advertising campaign has featured pairs of people simultaneously enjoying an experience. Tandem piano players, synchronized swimmers, and sets of twins all chew their own sticks of Doublemint. Wrigley suggests that Doublemint gum packs twice the flavor compared with other brands of gum ("Double your pleasure, double your fun," their slogan states). But their commercials also imply something else: that sharing experiences with another person can amplify those experiences. We think Wrigley was onto something.

People spend much of their lives in the company of other people, often engaging in similar activities but not directly or explicitly communicating. For example, people commonly listen to music at concerts, view artwork in galleries, and watch television socially but silently. In the present research, we explicitly tested the hypothesis that merely having a simultaneous experience with another person enhances that experience, even in the absence of any direct communication. In other words, we were interested in how people's experience of a stimulus is affected merely by their knowledge that someone else is concurrently experiencing the same stimulus. We predicted that

merely engaging in an activity at the same time that another person did would amplify the experience.

Why might merely sharing an experience, without communicating, affect people's subjective experiences? Social psychology has a rich history of cataloguing the varied and numerous ways in which people influence one another (e.g., Allport, 1985; Asch, 1955; Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996; Triplett, 1898; Zajonc, 1965). Recent research has built on these foundations and demonstrated that merely sharing experiences causes the stimuli being experienced to become more psychologically prominent in several ways. Shared experience enhances memory of stimuli (Eskenazi, Doerrfeld, Logan, Knoblich, & Sebanz, 2013; He, Lever, & Humphreys, 2011; Shteynberg, 2010), intensifies goal pursuit (Carr & Walton, 2014; Shteynberg & Galinsky, 2011), and increases imitation of modeled behavior (Shteynberg & Apfelbaum, 2013). However, researchers do not yet know how merely sharing an experience without

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communicating affects people's subjective evaluations of stimuli. If stimuli become more prominent when they are shared, perhaps because they receive greater cognitive resources during episodes of coattention (Shteynberg & Apfelbaum, 2013), then they may also be experienced as more intense. This would mean that shared pleasant experiences would get even better, and shared unpleasant experiences would get even worse.

In two laboratory studies, we investigated the difference between experiencing a stimulus simultaneously with someone else (i.e., *shared experience*) and experiencing a stimulus while that other person is present but not sharing the experience of the stimulus (i.e., *unshared experience*). We predicted that sharing an experience, even in the absence of communication with the coexperiencer, would render the experienced stimulus more intense. Thus, we expected that generally pleasant stimuli would be perceived more positively and generally unpleasant stimuli would be perceived more negatively when they were part of a shared experience.

Although our primary goal was to learn whether shared experience under minimal social conditions lacking communication would amplify people's experiences, we also included two measures to explore why shared experiences might be amplified. First, because people's attention is naturally drawn to the focus of another person's attention (e.g., Friesen & Kingstone, 1998; Friesen, Moore, & Kingstone, 2005; Langton & Bruce, 1999), and because prior researchers have suggested that people attend more to shared than to unshared stimuli (Shteynberg & Apfelbaum, 2013; Shteynberg & Galinsky, 2011), we examined whether people would feel more absorbed in their experience of a stimulus when that experience was shared. Second, sharing an experience might lead people naturally to think more about the contents of each other's minds, a phenomenon called *mentalizing*, and this might also increase the impact of the shared stimulus. For instance, you probably think more about a particular friend and the contents of his or her mind when you are watching a movie with that friend than when the two of you are doing different things. Given that the friend is thinking about the movie you both are watching, your own attention to the movie could increase, and the movie could have a greater impact on you. We therefore examined whether people would think more about another person's thoughts and feelings during an experience that was shared relative to an experience that was not shared.

## Study 1

### Method

**Participants.** We planned to recruit a few more than 20 participants to ensure that we had at least 20. Twenty-three female undergraduate students (mean age = 19

years, range = 18–22 years) were recruited at Yale University to participate in a study on “Sensory Experiences and Person Perception.” The study was approved by the local ethics committee, and participants were compensated with either cash or course credit. We used a within-subjects design, so all participants participated in both the shared-experience and the unshared-experience conditions. We recruited only female participants in order to reduce error variance and because the local pool of available participants was predominantly female at the time the study was conducted. We have no reason to expect that results for men would be different. Our participant sample was 13% African American or Caribbean American, 9% Hispanic or Latino, 17% Asian American, 48% White, 9% “other,” and 4% mixed race. No participants' data were excluded from analysis.

**Procedure.** When each participant arrived at the laboratory, a confederate posing as another participant was present. After the confederate and participant consented to participate, they spent a few minutes chatting to “break the ice.” Next, the experimenter returned and told the pair that they would each engage in several different activities over the course of the experiment: Specifically, they would taste two chocolates (Chocolate A and Chocolate B) and view two booklets of paintings (Artwork A and Artwork B). This would occur in an order randomly determined for each of them. This cover story disguised the fact that what we really cared about was whether the participant and confederate were engaging in the same activity simultaneously (and knew that they were). The cover story allowed us to have the participant and the confederate taste a chocolate at the same time or have the participant taste a chocolate while the confederate was rating artwork.

Though participants believed that they would engage in all four activities, in actuality they engaged in only two: They tasted two chocolates, once while the confederate was doing the same thing (i.e., tasting a piece of the same chocolate; the *shared-experience condition*), and once while the confederate was doing something different (i.e., viewing a booklet of paintings; the *unshared-experience condition*). Unbeknownst to participants, the two chocolates they tasted were identical, taken from the same bar of 70% dark chocolate and pretested to be pleasant tasting. In fact, we selected chocolate tasting as the focal experience because it enabled us to give participants two identical experiences that they believed to be two different experiences. This manipulation would not have been possible to achieve with other kinds of sensory experiences, such as viewing images.

To determine which activity they would do first, the participant and confederate each drew a card from a cup. The drawing was rigged so that the participant would be tasting chocolate (either A or B), and the confederate

reported drawing the card for either the same activity as the participant (shared-experience condition) or the other activity (i.e., viewing artwork; unshared-experience condition). Condition order was determined randomly and counterbalanced across participants. We made sure that participants believed that both they and the confederate would be doing all four activities during the course of the experimental session, not only to disguise the purpose of the study but also to control for the pleasure or displeasure participants might feel if they compared the tasks they and the confederate were to perform. To reinforce this belief, we gave participants an "Activity Checklist" on which they were to indicate which activity they did first, second, third, and fourth.

After distributing the activity materials to the participant and confederate, the experimenter gave them each a small clipboard turned face down. The participant and confederate were told that after the experimenter left the room, they would have about a minute to do the assigned activity, and that a timer would then chime to indicate that it was time to flip over their clipboards and answer some questions about their experience in that moment. (To maintain the cover story, the confederate responded to two pages of questions while the participant did, but for obvious reasons, we describe only the questions given to the participant.) The first page on the participant's clipboard contained questions about the experience of eating the chocolate: "How much do you like this chocolate?" "How flavorful is this chocolate?" "How intense is this chocolate?" "How much would you be willing to pay for a bar of this chocolate?" and "How absorbed are you in the experience of eating the chocolate?" The participant answered each question by placing a check mark along an 11-point scale anchored at 0 (*not at all*) on the far left and 10 (*very/a lot*) on the far right. The participant was also asked, "How do you feel right now?" The 11-point scale for this question was anchored at 0 (*not at all good*) on the far left and 10 (*very good*) on the far right.

The second page on the participant's clipboard contained questions designed to assess the participant's impressions of the confederate on an 11-point scale (i.e., 0 = *not at all*, 10 = *very/a lot*): "Do you feel like you and the other participant are on the same wavelength?" "To what extent do you feel like you 'get' the other participant?" "How much do you like the other participant?" and "How much do you trust the other participant?" This procedure of drawing cards, performing the activity, and answering questions was completed twice for every participant, once in the shared-experience condition and once in the unshared-experience condition.

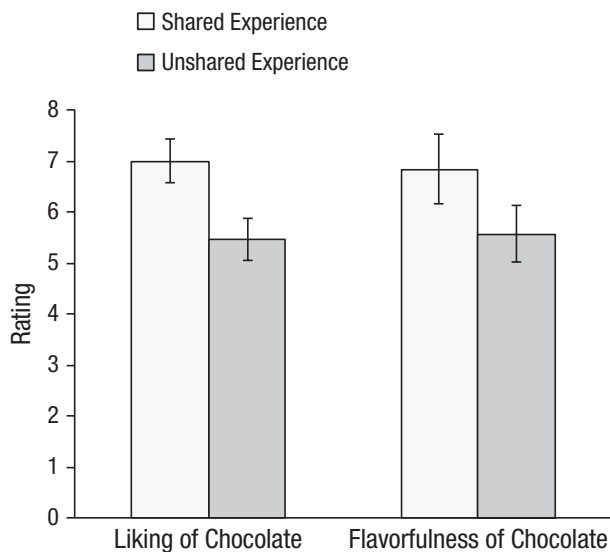
We went to considerable lengths to ensure that participants could not communicate during the sensory experiences. First, the participant and the confederate sat side

by side at a table, facing forward. This allowed each of them to be quite aware of the other's presence without enabling them to communicate (i.e., visually, verbally, or by seeing the other's ratings). In addition, the participant could turn the small clipboard to make sure her answers were private. The forms themselves were designed to be nearly impossible to see at a distance of greater than 12 in. All text was printed in a 10-point Times New Roman font, and the response scales were depicted as a series of small boxes with labeled endpoints, such that it would be nearly impossible for the participant to gauge which box the confederate had checked. As a further precaution, the confederate responded to all questions using the midpoint of the scale.

After the participant and confederate completed the second activity, the experimenter told them that they would be taking a short break during which they would fill out some questionnaires in separate rooms (in reality, at this point the activity phase of the experiment was over). The experimenter then ushered the confederate and the participant into separate rooms and gave the participant a survey asking her to compare the two chocolates she had tasted (i.e., Chocolate A and Chocolate B) in a free-response format. We included this measure to find out the extent to which participants believed the chocolates in the two conditions differed.

Next, participants filled out a brief demographics questionnaire and were probed for suspicion before being informed that the experiment was over and that they would not be completing the final two activities. They were then debriefed and informed that the other participant was in fact a confederate working as a research assistant.

Using a confederate gave us a high degree of control over the events unfolding during the study, especially when the experimenter was not in the room with the participant (i.e., while the participant and confederate were engaging in the activities). The confederate was instructed to be stoic throughout the experiment; she always followed the instructions impeccably and did not communicate with the participant during the sensory experiences. Further, there was never any mention of interpersonal cooperation, coordination, or joint action, or any instruction to pay attention to the other "participant" at any point. The participant and confederate were assigned to do the activities seemingly by random chance, and they performed their assigned activities silently, in parallel with one another. Each activity lasted for a predetermined amount of time (50 s), after which the participant and confederate made their ratings on the feedback form. The confederate always turned her clipboard face down on the table when done making ratings so that the participant would not be able to see her responses.



**Fig. 1.** Results from Study 1: mean ratings of how likeable and flavorful the chocolate was in the shared-experience and unshared-experience conditions. Error bars represent 95% confidence intervals.

## Results

We conducted two-tailed paired *t* tests to compare participants' ratings in the shared-experience condition with their ratings in the unshared-experience condition. Recall that participants tasted the same chocolate in the two conditions; these chocolates were simply given different names to disguise the fact that they were actually the same. Participants reported liking the chocolate significantly more during the shared experience ( $M = 7.00$ ,  $SD = 2.07$ ) than during the unshared experience ( $M = 5.46$ ,  $SD = 3.27$ ),  $t(22) = 2.67$ ,  $p = .01$ , 95% confidence interval (CI) for the difference between conditions = [0.34, 2.74], Cohen's  $d = 0.56$ . This result confirmed our hypothesis. Participants also reported that the chocolate tasted more flavorful during the shared experience ( $M = 6.83$ ,  $SD = 2.01$ ) than during the unshared experience ( $M = 5.57$ ,  $SD = 2.63$ ),  $t(22) = 2.53$ ,  $p = .01$ , 95% CI for the difference between conditions = [0.23, 2.29], Cohen's  $d = 0.54$  (see Fig. 1). Responses to the other chocolate items and to the interpersonal items did not differ across conditions.

We found no effect of the order of conditions on participants' chocolate ratings; the same pattern of results was obtained whether the first activity was shared or unshared, and debriefing revealed that participants did not believe that the other person's presence influenced their own experiences of the chocolate. When participants were asked, "To what extent do you feel like the other participant influenced your ratings of the chocolate?" the average response was 0.46 on a scale from 0 (*not at all*) to 6 (*a lot*), and 74% responded with "0." This suggests that participants were not aware of how sharing the experiences

affected them. Furthermore, participants' responses when asked to compare the chocolates in a free-response format suggested that they believed the two chocolates they tasted were substantially different. For instance, one participant claimed that "[the shared chocolate] was more intense than [the unshared chocolate] (i.e., more cacao). I thought [the shared chocolate] was more expensive."

## Discussion

We found that participants liked chocolate more and found it more flavorful when the experience of eating it was shared than when it was unshared, in the absence of any communication with the confederate. This is the first demonstration that a person's sensory experience of a stimulus can change depending on whether another person who is present is engaging with the same stimulus or engaging with a different stimulus. These results are consistent with our hypothesis that shared experiences are intensified compared with unshared experiences.

However, because this study involved a pleasant experience becoming more pleasant, there are two distinct explanations for our results. First, we might be correct in assuming that sharing an experience intensifies the qualities of that experience. Second, it could be that sharing an experience is intrinsically pleasant, perhaps because it is a bonding experience, which satisfies people's need to belong socially (Baumeister & Leary, 1995) and makes them feel socially connected (Pinel, Long, Landau, Alexander, & Pyszczynski, 2006; Wheatley, Kang, Parkinson, & Looser, 2012) and understood (Higgins & Pittman, 2008). The positive affect elicited by feeling socially connected (e.g., Diener & Seligman, 2002) might be misattributed to the stimulus itself (Schwarz & Clore, 1983), might prime positive thoughts about the stimulus (Clark & Isen, 1982; Clark & Williamson, 1989; Isen, Shalker, Clark, & Karp, 1978; Monahan, Murphy, & Zajonc, 2000), or both. If so, it may be that shared experiences are always *improved* rather than intensified; Tootsie Roll pops and fried tarantulas alike could be more palatable if tasted with another person.

To find out whether sharing an experience improves or amplifies it, in Study 2 we tested the effect of sharing an unpleasant experience. We replaced the pleasant chocolate that was evaluated in Study 1 with an unpleasant bitter chocolate. If participants reported that this unpleasant chocolate tasted better when shared than when not shared, this result would suggest that sharing the experience of a stimulus improves people's perceptions of that stimulus, regardless of whether it is good or bad. However, if participants reported that the unpleasant chocolate tasted worse when shared, this would suggest that sharing an experience amplifies perceptions instead.



## Study 2

### Method

**Participants.** Again, we planned to recruit a few more than 20 participants to ensure that we had at least 20. Twenty-two female undergraduates (mean age = 19 years, range = 18–21) were recruited at Yale University for a “Sensory Experiences and Person Perception” study for our within-subjects design. This experiment was approved by the local ethics committee. Each participant was compensated with course credit. As in Study 1, we recruited only female participants to reduce error variance and because our participant pool was predominantly female, but we have no reason to expect that the results would have been different if our sample had included men. Our sample was 5% African American or Caribbean American, 5% Hispanic or Latino, 14% Asian American, 5% Native American, 41% White, and 32% “other.” No participants’ data were excluded from analysis.

**Procedure.** The procedures were very similar to those of Study 1, except that the activities participants were asked to complete were unpleasant. Participants believed that they would taste Chocolate Substitutes A and B and review Computational Products A and B. The experimenter informed the participants that all of the products had been “market tested and were generally not highly preferred.” Participants were told that the researchers conducting the study were interested in the variability of people’s responses to undesirable products. Participants tasted the supposed chocolate substitutes while the confederate either tasted the same product at the same time (the shared-experience condition) or reviewed computational products (a booklet of images of various computational products, such as calculators) instead (the unshared-experience condition). The so-called chocolate substitute was actually 90% dark chocolate that had been determined by pretesting to be moderately to highly unpleasant.

Before beginning the activities, the participant and confederate tasted a tiny sample of a “generic chocolate substitute,” because, as the experimenter explained,

research shows that taste buds are extremely sensitive to new flavors. An initial exposure to a novel flavor can help desensitize your palate. This way, you’ll be better able to really focus on the flavor the next time you taste something similar. This is just a generic chocolate substitute, similar to the ones you’ll be tasting in a few moments.

Indeed, the sole purpose of having participants taste this initial sample was to desensitize their palates, because

pilot testing determined that people’s first reactions to this extremely dark chocolate tended to exhibit a floor effect. Participants did not rate this initial sample, which, unbeknownst to them, was cut from the very same bar of chocolate they would taste during the actual experiment (no participant indicated any awareness of this during postexperimental debriefing).

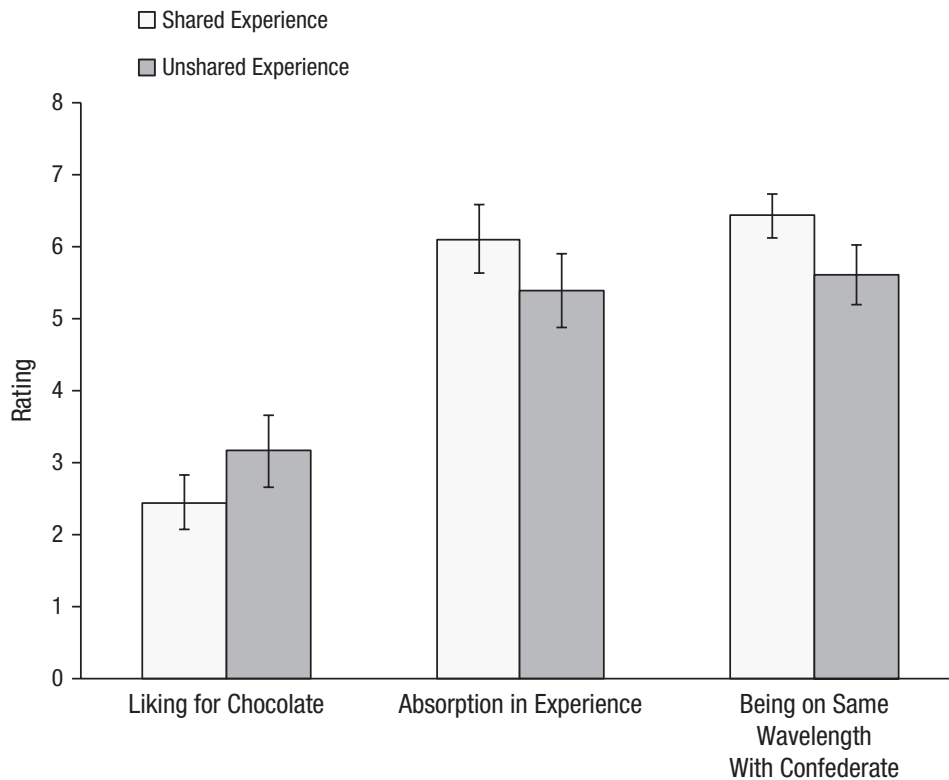
After drawing a card to determine which activity they would complete, participants had about a minute to do the assigned activity and then made their ratings privately on their feedback sheets (as in Study 1). They rated how much they liked the chocolate substitute (scale from 0, *extremely dislike*, to 10, *extremely like*), their mood (scale from 0, *very bad*, to 10, *very good*), and the intensity of the chocolate substitute and how absorbed they felt in the experience of tasting it (scale from 0, *not at all*, to 10, *very*). They also made the same set of interpersonal ratings as in Study 1.

In the shared-experience condition, the confederate actually tasted a pleasant chocolate instead of the unpleasant version so as to make the study bearable for her. As in Study 1, the ratings were made privately, but we had the confederate provide the highest possible rating on each measure so that if the unpleasant stimuli were rated as more unpleasant by the participant when shared, such results could not be explained by the participant sensing what the confederate was doing and striving to do the same. As in Study 1, the experimenter always exited the room for the duration of the activities and instructed the participant and confederate not to talk while she was out of the room.

When participants were done tasting the so-called chocolate substitutes, they filled out a brief questionnaire about their experiences during the study. In particular, participants indicated, on a scale from 0 (*not at all*) to 6 (*a lot*), the extent to which they were thinking about what the confederate was thinking and feeling while tasting each chocolate substitute and how focused they were on each chocolate substitute while tasting it. Finally, participants filled out a brief demographics questionnaire and were probed for suspicion and debriefed.

### Results

We conducted two-tailed paired *t* tests to compare participants’ ratings in the shared-experience condition with their ratings in the unshared-experience condition. We predicted that sharing the experience of eating the chocolate would amplify participants’ perceptions of the chocolate compared with eating the chocolate alone. Indeed, our analyses indicated that participants liked the chocolate significantly less when the confederate was also eating the chocolate ( $M = 2.45$ ,  $SD = 1.77$ ) than when the confederate was reviewing the computational



**Fig. 2.** Results from Study 2: mean ratings of the so-called chocolate substitute, of absorption in the experience, and of being “on the same wavelength” with the confederate in the shared-experience and unshared-experience conditions. Error bars represent 95% confidence intervals.

products ( $M = 3.16$ ,  $SD = 2.32$ ),  $t(21) = 2.42$ ,  $p = .025$ , 95% CI for the difference between conditions = [0.10, 1.31], Cohen’s  $d = 0.34$ . Participants reported feeling more absorbed in the experience of eating the chocolate in the shared-experience condition ( $M = 6.11$ ,  $SD = 2.27$ ) than in the unshared-experience condition ( $M = 5.39$ ,  $SD = 2.43$ ),  $p = .14$ . Participants also felt like they were more “on the same wavelength” with the confederate during the shared-experience condition ( $M = 6.43$ ,  $SD = 1.38$ ) compared with the unshared-experience condition ( $M = 5.61$ ,  $SD = 1.38$ ),  $t(21) = 2.35$ ,  $p = .03$ , 95% CI for the difference between conditions = [0.10, 1.54], Cohen’s  $d = 0.59$  (see Fig. 2). There were no significant differences in participants’ self-reported mood or any other feedback measures between the shared and the unshared-experience conditions (all  $ps > .10$ ).

A two-tailed paired  $t$  test on the measures obtained at the end of the experiment, after participants had already tasted and recorded their reactions to both chocolates, revealed that participants reported thinking somewhat more about what the confederate was thinking and feeling in the shared-experience condition ( $M = 3.65$ ,  $SD = 1.36$ ) than in the unshared-experience condition ( $M = 2.95$ ,  $SD = 1.15$ ), although this effect was marginal ( $p =$

.09). When we calculated bivariate linear correlations separately for the two conditions, we found that the extent to which participants reported being focused on the chocolate was negatively associated with how much they liked the chocolate in both the shared-experience condition ( $r = -.51$ ,  $p = .02$ ) and the unshared-experience condition ( $r = -.66$ ,  $p = .002$ ). Analyses indicated that reports of thinking about the confederate’s thoughts and feelings and of being focused on the chocolate, made after the fact, did not have a mediational effect on evaluations of the tasting experience during the tasting portion of the study.

We found no effect of order of the conditions on participants’ ratings; the same pattern of results was obtained whether the first activity was shared or unshared, and debriefing revealed that participants did not believe that the other person’s presence influenced their own experiences of the chocolate. When participants were asked, “To what extent do you feel like the other participant influenced your ratings of the chocolate?” the average response was 2.05 ( $SD = 0.97$ ) on a scale from 1 (*not at all*) to 7 (*extremely*). This suggests that participants were not aware of how sharing the experiences affected them.

## Discussion

The pattern of results in Study 2 corroborated our hypothesis that shared experiences are amplified; a bitter chocolate tasted worse when the experience was shared than when it was not shared. In addition, participants tended to report feeling more absorbed in the experience of tasting the chocolate (increased stimulus focus), were significantly more likely to report that they and the confederate were on the same wavelength, and tended to report that they were mentalizing more (increased focus on the confederate) when the experience was shared than when it was unshared. In sum, the results clearly supported our original hypothesis that sharing experiences amplifies them and did not support the alternative hypothesis that sharing experiences is intrinsically pleasant and consequently improves those that are initially pleasant and helps mitigate those that are not.

## General Discussion

The present research demonstrates that shared experiences are amplified—even when the coexperiencers do not communicate about what they are experiencing. In Study 1, pleasant chocolate tasted better and more flavorful when eaten with another person. In Study 2, unpleasant chocolate was liked less when eaten with another person.

In Study 2, we found preliminary evidence that people think more about someone who is present with them when they are sharing an experience with that person than when they are not and that people are more absorbed in shared than in unshared experiences. At first it might sound strange that the same feature of an experience could concurrently increase a person's absorption in that experience and increase his or her focus on another person, because this would seem to suggest a division of attentional resources. However, it is possible that during a shared experience, one's coexperiencer actually becomes part of one's experience. To the extent that a coexperiencer is integrated into one's own experience, one's representation of a stimulus and of a coexperiencer need not compete for cognitive resources. Consider the following example: You and your friend are listening to Stravinsky's "Rite of Spring." Thoughts about this piece of music are now intertwined with thoughts about your friend. Even though you are both focused on the melody, you are also highly aware of one another. Thinking about your friend and his or her mind might therefore cause you to think more about the "Rite of Spring," because that is also what is on his or her mind. Indeed, people may be built to automatically imagine or simulate how other people see, hear, smell, taste, and feel things, and these imaginings or simulations could affect people's own perceptions, as suggested by the present studies.

Future research is needed to explore the relationship between thinking about a coexperiencer's thoughts and the intensity of one's own experience, as well as other factors that contribute to or diminish the magnitude of the phenomenon identified here. Our own data and prior work by other researchers demonstrate that experiencing stimuli with other people makes those stimuli more psychologically salient and increases the cognitive resources they receive (Carr & Walton, 2014; Eskenazi et al., 2013; He et al., 2011; Shteynberg, 2010; Shteynberg & Apfelbaum, 2013). Therefore, we suspect that the effects obtained in the present experiments were caused by an increase in attention to the stimulus participants experienced together with the confederate. Sharing the experience of eating chocolate caused people's experiences to be more intense; this finding supports the idea that shared experiences have a greater psychological salience and impact than unshared experiences (e.g., Shteynberg, 2010).

In the present studies, we identified novel effects of merely engaging in a sensory experience simultaneously with another person, without communicating. We have provided initial evidence that sharing experiences causes people to feel as if they are thinking in the same way and to increase how much they think about one another.

Every day, people spend time together in the absence of explicit communication. Lives unfold socially but often silently. Yet even in silence, people often share experiences, and the mental space inhabited together is a place where good experiences get better and bad experiences get worse.

## Author Contributions

E. J. Boothby developed the study concept, with the support of M. S. Clark and J. A. Bargh. All authors contributed to the study design. Testing, data collection, and data analyses were performed by E. J. Boothby. E. J. Boothby drafted the manuscript, and M. S. Clark and J. A. Bargh provided critical revisions. All authors approved the final version of the manuscript for submission.

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## Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.



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