Journal of Applied Social Psychology WILEY

Reducing social distance caused by weight stigma: Nostalgia changes behavior toward overweight individuals

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Revised: 10 February 2022

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Abstract

Weight stigma, a negative attitude toward the overweight, can lead to discriminatory practices, as well as increase overweight individuals' vulnerability to depression, anxiety, and low self-esteem. We propose that a nostalgia induction can attenuate weight stigma. Participants identified an overweight individual, before writing about an interpersonal encounter with that individual, characterized by either central (e.g., "keepsakes" and "childhood") or peripheral (e.g., "wishing" and "daydreaming") features of the construct "nostalgia." Participants who recalled a central (vs. peripheral) nostalgic encounter reported more positive feelings and beliefs toward overweight individuals in general. Moreover, nostalgia influenced behavior: Nostalgic (vs. control) participants reduced their social distance when anticipating an interaction with an overweight individual. The effect of nostalgia on all three outcomes (i.e., positive feelings, beliefs, and behavior) was mediated by greater social connectedness, which in turn was associated with higher inclusion of the outgroup in the self and increased outgroup trust.

1 | INTRODUCTION

Overweight individuals are faced with negative stereotypes, such as lazy, socially inept, unhappy, self-indulgent, ugly, uncooperative, and stupid (Harris et al., 2006; Puhl & Brownell, 2001). When it comes to romantic relationships, they are perceived as undesirable prospective dates (Pearce et al., 2002; Sitton & Blanchard, 1995). Teachers are more likely to bully overweight children (Puhl & Latner, 2007; Swami & Monk, 2013) and managers perceive overweight employees as poorer performers and lacking in motivation or self-control (Giel et al., 2010; Puhl & King, 2013). Overweight people are also discriminated against in healthcare settings (Puhl et al., 2008; Tomiyama et al., 2018), with health professionals spending less time with them (Bertakis & Azari, 2005; Hebl & Xu, 2001).

These negative attitudes (i.e., prejudice) and behaviors (i.e., discrimination) toward overweight individuals, or weight stigma, increase their vulnerability to depression, anxiety, and low selfesteem (Crocker et al., 1993; Puhl & Latner, 2007). Moreover, feeling stigmatized because of one's weight may precipitate further weight gain (Hunger & Tomiyama, 2014) due to weakened beliefs in one's ability to control food intake, avoidance of physical activity, increased calorie consumption, and binge eating (Hunger et al., 2015). The chronic stress associated with weight stigma can also conduce to increases in visceral fat (Brewis, 2014; Puhl & King, 2013).

Given the social and health consequences of weight stigma, it is crucial to develop means of curtailing it. Arguably, the most effective prejudice reduction intervention is positive intergroup contact (Allport, 1954; Pettigrew & Tropp, 2006). However, to our knowledge, only three articles have examined the role of positive contact with overweight persons. In one study (Koball & Carels, 2015), participants who had a brief friendly interaction with an overweight person subsequently reported less weight bias and a

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greater desire to interact with overweight people in the future compared to those who imagined such an interaction. In another study (Dunaev et al., 2018), participants who imagined interaction with a counter-stereotypic "obese" person reported lower levels of weight bias than participants who imagined interacting with a stereotypical "obese" person or did an unrelated imagination task. In the final study (Blumberg & Mellis, 1985), medical students' contact with overweight patients during an 8-week clinical rotation had no impact on weight-related attitudes. Given the limited research on such interventions and the conflicting results, it is important to explore alternative approaches to tackling weight stigma.

Harnessing nostalgia is such an approach. In one study, recalling nostalgic contact with an overweight person promoted positive attitudes, beliefs, and behavioral intentions toward overweight people in general (Turner et al., 2011, Experiment 1). Nostalgia is easier to implement and sustain than actual intergroup contact because the practical difficulties in bringing together members of different social groups do not apply (Pettigrew & Tropp, 2006). In this sense, recalling nostalgic contact resembles imagined intergroup contact, where participants who imagine a social interaction with an outgroup member express more favorable outgroup attitudes than control participants (Crisp & Turner, 2009, 2012; Turner et al., 2007). Both nostalgia and imagined contact involve reflecting on an intergroup encounter rather than taking part in one. Yet, whereas imagined contact involves drawing on a fictional encounter with a target individual, nostalgia involves drawing on one's meaningful autobiographical memories of past intergroup contact. As a result, imagined contact may be relatively impoverished (i.e., lacking in texture and emotionality) and is less likely to occur spontaneously than nostalgic reverie about an outgroup member (Turner et al., 2011).

Besides the need to replicate the relation between recall of nostalgic contact and reduced weight stigma, no research has tested whether nostalgia can influence *actual* behavior toward an overweight individual. Prejudice and intentions to behave prejudicially do not always predict actual discrimination (Schutz & Six, 1996). Participants may report a positive or neutral attitude toward an overweight person, for example, but may behave discriminatorily when in the presence of overweight people. To ascertain the effectiveness of an intervention, then, it is necessary to demonstrate its impact on attitudes *and* behavior.

2 | NOSTALGIA

Nostalgia is defined as "a sentimental longing or wistful affection for the past" (The New Oxford Dictionary of English, 1998, p. 1266). The emotion is more positive than negative (Leunissen et al., 2021; Sedikides & Wildschut, 2016) and has a prominent social component (Sedikides & Wildschut, 2019; Wildschut et al., 2006). A prototype analysis of nostalgia concluded that "people and relationships" (friends, family, and partners) along with "interpersonal elements or concepts" (belonging, cuddles, tender moments, warmth, and love) are centrally defining features of the construct (Hepper et al., 2012, 2014). When experimentally induced, nostalgia increases social connectedness, that is, a sense of acceptance, belongingness, attachment security, social support, and social competence (Frankenbach et al., 2021; Sedikides et al., 2015). Put simply, through its positivity and social connectedness, nostalgia gives rise to "an expansive state of mind" (Kaplan, 1987, p. 465) or an approach orientation (Sedikides & Wildschut, 2020; Sedikides et al., 2018; Stephan et al., 2014), whereby one opens up to the possibility of new relationships or others in general. It is, therefore, not surprising that nostalgia can improve perceptions of outgroups.

3 | NOSTALGIA AND OUTGROUP ATTITUDES

In the first work to examine the effect of nostalgia on outgroup attitudes (Turner et al., 2011, Experiment 1), participants recalled a nostalgic (vs. ordinary) interaction with an overweight person. Nostalgic recollection promoted more positive attitudes, beliefs, and behavioral intentions, in part by increasing the extent to which overweight persons were included in the self and enhancing the trust of overweight individuals. Similar findings have been reported with different outgroups, such as people with a mental health condition (Turner et al., 2013), older adults (Turner et al., 2018), and immigrants (Gravani et al., 2018).

Why does thinking nostalgically about members of another group help to promote more positive outgroup attitudes? We argue that a primary transfer effect occurs (Boin et al., 2021; Pettigrew & Tropp, 2011), whereby recall of a nostalgic encounter with an individual from a target group improves attitudes towards that individual group member, and this, in turn, sets in motion processes which generalize those attitudes to the entire group. When individuals become nostalgic about a known outgroup member, they will experience higher social connectedness. Provided that the group membership of that outgroup person is salient (Brown & Hewstone, 2005), social connectedness will culminate in inclusion in the self (a key marker of interpersonal closeness; Aron et al., 1991), not just of that person but of the entire outgroup (Turner et al., 2007, 2011). An ensuing benefit will be a more positive attitude toward the outgroup.

Feeling more connected to others via nostalgia will also augment outgroup trust. Trust is a positive expectation about another's intentions and behavior (Turner et al., 2018). If perceivers feel more socially connected to an outgroup member as a result of nostalgia, they will feel more trusting toward that individual (Turner et al., 2011). Provided the group membership of that individual remains salient, perceivers will generalize trust from the individual to the outgroup. Benefits of trust include greater positivity toward the outgroup, and enhanced communication and cooperation (Dovidio et al., 2002). Consistent with this reasoning, nostalgia promotes more positive outgroup perceptions via an increase in social connectedness (Turner et al., 2013, 2018), which in turn strengthens inclusion of the outgroup in the self (IOGS; Turner et al., 2011, 2013, 2018) and outgroup trust (Turner et al., 2011, 2013). Both IOGS and outgroup trust were identified in a recent framework of transfer effects as key processes underlying the primary transfer effect (Boin et al., 2021).

4 | NOSTALGIA AND INTERGROUP BEHAVIOR

Relevant research has focused almost exclusively on self-report measures, and so has research on interventions advancing imagined contact (Crisp & Turner, 2009; Turner et al., 2007) and extended contact (Wright et al., 1997). Yet, the ultimate goal of such interventions is to change how people *behave* toward members of other groups, rather than just what they *think* about those groups. People often engage in social distancing during intergroup encounters. For example, participants were more likely to socially distance from a different-race than a same-race interaction partner (Trawalter & Richeson, 2008) and, similarly, averted their eye gaze more during intergroup than same-group encounters (Dovidio et al., 1997). Social distancing, then, is likely to be interpreted as unfriendliness, given that interactants are hypervigilant for signs of rejection during intergroup encounters (Devine & Vasquez, 1998).

Interventions can help to reduce social distancing. For example, participants who imagined talking to an obese individual (vs. not) placed the chairs for an anticipated interaction with an obese person closer together (Turner & West, 2012). Likewise, participants who imagined talking to a Muslim individual (vs. not) placed the chairs for an anticipated interaction with a Muslim person closer (Turner & West, 2012). Nostalgia increases social connectedness, and, in turn, trust and inclusion of the outgroup in the self (Turner et al., 2011, 2013, 2018). Hence, it may not only promote positive attitudes and beliefs toward overweight people (Turner et al., 2018)

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but also make participants more comfortable interacting with the other group and, therefore, display less social distancing.

5 | OVERVIEW

We induced nostalgic (vs. ordinary) recollections of an encounter with an overweight individual. We then assessed social connectedness, IOGS, and outgroup trust (putative mediators), hypothesizing higher levels of each in the nostalgia (than control) condition. Finally, we assessed three intergroup outcomes: attitudes, beliefs, and behavior (i.e., social distancing; Eagly & Chaiken, 1993). In each case, we hypothesized more positive intergroup outcomes in the nostalgia (than control) condition. More important, we proposed and tested a serial mediational model (Figure 1) wherein nostalgia increases social connectedness, which is linked with greater IOGS and outgroup trust, which in turn are related to positive attitudes, beliefs, and behavior (i.e., reduced social distancing) pertaining to the outgroup.

6 | METHOD

6.1 | Participants

Assuming a medium effect size (f = 0.3) based on past research (Turner et al., 2011, 2013, 2018), specifying 80% power, and using the one-way analysis of variance option, G*Power recommended at least 90 participants (Faul et al., 2007). We exceeded this target sample size and recruited 125 students from Queen's University Belfast and Belfast Metropolitan College (gender: 79 women, 46 men; age in years: Range = 18–43, M = 21.81, SD = 4.46), none of whom was visibly overweight. We tested participants in separate cubicles.



FIGURE 1 Predicted mediation model with nostalgia as predictor, social connectedness as level 1 mediator, trust and inclusion of the outgroup in the self (IOGS) as level 2 mediators, and attitudes, beliefs, and behavior as outcome variables

6.2 | Procedure

First, all participants read the following instructions (after Turner et al., 2018):

We are going to ask you to recall an interaction with someone you know. We would like you to bring to mind some who is *overweight*. We would like you to choose someone you know well. This could be a (present or former) acquaintance, friend, partner, or family member.

After writing down the name of this overweight person, participants read: "Below are listed several features that might describe or characterize experiences and memories that we have in our lives. Please take a minute or two to read through the features."

Subsequently, we randomly assigned participants to the nostalgia (i.e., central features; n = 65) or control (i.e., peripheral features; n = 60) conditions. We capitalized on Hepper et al.'s (2012) (see also Turner et al., 2018) prototype-based method to derive our instructional sets, as this method removes demand characteristics by avoiding the use of the term "nostalgia." In the *nostalgia (central features) condition*, participants received the following words: reminiscence, keepsakes, dwelling, rose-tinted memories, familiar smells, wanting to return to the past, family/friends, longing, feeling happy, childhood, emotions, personal. In the *control (peripheral features) condition*, participants received the following words: day-dreaming, anxiety/pain, wishing, achievements, regret, feeling warm/ comforted, loneliness, bittersweet, feeling sad, change, aging, bad memories. All participants then read:

Now please bring to mind an event in your life that involved interacting with the person whom you identified on the previous page which is relevant to or characterized by at least five of these features. Specifically, try to think of a past event whereby at least five of the features either were part of the event, and/or describe your experience as you think about the event. This event can be a recent experience or it could relate back to the earlier years of your life. Circle all of the features above that are relevant to this event (at least five). Now we would like you to spend five minutes imagining that you are back at this event. Try and immerse yourself into this event, trying to remember exactly what happened at the time you interacted with the person you identified on the previous page.

Participants wrote a description of the event and completed the dependent measures.

Finally, participants learned that they would now be meeting with an overweight individual named Emily to discuss how being overweight is perceived in today's society. Here, we used a task **TABLE 1** Means, standard deviations, and reliability α s for dependent measures

Dependent measure	Mean	Standard deviation	α
Manipulation check 1	4.03	1.49	.98
Social connectedness	3.85	1.63	.95
Inclusion of the outgroup in the self	3.85	1.77	-
Outgroup trust	5.51	1.11	.83
Attitudes	5.21	1.39	.97
Beliefs	5.81	1.97	.93
Behavior	71.19	20.61	-
Manipulation check 2	3.51	1.67	.98

adapted from Vohs and colleagues and applied by Turner and West (2012) to test the effectiveness of a prejudice reduction intervention. The experimenter took each participant to a room, which was locked, with the lights off, and a stack of chairs in the corner. Upon entering the room, and turning on the light, the experimenter stated: "I'm just going to get Emily who you'll be chatting to. Do you mind grabbing a couple of chairs for the two of you? I'll be back in a minute." The experimenter then re-entered the room, announced the termination of the experiment, and measured the distance between the two chairs.

6.3 | Measures

We provide descriptive statistics and scale reliabilities for all measures in Table 1.

6.3.1 | Manipulation check

Participants responded to three items to assess felt nostalgia (Hepper et al., 2012; Wildschut et al., 2006): "Right now, I am feeling quite nostalgic," "Right now, I am having nostalgic feelings," and "I feel nostalgic at the moment" (1 = *strongly disagree*, 6 = *strongly agree*). Participants completed this three-item measure twice—immediately after the manipulation and on completion of the questionnaire—to ensure that they were still feeling nostalgic.

6.3.2 | Mediators

Social connectedness

Participants indicated their agreement with the following four items (Hepper et al., 2012; Wildschut et al., 2006), preceded by the stem "Thinking about my interaction with the person on the recall task": "... makes me feel connected to loved ones," "... makes me feel protected," "... makes me feel loved," and "... makes me feel I can

trust others" (1 = strongly disagree, 6 = strongly agree). We averaged the items to create a social connectedness index, with higher scores indicating greater social connectedness.

Inclusion of the outgroup in the self

Participants specified their relationship with the outgroup by selecting one of seven pairs of increasingly overlapping circles (Aron et al., 1992). One of the circles represented the self and the other circle represented the outgroup of overweight individuals. The greater the overlap between the circles, the stronger the inclusion of the outgroup in the self.

Outgroup trust

Participants responded to five items adapted from Tam et al. (2009): "Right now, I am able to trust an overweight person as much as any other person" (1 = *strongly disagree*, 7 = *strongly agree*), "Right now, I am able to trust an overweight person with personal information about myself" (1 = *strongly disagree*, 7 = *strongly agree*), "Do you think most overweight people would try to take advantage of you if they got the chance, or would they try to be fair?" (1 = *take advantage*, 7 = *be fair*), "Would you say that most of the time overweight people try to be helpful, or that they are mostly just looking out for themselves?" (1 = *out for themselves*, 7 = *helpful*) and "Generally speaking, would you say that overweight people can be trusted, or that you can't be too careful?" (1 = *can't be too careful*, 7 = *can be trusted*).

6.3.3 | Intergroup outcomes

Attitudes

Participants were instructed: "Please indicate how you feel about overweight people right now. For each of the following scales, circle the number that best reflects how you feel." They were then presented with five 7-point semantic differential items: cold-warm, negativepositive, hostile-friendly, contempt-respect, disgust-admiration (Wright et al., 1997). A higher score reflected a more positive outgroup attitude.

Beliefs

Participants were instructed: "Please rate the following statements by circling the number which best describes *how much control* you believe an individual has over their weight." They were then asked to respond to five statements (Musher-Eizenman et al., 2004): "People have control over their weight," "If a person is overweight, it is his or her fault," "People are overweight because they eat too much," "People are overweight because they eat all, 9 = very much). Responses on items were then reversed so that a higher score reflected a more positive cognitive attitude (i.e., a perception that overweight individuals are not responsible for their size).

Behavior

We measured the distance between the two chairs in cm (social distancing), as explained above.

6.3.4 | Control variables

To assess positive affect, participants rated (1 = *strongly disagree*, 7 = *strongly agree*) six statements preceded by the stem "Thinking about this interaction with an overweight person" Sample statements are: "... puts me in a good mood," "... makes me feel joyful," "... makes me feel ecstatic" (α = .91). To assess negative affect, participants rated (1 = *strongly disagree*, 7 = *strongly agree*) six statements also preceded by the stem "Thinking about this interaction with an overweight person...." Sample statements are: "... makes me feel unhappy," "... makes me feel sad," "... makes me feel upset" (α = .84). We derived positive and negative mood indices, respectively.

7 | RESULTS

7.1 | Manipulation check

As intended, participants were more nostalgic in the nostalgia (M = 4.91, SD = 0.87) than control (M = 3.08, SD = 1.43) condition immediately after the manipulation, F(1, 123) = 74.82, p < .001, $\eta^2 = 0.38$. They also remained more nostalgic in the nostalgia (M = 4.22, SD = 1.47) than control (M = 2.75, SD = 1.55) condition on completion of the questionnaire, F(1, 123) = 29.97, p < .001, $\eta^2 = 0.20$.

7.2 | Mediators

Results supported the hypothesized effects of nostalgia on the postulated mediators. Participants in the nostalgia condition (M = 4.47, SD = 1.51) reported greater social connectedness relative to those in the control condition (M = 3.18, SD = 1.49), F (1, 123) = 22.86, p < .001, $\eta^2 = 0.16$. Nostalgic (M = 4.30, SD = 1.49) relative to control (M = 3.35, SD = 1.93) participants also evinced greater IOGS, F(1, 123) = 5.49, p = .002, $\eta^2 = 0.07$. Furthermore, nostalgic (M = 5.77, SD = 0.84) relative to control (M = 5.23, SD = 1.29) participants evinced stronger outgroup trust, F(1, 123) = 7.77, p = .007, $\eta^2 = 0.06$.

7.3 | Intergroup outcomes

As hypothesized, nostalgia (compared to control) produced more positive intergroup outcomes. Nostalgic (M = 5.67, SD = 1.01) relative to control (M = 4.71, SD = 1.55) participants held a more positive attitude toward overweight people, F(1, 123) = 16.79, p < .001, $\eta^2 = 0.12$. Participants in the nostalgia condition (M = 5.27, SD = 1.79) believed that overweight people were less responsible for their excess weight than did those in the control condition (M = 6.40, SD = 2.00), F(1, 123) = 11.00, p = .001, $\eta^2 = 0.08$. Crucially, nostalgic (M = 66.92, SD = 22.34) relative to control (M = 77.69, SD = 18.02) participants placed chairs for an anticipated interaction with an

overweight person closer, F(1, 123) = 6.04, p = .015, $\eta^2 = 0.05$. That is, nostalgia reduced social distancing.

7.4 | Model testing

We tested our proposed serial mediation model in AMOS 25. We initially tested a saturated version of the model in which all direct paths were estimated. Next, we trimmed all nonsignificant paths (Figure 2). In the resulting model, the nostalgia manipulation predicted greater social connectedness (β = .40, p < .001), which was associated with higher outgroup trust ($\beta = .47$, p < .001) and IOGS (β = .55, p < .001). In turn, higher outgroup trust predicted more positive attitudes toward overweight persons (β = .46, p < .001), predicted less belief that people have control over their weight $(\beta = -.35, p < .001)$ and was prognostic of less social distancing $(\beta = -.30, p < .001)$. IOGS was also associated with more positive attitudes toward the outgroup (β = .30, p < .001) and less belief that people have control over their weight ($\beta = -.37$, p < .001), but not with social distancing. Indirect effects are reported in the Figure 2 caption. There was a direct pathway from social connectedness to attitudes toward the outgroup ($\beta = .22, p < .001$), indicating that trust and IOGS did not fully mediate the relationship between connectedness and attitudes toward the outgroup. We assessed the goodnessof-fit of the model using the chi-square test (χ^2), the root mean square error of approximation (RMSEA), and the comparative fit index (CFI). A good fit is indicated by a nonsignificant χ^2 test, an RMSEA value of less than 0.06, and a CFI value greater than 0.95

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(Hu & Bentler, 1999). The model fit the data well: $\chi^2(8) = 9.60$, *p* = .290, RMSEA = 0.04, CFI = 0.99.

We also tested an alternative serial model, in which the order of the mediators was reversed: nostalgia \Rightarrow IOGS and trust \Rightarrow social connectedness \Rightarrow outcomes. We trimmed all nonsignificant paths from the model. The resultant model also fit the data well, $\chi^2(5) = 6.20$, p = .281, RMSEA = 0.04, CFI = 0.99. However, results did not support two of the final links in this model: social connectedness did not significantly predict beliefs or behavior over and above nostalgia, IOGS, and trust. These findings suggest that the original, hypothesized model fits the data best.

7.5 | Ruling out positive affect as a potential confound

Nostalgia has been shown to promote positive affect (Leunissen et al., 2021; Wildschut et al., 2014). Our manipulation involved presenting participants with central features of nostalgia (experimental condition) that were more positive than the peripheral features (control condition). Results supported this assertion. Although negative affect did not vary between conditions, *F* (1, 123) = 0.12, *p* = .723, η^2 = 0.001, nostalgic participants reported more positive affect than controls, *F*(1, 123) = 12.28, *p* = .001, η^2 = 0.091. The effect of nostalgia on attitudes, *F*(1, 122) = 6.64, *p* = .011, η^2 = 0.052 and beliefs, *F*(1, 122) = 4.73, *p* = .032, η^2 = 0.037, remained significant when controlling for positive affect, whereas its effect on social distance behavior became trending, *F*(1, 122) = 3.21,



FIGURE 2 Serial mediation model with nonsignificant paths removed. All coefficients = standardized β s. Correlations: trust-IOGS *r* = .42***, attitude-belief *r* = -.18*, attitude-behavior *r* = -.02, belief-behavior, *r* = .12; Indirect effects: nostalgia-connectedness-IOGS: β = .22, connectedness-IOGS-beliefs: β = -.20, connectedness-IOGS-attitudes: β = .17; connectedness-trust-beliefs: β = -.16, connectedness-trust-attitudes: β = .22; connectedness-trust-behavior: β = -.15; nostalgia-connectedness-IOGS-attitudes: β = .07; nostalgia-connectedness-IOGS-beliefs: β = -.08; nostalgia-connectedness-attitudes: β = .09; nostalgia-connectedness-trust-beliefs: β = -.07; nostalgia-connectedness-trust-beliefs: β = -.08; nostalgia-connectedness-trust-behavior: β = -.06. IOGS, inclusion of the outgroup in the self. **p* < .05, ***p* < .01, and ****p* < .001

p = .076, $\eta^2 = 0.026$. These findings corroborate our previous work, which similarly revealed that nostalgia reduces weight stigma even when controlling for positive (and negative) affect as well as liking of the recalled outgroup member (Turner et al., 2011).

8 | DISCUSSION

The findings were consistent with our theoretical model. Nostalgic (vs. ordinary) recollection about an overweight person fostered social connectedness, which was associated with greater IOGS and outgroup trust, which, in turn, were linked to not only more positive attitudes and beliefs about overweight people but also more positive behavior when anticipating an interaction with an overweight individual.

Our work has implications and applications. Whereas people can be successful at controlling explicit behavior, such as the verbal content of their speech, in order to behave pleasantly, they may struggle to hide underlying negative affect, which might instead be displayed through nonverbal behavior (Devine & Vasquez, 1998). Seating distance is nonverbal behavior that can be interpreted as prejudicial by an interactant (Dovidio et al., 2006). Our findings indicate that such an interpretation may be prevented, as nostalgia led to decreased social distancing. Positive behavior during dyadic interactions is reciprocated: People like and trust those who like and trust them (Petty & Mirels, 1981). The interactant would likely respond in a friendly manner, contributing to a more successful intergroup encounter.

Additionally, the current findings offer insights into how imagined contact interventions may be implemented successfully. Although there is initial evidence that imagined contact can occur spontaneously, participants across three national contexts examined reported on average imagining intergroup contact once a week (UK), once or twice a month (Italy), or once every 2 months (Portugal; Stathi et al., 2020). That is, there is considerable variability in the degree of spontaneous imagined contact, and in two of the contexts studied, it occurs relatively infrequently. In addition, limited support was reported in this study for the role of elaboration in spontaneous imagined contact failed to reduce social distance or promote more positive attitudes.

In contrast, spontaneous nostalgia occurs frequently (several times a week; Hepper et al., 2021; Wildschut et al., 2006) and generates memories that are rich in vivid detail and characterized by positive affect. Encouraging participants to draw on nostalgic memories that involve outgroup members may, therefore, be an especially effective way of ensuring that nostalgic reflection on contact results in more positive intergroup relations. We argue that mental travel into the past may be more effective than mental travel into the future in improving outgroup attitudes and, in the long run, in improving the success of face-to-face intergroup encounters (Allport, 1954). Researchers have also called for a greater understanding of what factors *predict* successful intergroup contact (Paolini

et al., 2018; Turner & Cameron, 2016). Such contact can result in a cognitive liberalization effect whereby people are more open to new experiences, are more creative, and adopt better problem-solving skills (Hodson et al., 2018; Pettigrew & Tropp, 2006). By promoting a more successful interaction via reduced social distance, nostalgia can lay the foundation for intergroup contact and its benefits.

We acknowledge that we tested nostalgia in a controlled laboratory setting, examining only immediate changes in attitudes. How might nostalgia be incorporated into an intervention that would have a meaningful and long-lasting impact (Layous et al., 2021)? Contact-based interventions are likely to have long-lasting effects when they occur regularly and repeatedly rather than as a "one-off" treatment. Vezzali et al. (2015), for example, instructed Italian elementary and high school students to work in small groups on a competition to generate the best essay about friendships with immigrants. In doing so, they exchanged information about their own experiences with immigrants to create a good-quality essay. This not only resulted in more positive perceptions of intergroup contact but also more cross-group friendships 3 months later. A similar approach could be used for nostalgia; getting people to regularly recall and write about, then share with peers or colleagues, their nostalgic contact experiences with overweight individuals may help to reduce weight stigma longer-term.

Our work has limitations that can be addressed with follow-up research. First, although we assessed participants' behavior as they anticipated an interaction with an overweight person, participants did not actually take part in such an encounter. Nonetheless, they believed that they would be meeting an outgroup member, and none reported suspicion. Future research should examine the impact of nostalgia on behavior during an actual face-to-face encounter with an outgroup member, and test whether any changes in behavior entail a cognitive liberalization effect. Second, we used a brief nostalgia task as an intervention to promote positive intergroup relations. Such tasks are unlikely to be as enduring as direct intergroup experience (Fazio et al., 1983; Stangor et al., 1991). Nonetheless, our findings suggest that nostalgia could act as a "wise intervention" (Walton & Yeager, 2020), changing people's mindsets so they approach social situations differently and benefit more substantially. Specifically, given that participants felt more socially connected and in turn more trusting of outgroup members, they manifested a greater willingness to approach and get to know outgroup members, as indicated by reduced social distance. Such a willingness might result in a higher quality intergroup encounter, which contributes not only to positive attitude change but also to the development of stronger and more enduring attitudes (Fazio et al., 1983; Stangor et al., 1991; Turner & Cameron, 2016). Third, nostalgia influenced attitudes and beliefs via social connectedness and via both IOGS and outgroup trust, whereas it influenced behavior via social connectedness and outgroup trust alone. Given that IOGS is a visual analog measure of perceived distance between the self and the outgroup, this finding is rather surprising. Future research could examine a greater range of theoretically driven mediating mechanisms (e.g., intergroup anxiety) to understand how nostalgia influences intergroup behavior.

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Fourth, nostalgia and its mediators explained a smaller proportion of the variance in behavior (9%) than in attitudes (67%) and beliefs (41%). This finding suggests that interventions that promote positive intergroup attitudes do not necessarily translate into large changes in nonverbal behavior. Nonetheless, it is crucial that researchers continue to investigate ways to maximize the impact of nostalgia on nonverbal behavior. After all, exposure to nonverbal biases may "infect" observers with intergroup bias through implicit learning as well as informational and normative influence (Weisbuch & Pauker, 2011). Thus, a small effect may have larger downstream consequences (Götz et al., 2022). Relatedly, it is important that researchers distinguish between the impact of nostalgia on verbal versus nonverbal behavior. Earlier, we argued that more explicit verbal behavior would be easier to control than subtle nonverbal behavior (Devine & Vasquez, 1998). Indeed, our findings suggest that nostalgia has a stronger impact on explicit (attitude, beliefs) than subtle (nonverbal behavior) measures. To our knowledge, however, the respective effectiveness of contact in targeting these two types of behavior, and the potentially different processes underlying these effects, have not been examined. This may be a fruitful empirical direction. Finally, when controlling for the influence of positive affect, the main effect of nostalgia on behavior was no longer significant (p = .076). Future manipulations of nostalgia using the prototypebased approach ought to be careful to ensure a balance of positive and negative features of central and peripheral attributes.

In closing, we demonstrated, for the first time, the influence of nostalgia on an indicator of intergroup behavior and uncovered social-psychological processes by which this influence could be explained. Nostalgic recollection of a past encounter with an overweight individual not only promoted beliefs and attitudes toward overweight people but it also reduced social distancing behavior when anticipating an encounter with an overweight person. The findings highlight the interventional potential of nostalgia to facilitate positive intergroup encounters.

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How to cite this article: Turner, R., Wildschut, T., & Sedikides, C. (2022). Reducing social distance caused by weight stigma: Nostalgia changes behavior toward overweight individuals. *Journal of Applied Social Psychology*, 52, 429–438. https://doi.org/10.1111/jasp.12869