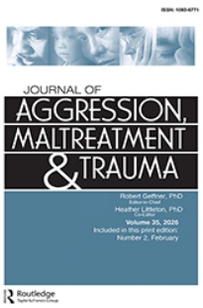

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Is Emotional Support in the Aftermath of Collective Traumatic Events Beneficial? The Role of Collective Rumination

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ABSTRACT

Collective traumas emotionally affect individuals who identify with groups/communities targeted by major traumatic events. When exposed to such occurrences, individuals turn to similarly impacted others for emotional social support. Alongside providing support, turning to others who are also affected by a collective trauma may trigger collective rumination about the traumatic event – with rumination known to decrease rather than increase well-being. We examined whether receiving social support following a collective traumatic occurrence may be unhelpful for the receiver's wellbeing due to collective rumination and report online survey results from two terrorist attacks and the COVID-19 pandemic. Findings from Study 1a and 1b provided initial indications that individuals who received support from others experienced a decrease in wellbeing. Teasing apart potentially competing processes at play in Study 2 (receipt of support/collective rumination) we found supporting evidence for the well-documented positive association between support and wellbeing. However, the collective rumination involved in turning to similarly affected others fully counteracted this positive association.

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Collective trauma; emotional support; wellbeing

Collective trauma encompasses large-scale traumatic events (e.g., terrorism, pandemics) that have a psychological impact on individuals, groups of targeted people or an entire society (APA, 2023). Research explores the effect of collective trauma on members of affected groups, even if they were not personally, tangibly affected by the traumatic events (e.g., not present at the scene of a terrorist attack, or not personally infected with a viral disease). Findings from events defined as collective trauma show that events experienced by (members of) a group or a collective impact individual group

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members' wellbeing even when they were not personally involved because people experience emotions through their social identification with a group/community (Smith et al., 2007). Notable examples include evidence of increased emotional, depressive and traumatic symptoms among Americans following "9/11" (Knudsen et al., 2005) and in the aftermath of the widely publicized murder of George Floyd (Eichstaedt et al., 2021). Spanish students experienced increased emotional arousal and rumination following the 2004 Madrid train terror attack (Rimé et al., 2010).

When exposed to collective trauma, individuals often turn to others for emotional social support. Defined as a form of emotional coping, emotional social support is a communicative interaction in which individuals seek out significant others during times of felt distress, sharing feelings and thoughts with the aim of receiving empathy, comfort and concern (Lazarus & Folkman, 1984). Research notes that around 98% of individuals affected by collective trauma are likely to seek support related to their emotions (Rimé, 2009), sharing their emotional experience about the event (Schuster et al., 2001; Silver et al., 2002; Tobal & Martínez-Sánchez, 2004), doing so several times with different people for the same emotional episode (Pennebaker et al., 2001; Rimé et al., 2010). But when individuals seek support from others who affected by the same collective trauma as them, such sharing may also entail *collective rumination* about the traumatic event rather than the unidirectional receipt of social support. Building on research exploring the individual impact of collective trauma, we consider the wellbeing impact of social support garnered in the immediate aftermath of three events (two terror attacks and the COVID-19 pandemic). Extensive research has defined terror attacks (e.g., Garcia & Rimé, 2019) and COVID-19 (e.g., Silver, 2020) as collective trauma, with the pandemic evidenced as leading to elevated symptoms of psychological distress across populations from its onset (Dhensa-Kahlon et al., 2025). We argue that under certain conditions, emotional social support with others can involve collective rumination, which may be unhelpful for the wellbeing of the individual who seeks and receives support. Notably, collective trauma is distinct from secondary trauma which captures the emotional impact of those exposed to others' personal trauma, whilst collective trauma psychologically affects individuals through their shared identification with their groups/communities affected by an event.

Social support following collective trauma

Turning to individuals within one's community for support is a typical response to adversity. Social support has long been identified as a protective factor for wellbeing, buffering the impact of stress on psychological health through helping individuals resolve their problems and reducing the impact of an event (Berkman et al., 2000; Liu et al., 2014). Following a traumatic event,

poor social support is one of the greatest risk factors for psychopathology across different types of trauma (Brewin et al., 2000; Ozer et al., 2003). Indeed, social support has been shown to reduce stress and depression and improve wellbeing for individuals who have been exposed to traumatic events (Brewin et al., 2000). Research shows that seeking and receiving support following collective trauma has mental and physical health benefits, including improved social wellbeing (Wlodarczyk et al., 2016), greater social integration (e.g., lower perceived loneliness; Pennebaker & Harber, 1993), positive emotions, and perceived post-traumatic growth (Rimé et al., 2010). It is not surprising, therefore, that based on these findings, social support is widely advised by health bodies as a means of coping effectively. For example, during the COVID-19 pandemic, the World Health Organization (2020) advocated talking to "people you can trust" while the United Kingdom's National Health Service (2020) encouraged "connecting with" others.

Several literatures explain why people turn to others after a negative emotional experience. The "stress and affiliation" effect (Schachter, 1959) maintains that when people encounter stress, they are motivated to reduce it by seeking out the company of similarly affected others. Further, because negatively-charged events disconfirm assumptions about the world's safety, people turn to others to pursue cognitive clarity (Martin & Tesser, 1989). Moreover, a traumatic experience creates a "common fate" that links an individual with their social/collective identity (Tajfel & Turner, 1986). Consequently, when experiencing a collective trauma, individuals identify emotionally with the event and its victims, propelling them to connect with others from their group, who have similarly been affected by the collective trauma at hand (e.g., Drury et al., 2016).

However, there is also some ongoing evidence suggesting that social support may not be uniformly helpful for wellbeing in the aftermath of events that have been defined as collective trauma. For example, Americans who engaged in social support in the immediate aftermath of "9/11" went on to experience worsened health outcomes (Silver et al., 2002). Patterns of coping following the Madrid train terror attack show that Spaniards who shared their emotions with others experienced heightened negative emotions (Rimé et al., 2010). Women who sought and received emotional support regarding their loved ones participating in the Lebanon-Israel war displayed greater psychological distress owing to exposure to their own and others' sorrow (Hobfoll & London, 1986). Further, experimental research indicates that sharing emotional experiences with supportive others following adversity does not always predict emotional recovery (Pennebaker et al., 2001; Rimé et al., 2010), can increase negative emotions in those seeking and receiving support (Kanyangara et al., 2007) and can impede recovery (Zech & Rimé, 2005). These findings, in the context of collective trauma, echo those from tangential areas of enquiry within other types of trauma showing that social support may

not always be effective in reducing wellbeing symptoms for adolescents (e.g., Pinto et al., 2017), survivors of sexual abuse (e.g., Foynes & Freyd, 2011) and adult trauma survivors (e.g., Robinaugh et al., 2011). Even less is known about the mechanisms that may explain the limited utility of social support in some contexts. Taken together, though lay opinion and much research suggest that turning to supportive others may be helpful for individual wellbeing, this is not borne out uniformly across research in the context of collective trauma. Although extant findings have advanced our understanding of the importance of socially supportive encounters in the aftermath of collective trauma, a great deal about the role of support as well as the mechanisms that might explain why and when it may be unhelpful for wellbeing, remains to be understood.

We argue that, under certain conditions in the context of collective trauma, social support may be unhelpful for the individual seeking and receiving support. This is because when an individual shares their thoughts and feelings in relation to a traumatic event with similarly-affected others, that encounter can converge toward a focus on the negative (e.g., sharing negative thoughts and feelings about what has happened as well as about the lingering and damaging impact of an event), prompting what we term – *collective rumination*. We suggest that collective rumination can undermine a support receiver's wellbeing by counteracting some of the positive effects of social support.

Collective rumination in the context of collective trauma

Repeated discussions about a collective trauma with others may entail not only the adaptive reception of social support and the healthy processing of the trauma through discussion, but also maladaptive *rumination* on the event. On the individual level, rumination refers to self-focused thinking characterized by repetitive thoughts about an event that has occurred (Nolen-Hoeksema et al., 2008). Unlike healthy processing (e.g., Pinheiro et al., 2021), which involves focusing on a solution to one's problem or growth from it, rumination is deemed largely maladaptive for mental health (e.g., Nolen-Hoeksema et al., 2008; Watkins, 2008) because it is characterized by a repetitive and persistent focus on thoughts about the same experience/event, preventing the individual from resolving their unpleasant state. Drawing on extensive group-based emotions and social identity research (see Smith et al., 2007), we define collective rumination as involving an individual turning to another or multiple others to converse about a stressful exogenous collective traumatic event by which both/all those conversing have been affected based on their shared identity (Tajfel & Turner, 1986). By virtue of the negative nature of the event and much like individual rumination (Nolen-Hoeksema et al., 2008) this conversation often converges on the negative, fostering a shared negative evaluation of the traumatic event, thus exacerbating negative emotions. This, in turn, triggers support receivers to ruminate individually which can harm their wellbeing.

We distinguish collective rumination from co-rumination (in research on friendships), which involves one person sharing a personal problem with an uninvolved (i.e., unaffected) other (i.e., Rose, 2002) and is therefore distinct from situations in which individuals ruminate together about something that has affected both (or all) of them. An especially salient point about emotional support following collective trauma is that unlike individual traumas, which are experienced intensely by an individual and shared with unaffected others to relieve the individual burden, collective events broadly affect large-scale communities. Therefore, both receivers and providers of emotional support are likely to be similarly affected by the event (Pennebaker & Harber, 1993). Given this shared experience, in many cases, both receivers and providers of support will likely seek (and receive) support from each other. If this support-seeking results in conversations focused on the negative – i.e., collective rumination – it is likely to also have negative impacts, alongside (or undermining) the positive effects of seeking support. In this way, collective trauma is distinct from trauma debriefing which is a structured intervention operated for a group by a professional unaffected by a traumatic event and whose goal is to normalize individuals' reactions.

The impact of collective rumination on individual wellbeing following collective trauma

When individuals are exposed to an adverse event, they tend to ruminate, thinking persistently about their thoughts and feelings in relation to the experience (Nolen-Hoeksema et al., 2008; Rimé et al., 1992). According to response styles theory (Nolen-Hoeksema et al., 1993), repetitive, cyclical and prolonged thinking about an adverse experience intensifies negative feelings. As such, rumination is commonly considered a maladaptive coping strategy and linked with poor wellbeing (Blanke et al., 2022). We argue that since collective rumination arises in encounters in which conversation perpetuates and likely reactivates negative elements of a traumatic event, its effects will be impairing for the support receiver's wellbeing for three reasons, as per literature on the consequences of rumination.

First, studies on reactions to negative, non-controllable events (i.e., collective trauma) show that rumination prompts individuals to increase their focus on negative thoughts and feelings about those events (Nolen-Hoeksema et al., 2008). Therefore, receiving social support about a collective trauma can amplify negativity about the event, resulting in event-related distress. Rather than diminishing, negative thoughts and feelings about an event may remain at the forefront of a support receiver's mind, influencing a support receiver's focus on event-related negative and repetitive thought. Following the Madrid train terror attack, the receipt of emotional support reactivated the shared emotion in the support receiver, leading them to reimagine images about the

event long after its occurrence (Rimé et al., 2010). Research on emotional contagion helps explain this effect, highlighting that emotions expressed by one individual can spread to another (Hatfield et al., 2014), particularly when they share group membership. Moreover, for intense negative emotions, distraction (which blocks emotional processing becoming destructive) is often an optimal coping strategy (Sheppes et al., 2011); it constitutes the opposite of rumination, suggesting rumination can harm as it leaves little opportunity for the intensity of a negative emotion to diminish.

Second, the abstract nature of ruminative thoughts encourages their generalization beyond an event (Watkins, 2008). Field studies evidence that individuals who shared their feelings about a collective trauma with supportive others remembered the event for much longer than those who did not receive support (Curci et al., 2001). Ongoing rumination following collective trauma has also been linked with poorer longer-term wellbeing (Friedberg et al., 2005). Consequently, sustained attention to the event can prolong the experience of negative emotions and wellbeing-impairing symptoms for the support receiver.

Finally, a passive reflection on past negative events can interfere with engaging in instrumental attempts at resolving one's unpleasant state (Lyubomirsky & Nolen-Hoeksema, 1993). Rumination increases avoidant behavior (Moulds et al., 2007) contributing to a lack of interest and/or willingness to engage in activities that could distract from event-related negative thought. Individuals receiving support about a collective trauma may feel little incentive to alleviate event-related distress. The effect of this, we predict, is exacerbated negativity of the support receiving individual, which is unhelpful for wellbeing.

The present research

We predicted that received emotional social support in the immediate aftermath of a collectively experienced traumatic event will be negatively associated with support receivers' wellbeing, undermining the positive impact of social support on wellbeing. This negative association can be explained by collective rumination which arises in the context of receiving support.

We tested our predictions across three online studies conducted in the immediate aftermath of three events: the 2017 Manchester Arena bombing following an Ariana Grande concert in 2017 (Study 1a; Rose, 2017), the 2019 London Bridge terror attack (Study 1b; Giordano, 2019), and the start of the COVID-19 pandemic in 2020 (Study 2). In doing so, we heeded advice from researchers to obtain data early enough in the wake of an event to better understand the wellbeing impact of collective trauma (e.g., Silver et al., 2006). In studies 1a (cross-sectional) and 1b (paired measurement) we tested whether received social support would be negatively associated with

wellbeing. Results of these studies informed our design for Study 2 in which we teased apart elements of social support, measuring both the solicitation of support and its receipt. We also added a measure of collective rumination to better understand the impact of social support on wellbeing in the aftermath of collective trauma.

For each study, data was collected online using Prolific. Eligible participants were UK-based, over 18 years-old and had an approval rating above 90%.[1] Informed consent was obtained prior to each survey. Studies were approved by the Research Integrity Office at a UK University (Ethics reference: 160,708-160702-23437303). All data is openly available in the OSF repository at: https://osf.io/fhsgz/overview?view_only=134c943375b143589e707a423c466f38

Study 1

In studies 1a and 1b, we tested whether receiving social support in the context of a collective trauma would be negatively associated with individuals' wellbeing.

Study 1a – Manchester arena bombings

This study was conducted on May 24th 2017, two days after the Manchester arena attack occurred.

Method

Participants

Four-hundred and six participants (Over 18 years old; $M_{age} = 37.35$, $SD = 12.18$; 57% female) completed a 10-minute survey for £1. Desired sample size ($N > 398$) was determined a-priori using G*Power (exact; $r > 0.1$; power = 0.80, $\alpha = 0.05$). Since this was an online sample, we oversampled to allow for potential exclusions. All participants had conversed with others about the Manchester Arena bombing (15% once; 50%-5 times; 18% 6–10 times; 17% +10 times).

Measures and procedure

To confirm participants had knowledge of the event, we posted an image from a UK newspaper, entitled "Manchester attack: ISIS claims responsibility for arena bombing that killed 22" (Rose, 2017), and asked individuals to answer yes/no in response to the following question: "Were you aware of the attack

[1]This approval rating is provided by Prolific Academic and has been an indication of a participants' engagement and reward in previous research hosted with them.

before reading this article?" Three participants indicated no awareness and were omitted from analyses. Results did not meaningfully change when including these participants in the analysis.

Social support

We assessed how frequently participants had been receiving social support following the Manchester attack. We used the two-item measure of support from the Brief COPE (Carver, 1997), adjusting it to reflect the traumatic event, asking participants "How frequently have you done the following since the Manchester concert terror attack." The two items then presented to participants were: "I've been getting emotional support from others," and "I've been getting comfort and understanding from someone" (response options: from 1:*not at all* to 4:*all the time;* $r = .66$, $p < .001$).

Wellbeing

We measured wellbeing with Goldberg and Williams (1988), pp. 12-item General Health Questionnaire (GHQ-12). The GHQ-12 is a validated (e.g., Schmitz et al., 1999) measure of wellbeing widely used to screen civilian populations across cultures and capture wellbeing disorders (Böhnke & Croudace, 2016). The GHQ-12 assesses participants' current state of wellbeing by asking if that differs from their usual state. Participants responded to the statement "Since the attack, have you: . . . " and then rated how frequently they had experienced different minor psychological strains (e.g., "Lost much sleep over worry?"). Half of the items indicated negative states (which were reverse scored). These were averaged with the other half of items referring to positive states, to capture wellbeing (response options: from 1:*not at all* to 4:*all the time*; $\alpha = .86$).

As control variables, we measured age, gender and SES. Age and gender have been identified as risk factors for utilizing support during collective trauma (Seery et al., 2008). Since income is linked with individuals' socioeconomic status (SES), and both have implications for an individual's wellbeing, we controlled for SES. Participants were asked: "What is your socioeconomic background?" (response options: much lower than average in the UK/lower than average in the UK/average [middle class] in the UK/higher than average in the UK/much higher than average in the UK). We controlled for political orientation since terror attacks involve existential threat, making political ideology relevant (e.g., Jost et al., 2017). Participants indicated their voting intentions in the upcoming elections (response options: Labor;Liberal Democrats;Green Party;SNP-coded Left/Liberal;Conservative Party;UKIP – coded Right/Conservative;Independent/Other/Not voting-coded Other).

Results

Descriptive statistics for study variables and zero-order correlations are presented in Table 1

Results showed a significant negative association between received social support and wellbeing ($r = -.26$, $p < .001$), indicating that the more participants had received emotional support in light of the Manchester attack, the lower their wellbeing. A regression analysis showed that social support remained a significant negative predictor of wellbeing above and beyond participants' age, gender, political orientation and socioeconomic background ($\beta = -21$, $p < .001$). We sought to replicate our findings, as well as rule out the possibility of opposite directionality (i.e., with lower wellbeing predicting received social support rather than the other way around), by adopting a paired measurement design in Study 1b.

Study 1b – London bridge terror attack

In Study 1b we separated our predictor (received social support) and dependent (wellbeing) variables by collecting data over two time-points, allowing us to examine the temporal dynamics of the relationship uncovered in Study 1a. We collected data three-days after the London bridge attack (T1), which occurred on 3rd June 2017, and again (T2) two-weeks later.

Method

Participants

Three-hundred and forty-nine participants completed the 10-minute survey for £1. Of those, 250 individuals ($M_{age} = 36.57$, SD = 12.14; 57% female) completed both time points (retention rate: 71.6%). Sample size ($n > 123$) was determined a priori using G*Power (exact; $r > .20$; power = 0.80, $\alpha = 0.05$). We anticipated attrition between waves and a potentially smaller effect size in Study 1b due to the time gap in measurement, leading us to double the required sample size at

Table 1. Zero-order correlations between research measures: study 1a (Manchester arena bombings).

	Mean (SD)	1	2	3	4	5
1. Social Support (Received)	1.57 (.76)	–				
2. Wellbeing	3.00 (.55)	**−.26****				
3. Gender	1.57 (.49)	**.25****	**−.19****			
4. Age	37.31 (12.18)	**−.11***	**.15****	**.14****		
5. SES	2.70 (.71)	.09	**.11***	−.04	.03	
6. Political Orient.	4.50 (1.44)	−.02	−.05	.01	**−.13***	**−.25**

*Significant at the .05 level; **Significant at the .01 level.

the outset.[2] All participants had conversed (socially shared) with others about the London Bridge terror attack (26%, once; 61% 1–5 times; 11% 6–10 times; 2% +10 times).

Measures and procedure

As per Study 1a, individuals' exposure to the terror attack was confirmed. We posted an image from a UK newspaper entitled "ISIS claims responsibility for London Bridge Terror Attack" (Hockaday, 2019), and asked: "Were you aware of the attack before reading this article?" (Yes/No). As anticipated given the broad coverage of the event, 97% of participants indicated "yes." Eight participants who had answered "no" were omitted from analysis. Results did not change meaningfully when including these participants.

We used the same measures as in Study 1a and measured received social support regarding the London Bridge terror attack since its occurrence (r_{T1}=.58; r_{T2}=.78) and wellbeing (α_{T1} = .83; α_{T2} = .91) at both time points, to control for the time lag. Given the paired measurement design and accounting for within-person changes in wellbeing, we created a variable of *change* in wellbeing by subtracting T1 wellbeing scores from T2 wellbeing scores. We also used the same control measures as in Study 1a.

Analyses

We employed latent difference score (LDS) modeling (e.g., McArdle, 2009) to examine change in well-being over time. LDS modeling permits examination of intra-individual change and the factors influencing this change over time (McArdle, 2009). The LDS model was specified as follows: $\Delta WB = WB_2 - WB_1 = \alpha + \beta WB_2 + \gamma X + \varepsilon_t$ where ΔWB represents the change in GHQ-12 scores from time 1 to time 2. WB_t is the GHQ-12 score at time t, X represents the vector of covariates, and ε_t is the error term at time t. This model allows for assessment of proportional change, where β captures the autoregressive effect, and γ represents the effects of covariates on the change in GHQ-12 scores. Statistical analyses were conducted using the "lavaan" package in R. Model fit was evaluated using the Comparative Fit Index (CFI = 0.67).

Results

Descriptive statistics for study variables and zero-order correlations are presented in Table 2. Like Study 1a, T1 received social support

[2]To determine whether there was selection bias in participant retention, we conducted a series of t-tests to examine significant differences between participants who did or did not complete T2 of the survey. We found no differences in political orientation, gender or SES. However, participants who filled in T2 were significantly older (M = 36.57, SD = 12.14) than those who did not (M = 30.76, SD = 10.55; t = 4.3, p < .001). We did not see this difference as an issue for interpreting our results.

Table 2. Zero-order correlations between research measures: study 1b (London bridge terror attack).

	Mean (SD)	1	2	3	4	5	6	7
1. Social Support (Received) T1	1.35 (.54)	–						
2. Social Support (Received) T2	1.25 (.57)	**.49****						
3. Wellbeing T2	.00 (.68)[b]	**−.20****	**−.16****					
4. Change in Wellbeing[a]	.00 (.42)	.01	**.14***	**−.64***				
5. Gender	1.65 (.48)	**.14***	.05	−.04	−.03			
6. Age	36.58 (12.14)	.02	−.04	**.24****	.11	−.03		
7. SES	2.77 (.65)	−.04	.05	.11	.07	−.07	.04	
8. Political Orient.	1.41 (.65)	.02	−.02	.10	.02	−.03	**.16***	.02

[a]Higher scores indicate improvement.
[b]Change in wellbeing score is standardized.
*Significant at the .05 level; **Significant at the .01 level. SES = socioeconomic status.

negatively predicted wellbeing in T2 ($r = -.20$, $p = .002$). We analyzed the impact of received social support at T1 and T2 on changes in wellbeing. The analysis revealed that T1 social support had no significant relationship with wellbeing changes ($\beta = -.07$, $p = .319$). However, T2 social support was positively correlated with improved wellbeing ($\beta = .18$, $p = .014$). Accounting for initial wellbeing levels at T1 in our analysis did not significantly alter these findings. Figure A1 in the Appendix captures the full path diagram for our results.

Study 1 provided initial indications that individuals who received social support regarding a collective trauma experienced lower wellbeing than those who did not. Nevertheless, the contradictory relationships between social support in T1 and T2 and wellbeing in Study 1b indicated potential competing psychological processes at play. Unfortunately, the measurement tools used in Study 1 did not allow us to disentangle these competing processes. Given our prediction that the association between received support and wellbeing is undermined by collective rumination, we disentangled these processes in Study 2 in two ways. Firstly, we tracked the frequency and amount of conversation with others over time, so as to capture collective rumination. Secondly, we expanded our measurement of social support. In the previous studies (1a and 1b) we explored received social support. Yet both solicited and received support are integral for effective coping during stressful events (Thoits, 1995). Study 1 was enhanced by measuring sought and received social support. We added a measure of social support solicitation by asking individuals why they sought support and refer to this variable as *social support seeking goals*. This approach allowed us to tease apart the effects of seeking social support, receiving social support, and collective rumination on individual wellbeing in the aftermath of a collective trauma.

Study 2 – COVID-19

Method

In Study 2, we aimed to extend and clarify findings from Study 1 in the context of COVID-19. Data collection began three-days *prior* to the UK's first lockdown in March 2020 (ten days after COVID-19 was declared a pandemic by the WHO) with our study continuing into the first few-days of lockdown. As the UK entered lockdown later than other countries, and people were told in advance that lockdown would commence on March 23rd, we used this unique opportunity to conduct the study as the event unfolded rather than after the fact.

We adopted a paired measurement design, separating our predictor and criterion variables over time. Unlike Study 1b, we collected data every day over a one-week period to capture daily instances of collective rumination because events related to COVID-19 were unfolding rapidly – meaning that people were responding to this unprecedented occurrence by talking about it with others (Garcia & Rimé, 2019) – allowing us to capture this activity in real time. Survey duration was 8–10 minutes per survey and participants were paid £0.80 per survey for their time.

Participants

We recruited 202 participants for the week-long study (M_{age} = 35.72, SD = 10.55; 65% Female). Addressing incomplete data observed across our dependent variable (changes in wellbeing), we applied full informational maximum likelihood (FIML) (Enders & Bandalos, 2001) during the model estimation phase, since our analysis indicated data were missing at random (MAR). Analysis drew on ed the "lavaan" package in R, which allows for Structural Equation Modeling (SEM) (Bowen & Guo, 2011) with robust handling of missing data. The SEM approach detailed the relationships between wellbeing constructs at baseline (T1; beginning) and at T7 (end). Employing FIML ensured that each participant's data, regardless of missingness, informed the estimation of these latent constructs and the changes observed over the study period. The study's power is increased and bias on the wellbeing estimation is reduced. A series of t-tests identified no significant differences between participants who did or did not complete T7 on age, gender, and SES.

Measures and procedure

In total we captured our variables over seven points of data collection. We began data collection on March 20, 2020 (T1), as the UK prepared to go into lockdown (which it did on March 23, 2020). At T1 (n = 202) we captured baseline wellbeing (measured as in Study 1, α = .86), as well as support goals in

light of the pandemic and control variables (age, gender, SES).[3] To capture whether they had socially shared and conversed about the pandemic with others, participants were asked whether they had "turned to other people, to interact with them regarding the Coronavirus pandemic recently," to which 149 participants answered yes.[4] For those participants only, we measured social support seeking goals, asking participants to what extent their purpose in "turning to others and interacting with them regarding the Coronavirus pandemic" was "to get emotional support from others" and "to get comfort and understanding from someone" (response options: 1:*Strongly disagree* to 5: *Strongly agree*; $r = .76$). The same measure of wellbeing was used as in Study 1 ($\alpha = .86$).

As an additional control measure, beyond those in Study 1, participants' preexisting stress/mental health history was controlled for (open-ended responses: 0 no/1 yes) to establish our findings were independent of the effects of past stressors in people's lives (Silver et al., 2002).

Next, subsequent daily surveys were sent to participants who had completed T1. Over the following five days (March 21st–25th 2020), participants responded to daily measures of collective-rumination ($n = 130$), forming the study's second-stage (T2-T6). To capture collective rumination, we created a customized measure combining the number of people talked to about Covid-19 and the time participants spent talking to others about this very event. Every day for five days, participants responded "yes" (1) or "no" (0) to whether they had socially shared (conversed about the COVID-19 pandemic) that day with each of a list of significant other targets (i.e., friend;colleague; parent;grandparent;sibling;romantic partner;stranger;other). Answers were summed to compute how many types of people participants had conversed with about the COVID-19 pandemic. We averaged this measure across days, forming an index of *people shared/conversed with* ($\alpha = .77$). Participants were also asked to indicate how much *time* they had spent speaking about the Coronavirus every day (on a scale from 1–"less than 10 minutes" to 5–"more than 3 hours"). Responses were averaged across days (to compensate for missing daily surveys per participants), yielding a *time talked* score ($\alpha = .86$). Lastly, both scales were standardized and their z scores averaged to generate a single collective rumination index ($r = .48$, $p < .001$).

For reasons pertaining to construct validity, and in order to ensure that our rumination measure was related to individual rumination (T2-T6), and therefore captured thoughts about a negative event (e.g., Nolen-Hoeksema et al., 2008), we modified two items from Garnefski et al.'s (2001) rumination scale: "Since yesterday I have often thought about how I feel about the Coronavirus pandemic," and "Since yesterday I have been preoccupied with what I think and feel about the

[3]We did not collect political orientation information in Study 3 since COVID-19 was not (at the time) a political issue.
[4]We intentionally avoided asking people about the valence of these conversations, so as not to increase the salience of certain topics or feelings, facilitating more reliable observations.

Coronavirus pandemic" (response options: 1: *Not at all* to 5:*Often*). The scale was computed as the average of the ten items over five time-points (α = .93).

Every day (T2-T6) participants were also asked whether they were in self-isolation (response options: no isolation (0); isolation (1)). Finally, T7 survey responses (n = 126) were collected six days following T1 and included the same measure of received social support during the COVID-19 pandemic used in Study 1 but slightly reworded for the present study ("I feel I have been getting emotional support from others"; "I feel I have been getting comfort and understanding from someone" (r = .88, p < .001)). There was also a final measurement of wellbeing (measured as in Study 1; α = .88). As in Study 1b, we were specifically interested in *change in wellbeing* over the course of the week, so we subtracted T1 wellbeing from T7 wellbeing.

Analyses

As per Study 1b, LDS modeling was deployed to examine the change in wellbeing over time. The LDS model was specified as follows: $\Delta WB = WB_7 - WB_B = \alpha + \beta WB_7 + \gamma X + \varepsilon_t$ where ΔWB represents the change in GHQ-12 scores from T1 to T7. WB_t is the GHQ-12 score at time t, X represents the vector of covariates, and ε_t is the error term at time t. The Appendix contains the parameters for the equation. Once again, statistical analyses were conducted using the "lavaan" package in R (Rosseel, 2012). Model fit was evaluated using the Comparative Fit Index (CFI = 0.623).

Results

Descriptive statistics for study variables and zero-order correlations are presented in Table 3. A positive correlation between collective rumination and individual rumination (r = .55, p < .001) supported our assertion that we were measuring collective rumination. Figure A2 (Appendix) captures the full path diagram.

Like Study 1b, received social support (T7) was not associated with a change in wellbeing over time, indicating the possibility of competing processes at play i.e., social support seeking goals and collective rumination Table A1. Notably,

Table 3. Zero-order correlations between research measures: study 2 (COVID-19 pandemic).

	Mean (SD)	1	2	3	4	5	6	7
1. Support Goals T1	3.63 (.89)	–						
2. Collective Rumination (T2-T6)	.01 (.86)	**.24****						
3. Social Support (Received) T7	3.92 (.81)	**.29****	**.21****					
4. Wellbeing (T7)	.002 (.44)	**−.32****	−.04	−.01				
5. Change in Wellbeing (T7–T1) [a]	−.02 (.69)	**.25***	−.13	−.02	**.31****			
6. Gender	4.65 (.48)	**.29****	.15	**.19***	**−.27****	−.02		
7. Age	35.72 (10.55)	−.18	.02	03	.08	−.08	−.06	
8. SES	2.80 (.75)	−.15	.10	.07	**.19***	−.13	−.14	−.05

[a]Higher scores indicate improvement.
*Significant at the .05 level; ** Significant at the .01 level. SES = socioeconomic status.

social support seeking goals (T1) were positively associated with both collective rumination (T2-6; $r = .24$, $p = .012$) and received social support (T7; $r = .29$, $p = .002$), and negatively associated with wellbeing in T7 ($r = -.33$, $p < .001$). As per the LDS modeling results, changes in wellbeing were positively associated with both support goals T1 ($r = 0.25$, $p < .01$) and wellbeing in T7 ($r = 0.31$, $p < .01$). Importantly, we found no association between collective rumination and social support, indicating that they are separate constructs.

First, we aimed to disentangle the complex relations between social support, collective rumination, and wellbeing to examine whether collective rumination was undermining the previously documented positive impact of social support on wellbeing. We regressed the change in wellbeing on both social support seeking goals (T1) and collective rumination ($R^2 = .097$), allowing us to isolate the unique variance in the outcome variable explained by each of these constructs. As predicted, we found opposite (and perhaps offsetting) associations. While social support seeking goals predicted an *increase* in wellbeing in the period examined ($\beta = .29$, $p = .003$), collective rumination predicted a *decrease* in wellbeing ($\beta = -.19$, $p = .045$). When controlling for T1 wellbeing, the results did not meaningfully change. This result remains essentially unchanged when controlling for age, gender, and SES, as well as previous stressful events, receiving professional emotional help, self-reported received social support and self-isolation.

Thus, seeking social support appears to indeed predict *increased* wellbeing, but collective rumination as an unintended consequence of seeking support undermines this relationship, rendering actual received social support counter-effective. We find that social support seeking goals predict improvements in wellbeing *only* when holding collective rumination constant.

Discussion

Collective traumas are psychologically impactful for individuals exposed to their occurrence. We explored the conditions under which emotional support sought in the aftermath of collective trauma may undermine the well-documented positive association between support received and wellbeing. Although some research suggests that support following collective trauma is beneficial for wellbeing, this finding is not consistently borne out empirically. We tested whether collective rumination may explain why turning to others in the aftermath of collective trauma may be unhelpful for a support receiver's wellbeing – because collective rumination undermines the positive association between social support and wellbeing.

Whilst findings from Study 1a confirmed our proposition that supportive interactions with others were unhelpful for a support receiver's wellbeing, we found unexpected results in Study 1b. Specifically, although received social support by individuals at time 1 was unhelpful for their wellbeing at time 2, when exploring changes in wellbeing over time, this association was non-significant

(and, support received by individuals at time 2 was positively associated with improved wellbeing over time). Importantly, Study 1b allowed us to rule out an opposite causal effect (i.e., where reduced wellbeing predicted receiving social support). We probed these findings further in Study 2, teasing apart potentially competing psychological processes at play, by measuring sought as well as received support and more directly measuring collective rumination, tracking changes over the first week of the UK's COVID-19 pandemic. Corroborating research on the impact of support on individual wellbeing following collective trauma (e.g., Rimé et al., 2010), our findings showed a positive association between seeking social support and individual wellbeing. However, this association only occurred when collective rumination was held constant. Findings revealed that while seeking social support was associated with an increase in individual wellbeing, collective rumination rendered the receipt of support counter-effective for the receiver's wellbeing. Our results suggest that social support in the context of collective trauma can propagate positive changes in wellbeing, but only if it does not entail collective rumination as an unintended byproduct.

Theoretical implications

As previously noted, research has long identified social support as a protective factor for wellbeing (e.g., Berkman et al., 2000) including in the aftermath of traumatic experiences (Brewin et al., 2000). Our findings may appear at odds with some literature on coping with collective trauma and practice which advocates support through conversations for managing trauma. We reconcile our findings in a couple of ways. First, as noted earlier, many extant studies also paint a more nuanced picture about the utility of support following collective trauma, showing that support is sometimes unhelpful for wellbeing in the context of shared traumatic experiences, especially early in their wake when most people are experiencing their weight (Kanyangara et al., 2007; Rimé, 2009; Silver et al., 2002).

Our results potentially illuminate nuances around sought versus received support. Social support is largely seen as a helpful resource and linked with coping and improved health (Lakey & Cohen, 2000). Yet, scholars assert that social support is a meta-construct (Vaux et al., 1987) consisting of various sub-constructs including perceived, sought and received support. Research has rarely explored interconnections between, or differential patterns of, these constructs, generally assuming seeking and receiving support are closely linked (Kim et al., 2008). Compared with other support constructs, however, received support is often associated with negative influences on wellbeing (e.g., Dunkel-Schetter & Bennett, 1990). An explanation for this is that since measures of received support instruct individuals to recall specific examples/interactions of support, they may more accurately reflect support provided. In contrast, when recalling perceived support, individuals may rely on general impressions and therefore respond with biased judgments (Sarason et al., 1990). Received support may

therefore more closely indicate coping assistance provided, and this may reveal it to be unhelpful, as was the case in the present research.

Our findings point to the costs of social ties alluded to in some of the earliest writing on social support (Rook, 1992; Thoits, 1995). Our social networks may not always be helpful, despite individuals' best intentions when engaging in support. Our findings do not suggest that turning to others who are similarly affected by a collective trauma is always harmful. Indeed, our Study 1 findings were inconsistent in this regard, and the findings of Study 2 demonstrate that in the absence of collective rumination individuals' support goals predicted greater wellbeing. Our work has implications for scholars' understanding about the association between social support and coping during collective trauma, and for advice shared by practitioners/health bodies. Pending further research, we join existing studies that have similarly found paradoxical insights and cautiously suggest that it may be problematic to suggest that seeking support at such times is a precursor for effective coping. At the very least, such advice might be reconfigured to ensure received support does not inadvertently result in counterproductive collective rumination.

Strengths and limitations

Since most research in the realm of collective trauma elucidates insights from one occurrence, the replication of our findings across three separate occurrences assuages some concerns of ecological validity. However, despite our best efforts, there are several limitations in our research. The correlational designs of our studies and the reliance on self-report measures complicate efforts to draw causal conclusions. As an extension to our survey approach, future investigations could additionally employ objective assessments (e.g., from support providers) about the nature of their supportive encounters. Further, research might examine the extent to which individual differences might impact the influence of received support on individuals' well-being in the context of collective rumination. Due to the sensitive nature of our contexts and our measure of wellbeing (GHQ-12) – which tapped into minor health morbidities – we avoided an experimental design in which we might have instructed participants to limit emotional support or encouraged such support knowing that it could backfire. That said, to bolster confidence in our findings and the temporal dynamics of our key constructs, we employed a paired measurement design, finding support for the causal sequence hypothesized rather than a reverse process. To draw clear causal inferences, future research should use ethically appropriate experimental designs. Another limitation of our approach is the exclusive focus on UK-based collective traumas, experienced by UK residents. Further work is necessary to understand the role of support following collective trauma amongst different cultures and geographies, given the UK society may not compare to other societies on many psychological processes of interest.

Conclusion

Understanding the implications of social support in the wake of collective trauma is imperative. Scholars may expand their knowledge of coping following exposure to collective trauma and utilize research findings to inform interventions aimed at fostering better adjustment for individuals. As threats of ongoing large-scale traumas loom ever large (Morgan et al., 2022) research is vital to effectively support individuals who are exposed to their occurrence. Our research is intended to contribute to literature on collective trauma, illuminating both the benefits and drawbacks of turning to others for social support.

Disclosure statement

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

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Data availability statement

The data that support the findings of this study are available in the OSF repository at: https://osf.io/fhsgz/?view_only=134c943375b143589e707a423c466f38.

Ethical standards and informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation at Birkbeck, University of London and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients for being included in the study.

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Appendix

Table A1. Parameters used in Study 1b and Study 2 for latent difference score (LDS) modelling as per the formula. $\Delta WB = WB_2 - WB_1 = \alpha + \beta WB_2 + \gamma X + \varepsilon_t$

	Study 1b	Study 2
α	−0.83	0.91
β	−0.07	0.18
γ	0.58	0.78
correlation	−0.2	

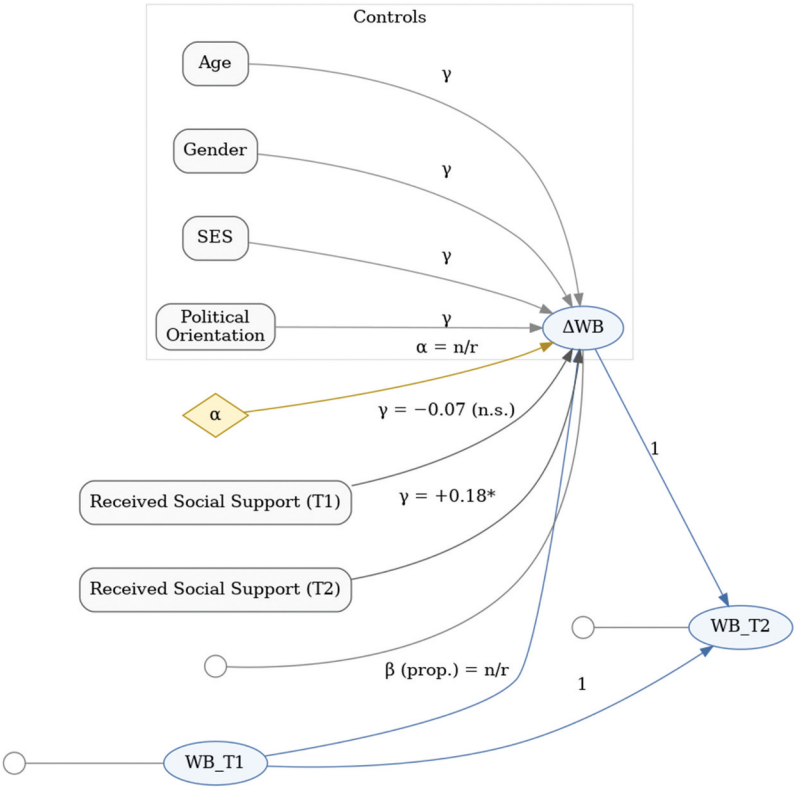

Figure A1. Path diagram for latent difference score (LDS) model for Study 1b (London bridge terror attack). Reported paths: Received Social Support (T1)→ΔWB $\gamma = -0.07$ ($p = .319$); Received Social Support (T2)→ΔWB $\gamma = +0.18$ ($p = .014$); Fit: CFI = 0.67; α, β not reported (n/r).*.

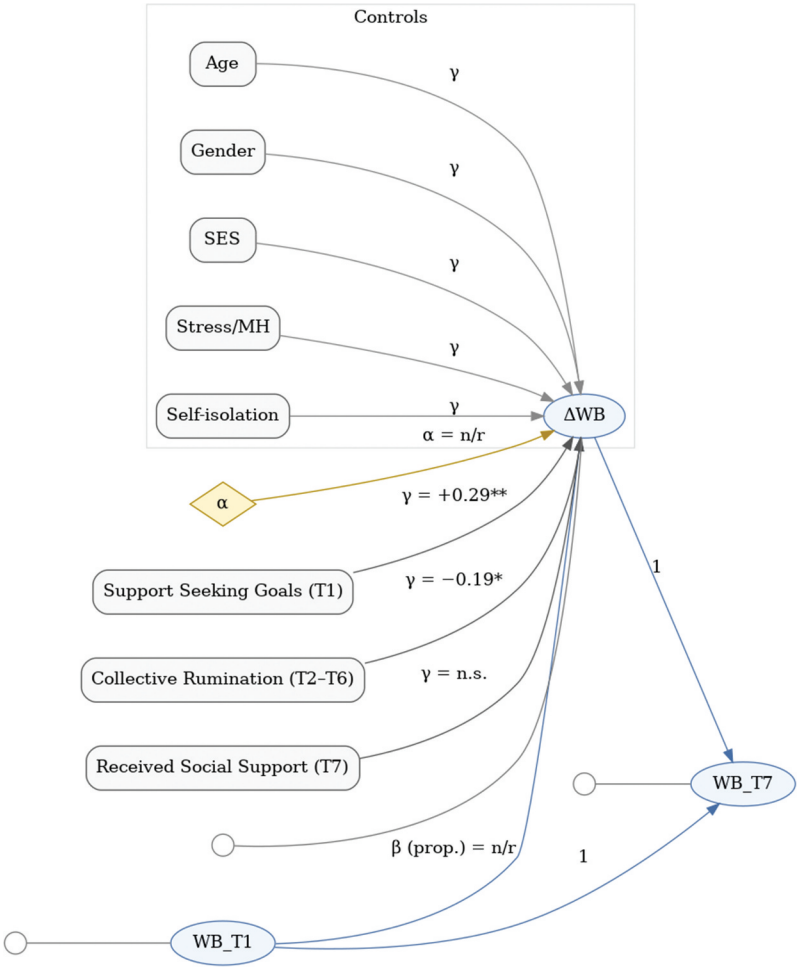

Figure A2. Path diagram for latent difference score (LDS) model for Study 2 (COVID-19). Reported paths: Goals→ΔWB $\gamma = +0.29$ ($p = .003$); Collective Rumination→ΔWB $\gamma = -0.19$ ($p = .045$); Received Social Support→ΔWB n.s.; Fit: CFI = 0.623; α, β not reported (n/r).