Longing for Life Before a Recent Sexual Assault: Nostalgia Hinders Well-Being Via the Search for Meaning

by

Renee St-Jean

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Master of Arts

in

Psychology

Carleton University
Ottawa, Ontario

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Abstract

This study explored the adverse effects of nostalgia for one's life before sexual assault (SA) on survivors' health and well-being through searching for meaning. Two studies were conducted with recent SA survivors: one correlational ($N = 71$) and one longitudinal with two time-points ($N_{T1} = 237$, $N_{T2} = 134$) spaced one month apart. Results from both studies demonstrated that nostalgia was negatively associated with health and well-being (i.e., more PTSD and negative affect, and less self-compassion, positive affect, and trauma acceptance). Nostalgia was also positively related to searching for (but not finding) meaning in the trauma. In Study 2, nostalgia did not change over the course of one month, but the search for meaning was identified as a mediator between nostalgia and both PTSD and negative affect at each time-point. These results suggest that nostalgia may provide a novel means to enhance recovery outcomes among SA survivors.

*Keywords*: nostalgia, trauma, meaning making, sexual assault
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Longing for Life Before a Recent Sexual Assault: Nostalgia Hinders Well-Being Via the Search for Meaning

“Trauma creates change you don’t choose. Healing is about creating change you do choose.”

– Michele Rosenthal

Sexual assault (SA; i.e., a sexual act forced upon another individual without their consent; Basile et al., 2014) is one of the most severe traumas a person can experience (Dworkin et al., 2017; Kelley et al., 2009). Perhaps unsurprisingly, SA survivors experience an array of deleterious and long-term negative outcomes. For instance, survivors tend to experience issues with romantic relationship and sexual functioning (O’Callaghan et al., 2018; Rothman et al., 2021), and difficulties with their educational and career attainments (Potter et al., 2018; Rothman et al., 2021). Survivors are also at heightened risk of developing a variety of psychological disorders (Campbell et al., 2009), with depressive disorders and post-traumatic stress disorder (PTSD) being especially prevalent (Dworkin, 2020; MacGregor et al., 2019). In fact, the prevalence of PTSD is highest amongst survivors of SA than in survivors of any other form of trauma (Dworkin, 2020; Dworkin et al., 2021a). This is concerning because PTSD encompasses a wide range of distressing, life-altering symptoms (e.g., dissociation or “flashbacks”, intrusive distressing memories, avoidance of trauma reminders, pervasive negative thoughts and feelings about the self and the world, hypervigilance, reckless behaviour, etc.; Bryant, 2019) that can be detrimental to survivors’ recovery.

Additionally, SA undermines positive aspects of well-being, like self-compassion (e.g., Bhuptani & Messman, 2022; Moor & Farchi, 2011) and acceptance (e.g., Cole & Lynn, 2010; Thompson et al., 2011). Self-compassion (i.e., the expression of love, understanding, and kindness toward oneself during circumstances that typically invoke harsh self-criticism and
judgment; Neff, 2003, Neff & Vonk, 2009) has been found to play a critical role in coping with traumatic events (Thompson & Waltz, 2008) and has been associated with positive psychological functioning (i.e., greater well-being, life satisfaction, and social connectedness; Barnard & Curry, 2011; Neely et al., 2009; Neff et al., 2005, 2007; Neff & Vonk, 2009). Acceptance (which consists of the non-judgmental observation of one’s psychological state as a temporary and understandable reaction to external events as opposed to unbearable, permanent states that need to be fixed or avoided; see Follette et al., 2004; Hayes, 2004; Orsillo et al., 2004; Thompson et al., 2011) has been associated with positive post-trauma adjustment (e.g., Thompson et al., 2011; Walser & Hayes, 2006) and a myriad of psychological benefits (e.g., greater subjective well-being, post-traumatic growth; see Baer & Huss, 2008; Cole & Lynn, 2010; Hayes et al., 2004; Orsillo & Roemer, 2005).

To help contend with the trauma experienced, SA survivors often engage in mental time-travel—they mentally relive their past to better understand why it occurred (Branscombe et al., 2003; Katz & Burt, 1988). For instance, Branscombe and colleagues (2003) found that SA survivors are apt to replay the sexual assault in their mind’s eye and contemplate what might have been (i.e., alternative realities in which the SA did not occur). That people who experience SA mentally time travel is perhaps unsurprising. The human mind is a master time traveller, with the past often being a place of refuge for people experiencing distress (see Berntsen, 2009; Mace, 2007, for a review; Tulving, 1985). This can be accomplished psychologically via nostalgic reverie (i.e., sentimental longing or wistful reflection) for days gone by (Sedikides et al., 2016).

In the current research, I test the idea that there is variance in the extent to which SA survivors nostalgize for life lived prior to the SA. Moreover, I hypothesize that the variance in nostalgizing among SA survivors will be associated with psychological well-being. Specifically,
the more SA survivors nostalgize about their life prior to the SA, the more their psychological well-being will be negatively affected. This supposition, however, is contrary to contemporary understanding of the influence nostalgia has on well-being. Indeed, mounting empirical evidence suggests that nostalgia facilitates well-being by way of, among other things, helping people find meaning in their lives (Abeyta & Pillarisetty, 2023, for review; Routledge et al., 2012; Sedikides & Wildschut, 2018).

In the context of SA, I contend that nostalgizing about the pre-trauma self makes salient all the ways in which the survivor’s sense of self and their life has changed for the worse due to the SA and anchors them in the loss of what was in the past. One way that people attempt to cope with such loss is by searching for meaning in the trauma (e.g., “why did this happen to me?”; Janoff-Bulman, 1992). Although finding meaning has a range of benefits, constantly searching for meaning without being able to find it leads to greater suffering (e.g., greater depression; Davis & McLeod, 2021; Tedeschi & Calhoun, 2004). Hence, if nostalgia for the pre-trauma self exacerbates searching for (but not finding) meaning in the trauma, then this should negatively influence the health and well-being of SA survivors over time. I test this hypothesized mediation model in two studies (one correlational and one longitudinal) in a community sample of SA survivors.

**Nostalgia for the Pre-Trauma Self and its Consequences**

The ability to transport ourselves mentally in time, to re-live the past or pre-live the future, is generally considered to be a functionally adaptive process (see Atance & O’Neill, 2001; Suddendorf & Corballis, 2007). It is thought that the ability to remember the past is necessary to imagine a better possible future. Indeed, by imagining possible futures, people can modulate their current behaviour to avoid possible threat, reduce possible future risk, achieve
goals and improve one’s ability to cope (Baumgartner et al., 2008; Miloyan et al., 2014).

However, a growing body of research has shown that among SA survivors, mental time travel to the time in which they experienced their SA is associated with poor well-being (see Barnett & Maciel, 2021; Branscombe et al., 2003; Katz & Burt, 1988). This is due, in part, to SA survivors scrutinizing their behaviours they believe may have led to the assault (Branscombe et al., 2003; Katz & Burt, 1988). Put differently, they tend to focus on the self (e.g., what they wore) and engage in self-blame. For instance, some SA survivors will mentally replay the events that led up to the SA and cognitively create better alternative outcomes (e.g., an alternate reality in which they avoided the SA; Barnett & Maciel, 2021; Byrne, 2016; Epstude & Roese, 2008; Roese, 1997), which has been associated with decrements in psychological well-being (i.e., less self-esteem, more self-blame and depressive symptoms; Branscombe et al., 2003), and greater post-traumatic stress (Barnett & Maciel, 2021).

A heretofore unexplored emotional aspect of mental time travel that may help explain the deleterious psychological consequences SA survivors often experience is nostalgic reverie for the pre-trauma self. Nostalgia is best understood as a wistful, sentimental longing for the past that arises from recalling a personally meaningful memory of a time that one might yearn for (e.g., wanting to return to the past; Sedikides et al., 2015, 2016). Of importance, in contemporary psychological literature, nostalgia is positioned as a coping resource. Indeed, a large body of research has found that nostalgia facilitates well-being by way of, among other things, increasing feelings of identity continuity (i.e., feeling as though one’s present and past selves are the same; Iyer & Jetten, 2011), social connectedness (i.e., feeling loved, protected, and supported; Sedikides et al., 2016; Routledge et al., 2013), and by helping people find meaning in their lives
(see Abeyta & Pillarisetty, 2023, for review). However, in the current research, I contend that nostalgizing among SA survivors may undermine well-being.

Nostalgia is elicited when people feel a sense of disjointedness between one’s past and present self (i.e., self-discontinuity; Sedikides et al., 2015; Wildschut et al., 2006). Importantly, a sense of self-discontinuity has been associated with negative affect and anxiety (Milligan, 2003) and suicidal ideation (Chandler & Proulx, 2008). Following sexual trauma, it is not uncommon for survivors to perceive themselves to have been irreparably damaged or changed by the SA (e.g., Andreu et al., 2017; Dunmore et al., 2001; Foa et al., 1999; Roth & Lebowitz, 1988), thus providing the seeds for nostalgia. That nostalgia may be observed among SA survivors would not be surprising. Indeed, nostalgia is often observed among people coping with some traumatic events, including (but not limited to) immigration and exile (e.g., Lijtmaer, 2022), apartheid (e.g., Frankish & Bradbury, 2012), the Holocaust (e.g., Hertz, 1990), and war (e.g., Roper, 2011). That nostalgizing among SA survivors undermines well-being, however, does diverge from what contemporary psychological research on nostalgia would presuppose (see Sedikides et al., 2015; Wildschut et al., 2006).

To the point, a considerable body of research shows that nostalgizing increases, among other things, social connectedness (i.e., feeling protected, supported, loved, and trusting of others), optimism (Cheung et al., 2013), self-esteem, and positive affect (Leunissen et al., 2021; Vess et al., 2012; Wildschut et al., 2006). It does so by re-establishing a symbolic connection with the longed-for past. However, SA typically induces perceptions of being permanently changed or damaged by the assault (i.e., the post-trauma self feels fundamentally different from the pre-trauma self; e.g., Foa et al., 1999). Thus, although the sense that the SA has created change should elicit nostalgia, because the change is perceived to be permanent, nostalgizing
may undermine well-being. In this way, nostalgizing may help explain the PTSD linked to SA (Kline et al., 2018; Power & Dalgleish, 1997), the inability to accept the trauma (Dunmore et al., 2001), and the lack of self-compassion often reported by SA survivors (Bhuptani & Messman, 2022). Hence, there is reason to believe that survivors of SA may experience nostalgia for the pre-trauma self, and that this nostalgia may undermine their well-being by way of more PTSD symptoms, less self-compassion and less trauma acceptance.

**Meaning-Making as a Mechanism**

In the current work, I also examine a possible mechanism by which nostalgia among SA survivors may undermine psychological well-being: the search for meaning. Following a traumatic life event (e.g., SA), most people try to come to an understanding of why this negative event has befallen them (e.g., Janoff-Bulman, 1992; Davis & McLeod, 2021). That is, people will search for some meaning or understanding to have a logical and acceptable explanation of the traumatic event. Frankl (1963) suggested that the search for value or understanding (i.e., meaning) stems from the psychological need to believe that life has purpose and traumatic events do not occur arbitrarily. Importantly, he argued that finding meaning in pain, suffering, and loss helps with the coping process. Finding meaning however, is not always easy. Experiencing a traumatic event can undermine pre-existing understandings that people have of their lives, causing their world to shatter.

Indeed, according to Janoff-Bulman (1992), most people hold a basic set of assumptions that the world is good, meaningful, and that they are decent, worthy people. More specifically, people tend to assume that events happen for a reason, event outcomes can be predicted, and bad things tend not to happen to good people. Loss and trauma are postulated to shatter a person’s worldview, creating psychological distress. The distress one feels in response to trauma is
proportionate to the extent that one’s pre- and post-trauma beliefs are at odds with one another (Park & Folkman, 1997). To cope with this distress, people engage in the process of meaning making (Janoff-Bulman & Frantz, 1997; Park & Folkman, 1997), which involves making sense of, and finding benefits in, one’s loss (Davis, 2001). This process has been observed across a wide range of traumatic events, including (but not limited to) tragic, unexpected loss (e.g., Davis et al., 2012), spinal cord injury (Davis & Novoa, 2013), and SA (Burgess & Holmstrom, 1979).

Some individuals can make sense of their loss (e.g., the event was predictable in some way or consistent with the person’s pre-trauma perspective on life) and/or find benefits or positives in the aftermath of such experiences (e.g., the event led to character growth, to a new perspective, or to enhanced relationships and social connectedness; Davis, 2001). However, many people continue to search for meaning in their traumatic experience (e.g., Silver et al., 1983; Tait & Silver, 1989). Unfortunately, people who persistently search for meaning (relative to those who find meaning) report higher levels of recurrent distressing memories (Frazier & Schauben, 1994; Park & Ai, 2006; Silver et al., 1983) greater feelings of distress (Davis et al., 2000; Nolen-Hoeksema et al., 1997), and poorer psychological well-being (e.g., greater depression; for review, see Davis & McLeod, 2021). Conversely, never searching for meaning and finding meaning were found to relate to greater acceptance of traumatic diagnoses like tinnitus (Davis & Morgan, 2008) and cancer (Quinto et al., 2022; Manne et al., 2018), respectively.

A considerable body of empirical work has shown that nostalgizing facilitates the meaning making process (see Abeyta & Pillarisetty, 2023 for a review). For instance, Routledge and colleagues (2011) found that participants turned to nostalgia when they encountered challenges to their perceived meaning in life, which countered such existential threats to
meaning. Moreover, nostalgia was found to promote well-being amongst participants with meaning deficits, in addition to helping these participants cope with stress. Relatedly, Sedikides and Wildschut (2018) found that nostalgia induces meaning in life by way of social connectedness, and that nostalgia-elicited social connectedness transmits meaning by enhancing feelings of self-continuity. However, the meaning-bolstering benefits of nostalgia may not be universal. For instance, focusing on the past may hinder individuals’ engagement in the present or ability to become excited about the future (Routledge et al., 2011; Iyer & Jetten, 2011). In a like manner, SA survivors who nostalgize about their life prior to SA may become focused on the past, and thus find themselves in a persistent search for meaning (e.g., “Why me?”; Janoff-Bulman & Frantz, 1997; Park & Folkman, 1997), resulting in negative affect, affective disorder (e.g., post-traumatic distress), reduced self-compassion (e.g., shame and self-blame), and limited trauma acceptance.

**Overview of the Research**

In two studies (one correlational and one longitudinal), I test the idea that nostalgizing about the pre-trauma self (i.e., the self that existed prior to the SA) undermines well-being, in part, because it might facilitate the search for meaning whilst hindering the SA survivor’s ability to find meaning in their trauma. In Study 1, I hypothesized that more nostalgia would be positively associated with searching for (but not finding) meaning in the traumatic experience as well as higher levels of PTSD, lower self-compassion and less trauma acceptance. I also hypothesized that searching for meaning would mediate the association between nostalgia and measures of well-being. In Study 1, I tested and found support for the proposed associations using a correlational research design with a sample of recent SA survivors, although the mediation analysis was underpowered and failed to detect significance. In Study 2, I assessed the
implications of these associations over time using a repeated-measures design (i.e., the measures of interest were collected at two timepoints with one month separating Time 1 and Time 2). Specifically, I hypothesized that changes in nostalgia and meaning making from Time 1 to Time 2 would correspond to changes in health and well-being outcomes (i.e., PTSD, self-compassion, trauma acceptance, positive-negative affect) during that same time period.

Study 1

Method

Participants and Procedure

Participants were recruited through the CloudResearch crowdsourcing platform, which provides its workers with remuneration for completing small tasks. The online survey took approximately 10-15 minutes to complete ($M = 10.62, SD = 5.69$) and participants were paid US $1.00. This rate of compensation aligns with the usual remuneration rate for similar studies on CloudResearch with average duration between 10 to 15 minutes (Buhrmester et al., 2018).

CloudResearch workers (all from the United-States) responded to a recruitment notice (see Appendix A) that described the nature of the study and eligibility to participate. Those who were interested in participating completed an Informed Consent Form (see Appendix B) followed by a questionnaire assessing eligibility to participate in the study (see Appendix C). Participation on CloudResearch was limited to people who had survived a recent SA (i.e., SA that occurred within the past year). Moreover, participation was also limited to participants who were 20 years of age or older and had access to a healthcare or treatment provider in case the content of the study caused any distress. Those who were found to be ineligible were routed out of the study and informed of their ineligibility to participate (see Appendix D). Information and
resources for SA survivors were provided on the recruitment notice, informed consent form, and ineligibility debriefing.

Eligible participants completed a series of questionnaires (see Appendix E for the full questionnaire package) that measured demographics, SA-related information, the variables of interest (i.e., nostalgia, meaning making, PTSD, self-compassion, and acceptance), along with another exploratory variable (i.e., spontaneous self-distancing). A positive mood prime was also included at the end of the survey followed by a measure of distress and (optional) feedback prompt. At every stage of the study, participants had the option to withdraw without penalty, which redirected them to the debriefing form (see Appendix F). Completion of all survey materials also redirected participants to the debriefing page, where they received a survey completion code to collect compensation for their participation in the study.

A total of 180 participants accessed the study. Of those 180 participants, 62 were ineligible and 2 did not answer ‘yes’ to all three of the questions on the informed consent form. Moreover, 19 participants were excluded for withdrawing from the study, 15 were excluded for having significant missing data (i.e., more than 50% of responses missing), 8 were excluded for providing data that was consistent with bot traffic, 2 were excluded for providing low-quality data, and 1 was excluded for inconsistent data. The final sample consisted of 71 participants (see Table 1 for demographics) who ranged from 20 to 64 years of age ($M = 31.10, SD = 8.21$).

This research was reviewed and cleared by the Carleton University Research Ethics Board-B (CUREB-B).
Table 1

Demographics of Study 1 Participants

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<tr>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
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<tr>
<td>Women</td>
<td>43</td>
<td>60.6 %</td>
</tr>
<tr>
<td>Men</td>
<td>26</td>
<td>36.6 %</td>
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<tr>
<td>Non-binary</td>
<td>2</td>
<td>2.8 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>71</td>
<td>100%</td>
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<tr>
<td><strong>Ethnicity</strong></td>
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<tr>
<td>White, Caucasian</td>
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<td>63.4 %</td>
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<tr>
<td>African, Caribbean, or Black</td>
<td>14</td>
<td>19.7 %</td>
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<tr>
<td>Latin American, Hispanic</td>
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<td>8.5 %</td>
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<tr>
<td>East Asian or Southeast Asian (e.g., Chinese, Japanese, Korean)</td>
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<td>4.2 %</td>
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<tr>
<td>South Asian (e.g., East Indian, Pakistani, Sri Lankan)</td>
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<td>2.8 %</td>
</tr>
<tr>
<td>Prefer not to answer</td>
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<td>1.4 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>71</td>
<td>100%</td>
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**Measures**

**Nostalgia.** Nostalgic reverie for the past self before SA was measured using five items I adapted from Kim and Wohl’s (2015) nostalgia questionnaire. Items were: “I am already feeling quite nostalgic about who I was before I was sexually assaulted,” “Since I was sexually assaulted, I miss the person I used to be,” “I long for the person I was before I was sexually assaulted,” “Before I was sexually assaulted, I was a better person than I am today,” and “I like
the person I was before I was sexually assaulted better than the person I am now.” Responses were anchored at 1 (strongly disagree) and 7 (strongly agree). Participants’ scores were calculated by obtaining the mean of the five items, with higher scores indicating greater nostalgia for life lived prior to their SA (α = .908).

Meaning making. Searching for and finding meaning (i.e., meaning making) was measured using four items adapted from Davis and Novoa (2013). The three items assessed searching for meaning. These items were: “Some people who have survived sexual assault find themselves searching to make sense or find some meaning in their traumatic experience. Have you done this since being sexually assaulted?”, “Have you searched for meaning in the past 2 weeks?”, and “How important is it to you to make some sense of or find some meaning in this sexual assault experience?”. Finding meaning was assessed with a single item. This item was: “Have you been able to make any sense or find any meaning in this sexual assault experience?”. All four items were anchored at 1 (no, not at all) and 5 (a great deal). Higher scores on each of the searching for meaning items and finding meaning item indicated more searching for meaning and having found meaning, respectively.

PTSD. The presence of post-traumatic stress disorder symptoms was assessed using a short form of the PTSD Checklist for DSM-5 (PCL-5; Zuromski et al., 2019). The PCL-5 contains four items that screen for PTSD symptoms based on the diagnostic criteria of the DSM-5. The items asked how often in the past month participants were bothered by “suddenly feeling or acting as if the sexual assault was actually happening again (as if you were actually back there reliving it)”, “avoiding external reminders of the sexual assault (for example, people, places, conversations, activities, objects, or situations”, “feeling distant or cut off from other people”, and “irritable behavior, angry outbursts, or acting aggressively”. The items were measured on a
scale anchored at 0 (*not at all*) and 4 (*extremely*). Participants’ scores were summed to obtain a total score (ranging from 0 to 16), with higher scores indicating greater PTSD symptom prevalence and severity (*a* = .818).

**Self-compassion.** Self-compassion was assessed using a short form of the Self-Compassion Scale (SCS-SF; Raes et al., 2011). The SCS-SF contains 12 items that measure the two dimensions of self-compassion, such as self-disparagement (e.g., *“When I fail at something important to me, I become consumed by feelings of inadequacy”*) and self-care (e.g., *“I try to be understanding and patient towards those aspects of my personality I don’t like”*). The items were measured on a scale anchored at 1 (*almost never*) and 5 (*almost always*). Participants’ scores were calculated by obtaining the mean of the twelve items (after reverse-coding Self-Disparagement items), with higher scores indicating greater self-compassion (*a* = .842).

**Acceptance.** Acceptance of one’s traumatic experience as a SA survivor was measured using five items adapted from the Peaceful Acceptance subscale of the Mack et al.’s (2008) Peace, Equanimity, and Acceptance in the Cancer Experience (PEACE) scale. The five items were: *“To what extent are you able to accept your experience as a sexual assault survivor?”*, *“To what extent would you say you have a sense of inner peace and harmony?”*, *“To what extent do you feel that you have made peace with your experience as a sexual assault survivor?”*, *“Do you feel well loved now?”*, and *“To what extent do you feel a sense of inner calm and tranquility?”*. Each item was anchored at 1 (*not at all*) and 4 (*to a large extent*). Participants’ scores were calculated by obtaining the mean of the five items, with higher scores indicating greater acceptance of the traumatic experience as a SA survivor (*a* = .858).

**Data Analytic Approach**
Statistical analyses were performed with the Statistical Package for the Social Sciences (SPSS), version 28.0 for Macintosh (IBM Corporation, 2021). First, assumption checks were conducted to ensure the assumptions of the regression analysis were met (see Appendix G). Second, a gender analysis was conducted to assess for gender differences among the variables of interest. Next, Pearson’s correlations were conducted to assess whether there were associations between nostalgia, meaning making (i.e., searching for meaning and finding meaning), and various health outcomes (PTSD, self-compassion, and trauma acceptance).

**Results**

*Preliminary Gender-Based Analyses*

Because I did not limit recruitment to a specific gender, I first tested whether there were between gender differences on any of the measured variables. However, there were too few non-binary participants (n = 2) to include them in the gender analyses. The results of the ANOVA revealed there were gender effects on three of the measures variables. Specifically, men reported having found meaning ($M = 2.85, SD = 1.41$) more than women ($M = 2.02, SD = 1.06$), $p = .007$, $\eta^2 = .102$. They also reported more trauma acceptance ($M = 2.73, SD = 0.63$) than women ($M = 2.28, SD = 0.84$), $p = .021$, $\eta^2 = .077$. Lastly, men ($M = 3.08, SD = 0.67$) were more self-compassionate than women ($M = 2.68, SD = 0.71$), $p = .024$, $\eta^2 = .074$. However, there were no gender differences on nostalgia between men ($M = 4.52, SD = 1.57$) and women ($M = 4.33, SD = 1.65$), $p = .649$, $\eta^2 = .003$; on searching for meaning between men ($M = 2.96, SD = 1.31$) and women ($M = 2.72, SD = 1.37$), $p = .475$, $\eta^2 = .008$; nor on PTSD between men ($M = 2.13, SD = 0.98$) and women ($M = 2.12, SD = 1.06$), $p = .961$, $\eta^2 = .000$. Because there were no between gender effects on the key measured variables (i.e., nostalgia, searching for meaning, and PTSD), I collapsed across gender for all subsequent analyses.
Post-Hoc Sensitivity Analysis. A post-hoc sensitivity power analysis revealed that with a sample of 69 (\(\alpha = .05\)), I had 80\% power to detect an effect of \(\eta^2 = .105\). Because all the effect sizes were smaller than \(\eta^2 = .105\), I concluded that this gender analysis was underpowered.

Descriptive Statistics and Correlations

Means, standard deviations and correlation coefficients between the measured variables are provided in Table 2.

As predicted, nostalgia was positively correlated with searching for meaning (\(r = .24, p = .04\)). However, there was no statistically significant relation between nostalgia and finding meaning in the traumatic experience (\(r = -.08, p = .47\)). Statistically significant positive correlations were also found between nostalgia and PTSD (\(r = .42, p < .001\)), and searching for meaning and PTSD (\(r = .42, p < .001\)). Additionally, there were statistically significant negative correlations between nostalgia and both self-compassion (\(r = -.34, p = .004\)) and trauma acceptance (\(r = -.51, p < .001\)). Lastly, as anticipated, finding meaning in the sexual assault was positively correlated with self-compassion (\(r = .32, p = .01\)) and trauma acceptance (\(r = .44, p < .001\)).

Table 2

Descriptive Statistics and Correlations for Study 1 Variables

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nostalgia</td>
<td>4.40</td>
<td>1.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Searching for Meaning</td>
<td>2.82</td>
<td>1.33</td>
<td>.24*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Found Meaning</td>
<td>2.30</td>
<td>1.26</td>
<td>-.09</td>
<td>.35**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. PTSD</td>
<td>8.55</td>
<td>4.05</td>
<td>.42***</td>
<td>.42***</td>
<td>-.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-Compassion</td>
<td>2.83</td>
<td>0.71</td>
<td>-.34**</td>
<td>-.07</td>
<td>.32**</td>
<td>-.39***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Acceptance</td>
<td>2.43</td>
<td>0.80</td>
<td>-.51***</td>
<td>.001</td>
<td>.44***</td>
<td>-.44***</td>
<td>.64***</td>
<td></td>
</tr>
</tbody>
</table>

Note. * \(p < .05\). ** \(p < .01\). *** \(p < .001\).
**Mediation**

Next, a mediation analysis was conducted using Model 4 of the PROCESS Macro with robust standard errors (using bias corrected confidence intervals were calculated using 5000 bootstrapped samples; Hayes, 2022) to assess whether searching for meaning mediated the relation between nostalgia and PTSD.¹ I did not assess the other outcomes of interest (self-compassion and peaceful acceptance) because they were not significantly associated with the proposed mediators. Results from the mediation analysis revealed that the indirect effect of nostalgia on PTSD via searching for meaning (Figure 1) was not statistically significant, $B = 0.20, SE = 0.13, 95\% CI [-0.002, 0.50].$

![Diagram of mediation model](image)

*Figure 1. Mediation model with nostalgia as the independent variable, searching for meaning as the mediator variable, and PTSD as the dependent variable.*

*Note. **p < .01 *p < .05*

**Discussion**

Results of Study 1 supported our contention that there is a negative association between nostalgia for the pre-trauma self and psychological well-being among SA survivors. Specifically,

¹ Because there were no between gender effects on nostalgia, searching for meaning, or PTSD across genders, I did not control for gender in the mediation analysis.
nostalgizing was associated with elevated symptoms of PTSD as well as reduced self-compassion and trauma acceptance. Moreover, nostalgic reverie for the pre-trauma self was positively associated with searching for meaning but unrelated to finding meaning.

Contrary to predictions, searching for meaning did not mediate the relation between nostalgia about life before the SA and psychological well-being (for any of the measures included in Study 1). The lack of evidence for mediation may be due to a lack of statistical power. A post-hoc power analysis revealed that a sample of 137 was needed to test whether searching for meaning mediated the relation between nostalgia and PTSD with 80% power at $p < .05$.

**Study 2: Longitudinal Study**

The purpose of Study 2 was to replicate and extend Study 1 by conducting a high-powered longitudinal, repeated-measures design. Specifically, participants completed the measures of interest at two time points (one month separating Time 1 and Time 2). Doing so allowed me to assess whether changes in nostalgia were temporally related to changes in meaning-making and measures of health and well-being (i.e., PTSD, self-compassion, trauma acceptance, positive-negative affect). As in Study 1, I hypothesized that greater nostalgia for the pre-trauma self would positively correlate with symptoms of PTSD, and negatively correlate with self-compassion and trauma acceptance. I also hypothesized that searching for meaning would mediate the positive relation between nostalgia and PTSD. Simply put, those who feel more nostalgic about their pre-trauma selves and spend more time searching for meaning in their trauma should experience more symptoms of PTSD over time.

Additionally, I added a measure of subjective well-being (SWB; i.e., positive and negative affect) to assess changes in this measure over the course of 1 month. Indeed, this scale is effective
for evaluating the trajectory of change in well-being over short periods of time (e.g., Watson & Clark, 1994). As such, I hypothesized that nostalgia and searching for meaning would both relate to less positive affect (PA) and greater negative affect (NA). Lastly, I hypothesized that changes in nostalgia and searching for meaning from Time 1 to Time 2 would relate to changes in SWB outcomes over that same time period.

**Method**

**Participants and Procedure**

As in Study 1, participants from the United-States were recruited through the CloudResearch crowdsourcing platform, which provides its workers with remuneration for completing small tasks. The online survey took approximately 10-12 minutes to complete ($M = 10.62, SD = 5.69$) and participants were paid US $1.00 for participating at Time 1, and another US $1.20 for participating at Time 2.

The procedure used in Study 2 was the same as that used in Study 1 with a few exceptions (see Appendices H, I, and J for recruitment notice, informed consent, and full questionnaire package, respectively). Specifically, the same items used in Study 1 were employed to assess nostalgia for the pre-trauma self, meaning making, and well-being (PTSD, self-compassion, and trauma acceptance). In Study 2, however, I added a new measure of SWB to better capture the trajectory of change in well-being from T1 to T2. This measure assessed the frequency with which participants experienced PA and NA over the course of the past month, which has been established as a valid and reliable measure of SWB over shorter periods of time (e.g., Watson et al., 1988; Watson & Clark, 1994). Study 2 also differed from Study 1 in that the measured variables were assessed at two time points with one month separating Time 1 and Time 2. Akin to Study 1, a positive mood prime was included at the end of the survey. Lastly,
due to the longitudinal design used in Study 2, after being debriefed (see Appendix K),
participants were asked for permission to re-contact them in one month (and potentially 3
months) to complete a follow-up survey. The CloudResearch ID’s of the participants who
granted consent to be recontacted was retained in order to contact them again at the follow-up
(see Appendix L).

An a priori joint-significance power analysis was conducted based on the correlations
between the main variables in Study 1 (see Appendix M). The results indicated that a minimum
of 150 participants would be needed to detect a moderate effect at an alpha of .05 with 80%
power. To ensure adequate power and account for potential participant ineligibility, exclusion,
and attrition, a total of 583 participants were recruited from CloudResearch. Note that there were
two separate waves of data collection: initially, 296 participants were recruited, but after
preliminary data cleaning (i.e., checking for consent, eligibility, and quality of open-ended
responses), the resulting sample was too small and underpowered to continue (N = 121). Given
that no statistical analyses were conducted on the first sample, another wave of data collection
was launched, and an additional 287 participants were recruited. Therefore, this resulted in a
total of 583 participants recruited from CloudResearch at Time 1.

Of the 583 participations who accessed the study, 216 were ineligible and 14 did not
answer ‘yes’ to all three of the questions on the informed consent form. Moreover, 3 participants
were excluded for withdrawing from the study, and 113 were excluded for providing data that
was consistent with bot traffic (i.e., nonsensical, bot-typical open-ended responses). The final
sample at Time 1 thus consisted of 237 participants (see Table 3 for demographics) who ranged
from 20 to 59 years of age (M = 32.22, SD = 7.71). Given that 13 of these participants did not
consent to be re-contacted, the remaining 224 were re-contacted to participate at Time 2 (i.e., one
month later). A total of 134 participated in Wave II of the study (see Table 3 for demographics) who ranged from 21 to 59 years of age ($M = 32.57$, $SD = 7.18$).

This research was reviewed and cleared by the Carleton University Research Ethics Board – B.

**Table 3**

**Demographics of Study 2 Participants**

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>% of sample</th>
<th>Time 2</th>
<th>% of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>171</td>
<td>72.2 %</td>
<td>96</td>
<td>71.6 %</td>
</tr>
<tr>
<td>Men</td>
<td>58</td>
<td>24.5 %</td>
<td>33</td>
<td>24.6 %</td>
</tr>
<tr>
<td>Non-binary</td>
<td>4</td>
<td>1.7 %</td>
<td>2</td>
<td>1.5 %</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>3</td>
<td>1.3 %</td>
<td>2</td>
<td>1.5 %</td>
</tr>
<tr>
<td>Other: genderfluid female</td>
<td>1</td>
<td>0.4 %</td>
<td>1</td>
<td>0.7 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>237</td>
<td>100 %</td>
<td>134</td>
<td>100 %</td>
</tr>
</tbody>
</table>

**Ethnicity**

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>% of sample</th>
<th>Time 2</th>
<th>% of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Caucasian</td>
<td>180</td>
<td>75.9 %</td>
<td>100</td>
<td>74.6 %</td>
</tr>
<tr>
<td>Latin American, Hispanic</td>
<td>31</td>
<td>13.1 %</td>
<td>20</td>
<td>14.9 %</td>
</tr>
<tr>
<td>African, Caribbean, or Black</td>
<td>28</td>
<td>11.8 %</td>
<td>17</td>
<td>12.7%</td>
</tr>
<tr>
<td>East Asian or Southeast Asian (e.g., Chinese, Japanese, Korean)</td>
<td>8</td>
<td>3.4 %</td>
<td>4</td>
<td>3.0 %</td>
</tr>
<tr>
<td>South Asian (e.g., East Indian, Pakistani, Sri Lankan)</td>
<td>5</td>
<td>2.1 %</td>
<td>4</td>
<td>3.0 %</td>
</tr>
</tbody>
</table>
Measures

The measures assessing nostalgia ($a_{T1} = .921$; $a_{T2} = .942$), meaning making\(^2\), PTSD ($a_{T1} = .859$; $a_{T2} = .850$), self-compassion ($a_{T1} = .871$; $a_{T2} = .869$), and trauma acceptance ($a_{T1} = .868$; $a_{T2} = .889$) were the same as those used in Study 1. To further understand the relation between nostalgia, meaning making and SA survivors’ health and well-being, Study 2 included a measure of SWB. SWB was assessed using the 20-item short-form of the Positive Affect Negative Affect Schedule (PANAS-SF; e.g., “Indicate the extent you have felt [distressed] over the past month”; Watson et al., 1988). The items were measured on a scale anchored at 1 (very slightly or not at all) and 5 (extremely). Participants’ scores were summed to obtain a total PA score (ranging from 0 to 50; $a_{T1} = .909$; $a_{T2} = .929$) and a total NA score (ranging from 0 to 50; $a_{T1} = .937$; $a_{T2} = .945$), with higher scores indicating greater PA and NA, respectively.

For the purpose of transparency, I also assessed secret-keeping for exploratory purposes. Consequently, the data collected to assess this factor was not analyzed in the current research.

Data Analytic Approach

\(^2\) Meaning making was assessed with three items: item 1 assessed searching for meaning in general, item 2 assessed the frequency of searching for meaning within the past 2 weeks, and item 3 assessed finding meaning. Solely item 2 was used for searching for meaning, and item 3 for finding meaning, hence alpha could not be computed on these single items.
Statistical analyses were performed with the Statistical Package for the Social Sciences (SPSS), version 28.0 for Macintosh (IBM Corporation, 2021). First, assumption checks were conducted to ensure the assumptions of the regression analysis were met (see Appendix N). Second, a gender analysis was conducted to assess for gender differences among the variables of interest. Next, Pearson’s correlations were conducted to assess whether there were associations between nostalgia, meaning making (i.e., searching for meaning and finding meaning), and various health outcomes (i.e., PTSD, self-compassion, trauma acceptance, and positive-negative affect).

Results

Preliminary Gender-Based Analyses

A gender analysis was conducted to determine whether there were any gender differences between participants who identified as women ($n_{T1} = 171; n_{T2} = 96$) or men ($n_{T1} = 58; n_{T2} = 33$) at both timepoints. Note that there were insufficient numbers of participants who identified as non-binary ($n_{T1} = 4; n_{T2} = 2$), genderfluid ($n_{T1} = 1; n_{T2} = 1$) or prefer not to respond ($n_{T1} = 3; n_{T2} = 2$) to include them in the analysis.

The results of the gender analysis at Time 1 revealed no differences between women and men on any of the measures variables (see Table 4). As such, I collapsed across gender for every subsequent analysis involving the data from Time 1.

As for the gender analysis at Time 2, the results of the ANOVA revealed some gender differences (see Table 4). Specifically, as in Study 1, men reported having found meaning more than women, in addition to more positive affect and more trauma acceptance than women. However, there were no differences on any of the key measured variables (nostalgia, searching
for meaning, PTSD, and negative affect), so I collapsed across gender for all subsequent analyses.

**Post-Hoc Sensitivity Power Analyses.** A post-hoc sensitivity power analysis of the Time 1 data revealed that with a sample of 229 (α = .05), I had 80% power to detect an effect of \( \eta^2 = .033 \). Because all the effect sizes were smaller than \( \eta^2 = .033 \), the gender analysis was underpowered. Similarly, a post-hoc sensitivity power analysis of the Time 2 data revealed that with a sample of 129 (α = .05), I had 80% power to detect an effect of \( \eta^2 = .058 \). That said, all the effect sizes (except for positive affect) were smaller than \( \eta^2 = .058 \), hence this gender analysis was also underpowered.

**Table 4**

*Means, Standard Deviations, and Gender Differences Across Study 2 Variables*

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>( p )</td>
<td>( n^2 )</td>
</tr>
<tr>
<td>Nostalgia</td>
<td>4.45 (1.46)</td>
<td>4.44 (1.48)</td>
<td>.960</td>
<td>.000</td>
</tr>
<tr>
<td>Searching</td>
<td>3.05 (1.17)</td>
<td>2.91 (1.09)</td>
<td>.445</td>
<td>.003</td>
</tr>
<tr>
<td>Found</td>
<td>2.29 (1.25)</td>
<td>2.59 (1.11)</td>
<td>.106</td>
<td>.011</td>
</tr>
<tr>
<td>PTSD</td>
<td>2.02 (1.04)</td>
<td>1.97 (1.12)</td>
<td>.754</td>
<td>.000</td>
</tr>
<tr>
<td>Neg Aff</td>
<td>2.88 (1.02)</td>
<td>2.86 (0.95)</td>
<td>.873</td>
<td>.000</td>
</tr>
<tr>
<td>Pos Aff</td>
<td>2.58 (0.89)</td>
<td>2.82 (0.84)</td>
<td>.073</td>
<td>.014</td>
</tr>
<tr>
<td>Self-Comp</td>
<td>2.88 (0.79)</td>
<td>2.96 (0.52)</td>
<td>.450</td>
<td>.003</td>
</tr>
<tr>
<td>Acceptance</td>
<td>2.39 (0.78)</td>
<td>2.61 (0.66)</td>
<td>.056</td>
<td>.016</td>
</tr>
</tbody>
</table>

*Note.* *Significant difference, based on results of One-Way ANOVA.

**Descriptive Statistics and Correlations**
The means, standard deviations, changes over time, and correlations between the variables of interest at Time 1 and Time 2 can be found in Table 5.  

As predicted, at Time 1 and Time 2, nostalgia was positively correlated with searching for meaning ($r = .47_{T1}, p < .001; r_{T2} = .39, p < .001$). However, akin to Study 1, there was no statistically significant relation between nostalgia and finding meaning in the traumatic experience ($r_{T1} = .02, p = .80; r_{T2} = .04, p = .68$). Statistically significant positive correlations were also found at both timepoints between nostalgia and PTSD ($r_{T1} = .63, p < .001; r_{T2} = .50, p < .001$), searching for meaning and PTSD ($r_{T1} = .61, p < .001; r_{T2} = .47, p < .001$), nostalgia and negative affect ($r_{T1} = .50, p < .001; r_{T2} = .48, p < .001$), and searching for meaning and negative affect ($r_{T1} = .63, p < .001; r_{T2} = .41, p < .001$). Additionally, there were statistically significant negative correlations at both timepoints between nostalgia and positive affect ($r_{T1} = -.36, p < .001; r_{T2} = -.28, p < .001$), self-compassion ($r_{T1} = -.34, p < .001; r_{T2} = -.32, p < .001$), and trauma acceptance ($r_{T1} = -.35, p < .001; r_{T2} = -.35, p < .001$). Searching for meaning was negatively correlated with self-compassion ($r_{T1} = -.24, p < .001$) and trauma acceptance ($r_{T1} = -.24, p < .001$) at Time 1 only. Lastly, as anticipated, finding meaning in the trauma was positively correlated with positive affect ($r_{T1} = .27, p < .001; r_{T2} = .34, p < .001$), self-compassion ($r_{T1} = .20, p = .003; r_{T2} = .25, p = .004$) and trauma acceptance ($r_{T1} = .32, p < .001; r_{T2} = .40, p < .001$) at both Time 1 and Time 2.  

**Change Over Time**

Prior to proceeding with testing the hypothesized repeated-measures serial mediation model, I assessed whether time influenced any of the measured variables using paired-samples t-tests (see Table 5). Only searching for meaning and PTSD differed significantly from Time 1 to
Time 2. Specifically, searching for meaning was higher at Time 1 ($M = 3.02, SD = 1.13$) than Time 2 ($M = 2.73, SD = 1.18$); $t(111) = 2.41, p = .018, d = .23$. Likewise, PTSD was higher at Time 1 ($M = 2.01, SD = 1.05$) than Time 2 ($M = 1.82, SD = 1.06$); $t(133) = 1.99, p = .049, d = .17$. Because there was no significant difference between nostalgia at Time 1 and Time 2, there is not sufficient justification to conduct the test of repeated-measures serial mediation.

**Exploratory Analyses**

I conducted several exploratory analyses to better understand the relations among the measured variables. First, because both search for meaning and PTSD significantly changed from Time 1 to Time 2 (both significantly decreased), I estimated a repeated measures mediation in which searching for meaning was assessed as a possible mediator of the change in PTSD over time. Second, I tested the hypothesized mediation model proposed in Study 1. Specifically, I tested whether nostalgizing influenced well-being via searching for meaning at Time 1 and Time 2, separately\(^4\). Lastly, I conducted a qualitative assessment of participants’ lived experience with nostalgia by coding the content of the nostalgizing that participants reported experiencing.

---

\(^4\) Because there were no between gender effects on nostalgia, searching for meaning, PTSD, nor negative affect at Time 1 and Time 2, I did not control for gender in these mediation analyses.
Table 5

*Means, Standard Deviations, Changes Over Time, and Correlations Between Study 2 Variables*

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
<th>t</th>
<th>p</th>
<th>d</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nostalgia</td>
<td>4.45 (1.46)</td>
<td>4.35 (1.56)</td>
<td>1.38</td>
<td>.17</td>
<td>.12</td>
<td>—</td>
<td>.47***</td>
<td>.02</td>
<td>.63***</td>
<td>.50***</td>
<td>-.36***</td>
<td>-.34***</td>
<td>-.35***</td>
</tr>
<tr>
<td>2. Searching</td>
<td>3.02 (1.13)</td>
<td>2.73 (1.18)</td>
<td>2.41*</td>
<td>.02</td>
<td>.23</td>
<td>.39***</td>
<td>—</td>
<td>.23***</td>
<td>.61***</td>
<td>.63***</td>
<td>-.13</td>
<td>-.24***</td>
<td>-.24***</td>
</tr>
<tr>
<td>3. Found</td>
<td>2.38 (1.21)</td>
<td>2.51 (1.14)</td>
<td>&lt;.00</td>
<td>1.00</td>
<td>&lt;.00</td>
<td>.04</td>
<td>.36***</td>
<td>—</td>
<td>.08</td>
<td>.04</td>
<td>.27***</td>
<td>.20**</td>
<td>.32***</td>
</tr>
<tr>
<td>4. PTSD</td>
<td>2.01 (1.05)</td>
<td>1.82 (1.06)</td>
<td>1.99*</td>
<td>.05</td>
<td>.17</td>
<td>.50***</td>
<td>.47***</td>
<td>.01</td>
<td>—</td>
<td>.75***</td>
<td>-.31***</td>
<td>-.40***</td>
<td>-.43***</td>
</tr>
<tr>
<td>5. Neg Affect</td>
<td>2.87 (1.00)</td>
<td>2.67 (1.06)</td>
<td>1.17</td>
<td>.24</td>
<td>.10</td>
<td>.48***</td>
<td>.41***</td>
<td>-.08</td>
<td>.70***</td>
<td>—</td>
<td>-.28***</td>
<td>-.45***</td>
<td>-.49***</td>
</tr>
<tr>
<td>6. Pos Affect</td>
<td>2.63 (0.88)</td>
<td>2.75 (0.97)</td>
<td>-.87</td>
<td>.39</td>
<td>-.08</td>
<td>-.28***</td>
<td>.04</td>
<td>.34***</td>
<td>-.35***</td>
<td>-.38***</td>
<td>—</td>
<td>.51***</td>
<td>.66***</td>
</tr>
<tr>
<td>7. Self-Comp</td>
<td>2.90 (0.73)</td>
<td>2.96 (0.71)</td>
<td>.49</td>
<td>.62</td>
<td>.04</td>
<td>-.32***</td>
<td>-.10</td>
<td>.25**</td>
<td>-.39***</td>
<td>-.57***</td>
<td>.54***</td>
<td>—</td>
<td>.66***</td>
</tr>
<tr>
<td>8. Acceptance</td>
<td>2.45 (0.75)</td>
<td>2.61 (0.80)</td>
<td>-1.85</td>
<td>.07</td>
<td>-.16</td>
<td>-.35***</td>
<td>-.12</td>
<td>.40***</td>
<td>-.43***</td>
<td>-.53***</td>
<td>.65***</td>
<td>.65***</td>
<td>.71***</td>
</tr>
</tbody>
</table>

*Note.* Correlations at time 1 presented above and at time 2 below the diagonal. ‘Searching’ is searching for meaning; ‘Found’ is found meaning; ‘Neg Affect’ is negative affect; ‘Pos Affect’ is positive affect; ‘Self-Comp’ is self-compassion; ‘Acceptance’ is trauma acceptance.

*a* Observed power, two-tailed

*p < .05*  
*p < .01*  
***p < .001*
Repeated Measures Mediation: The Influence of Time on PTSD Via Searching for Meaning. I conducted a repeated-measures mediation using MEMORE Macro (Montoya & Hayes, 2017) for SPSS 27. Specifically, I assessed whether the influence of the passage of time on participants’ searching for meaning influenced changes in PTSD over time (Figure 2). The results did not support the existence of a mediation process from a lapse of time to searching for meaning to PTSD. Specifically, the indirect effect of time on PTSD through searching for meaning was $b = -0.04$, $SE = .02$, 95%CI [-.09, .004].

![Diagram](image)

*Note.* $^* p < .05$

Searching for Meaning as a Mediator of the Association Between Nostalgia and PTSD. A mediation analysis was conducted to assess whether searching for meaning mediated the relation between nostalgia and symptoms of PTSD using Model 4 of the PROCESS Macro with robust standard errors (using bias corrected confidence intervals were calculated using 5000 bootstrapped samples; Hayes, 2022). This mediation model was tested using the data from Time 1 and then again with Time 2 data.
At Time 1, nostalgia predicted searching for meaning ($B = 0.38, SE = 0.05, 95\%CI [0.28, 0.47]$), which in turn was positively associated with PTSD ($B = 0.38, SE = 0.05, 95\%CI [0.28, 0.47]$). Importantly, the indirect effect of nostalgia on PTSD via searching for meaning (Figure 3) was statistically significant, $B = 0.14, SE = 0.03, 95\% CI [0.09, 0.20]$.

![Diagram of mediation model with nostalgia as the independent variable, searching for meaning as the mediator variable, and PTSD as the dependent variable at Time 1.](image)

Figure 3. Mediation model with nostalgia as the independent variable, searching for meaning as the mediator variable, and PTSD as the dependent variable at Time 1.

Note. $^* p < .001$

I then repeated this mediation analysis with the Time 2 data. Echoing the results from Time 1, nostalgia predicted searching for meaning ($B = 0.30, SE = 0.06, 95\%CI [0.17, 0.43]$), which in turn was positively associated with PTSD ($B = 0.31, SE = 0.08, 95\%CI [0.16, 0.46]$). Again, the indirect effect of nostalgia on PTSD via searching for meaning (Figure 4) was statistically significant, ($B = 0.09, SE = 0.03, 95\%CI [0.04, 0.17]$).
Figure 4. Mediation model with nostalgia as the independent variable, searching for meaning as the mediator variable, and PTSD as the dependent variable at Time 2. Note. *p < .001.

**Searching for Meaning as a Mediator of the Association Between Nostalgia and Negative Affect.** The second model assessed whether the relation between nostalgia and negative affect was mediated by searching for meaning. At Time 1, nostalgia predicted searching for meaning ($B = 0.38, SE = 0.05, 95\%CI [0.28, 0.47]$), which in turn was positively associated with negative affect ($B = 0.42, SE = 0.05, 95\%CI [0.32, 0.52]$). Importantly, the indirect effect of nostalgia on negative affect via searching for meaning (Figure 5) was statistically significant, $B = 0.16, SE = 0.03, 95\% CI [0.10, 0.22]$.

I then repeated this mediation analysis with the Time 2 data. Replicating the results from Time 1, nostalgia predicted searching for meaning ($B = 0.30, SE = 0.06, 95\%CI [0.17, 0.43]$), which in turn was positively associated with negative affect ($B = 0.22, SE = 0.07, 95\%CI [0.08, 0.37]$). Again, the indirect effect of nostalgia on negative affect via searching for meaning (Figure 6) was statistically significant, ($B = 0.07, SE = 0.03, 95\%CI [0.02, 0.13]$).
Searching for Meaning as a Mediator of the Association Between Nostalgia and Other Well-Being Measures. The other measures of well-being were positive affect, self-compassion, and trauma acceptance. At Time 1, only self-compassion and trauma acceptance were correlated with nostalgia and searching for meaning, hence I only assessed for mediation...
amongst these variables. The indirect effect of nostalgia on self-compassion via searching for meaning was not statistically significant ($B = -0.03$, $SE = 0.02$, 95%CI[-0.07, 0.01]), and neither was the indirect effect of nostalgia on trauma acceptance via searching for meaning ($B = -0.02$, $SE = 0.02$, 95%CI[-0.06, 0.01]) (see Appendix P for figures).

At Time 2, there was no correlation between searching for meaning and positive affect, self-compassion, or trauma acceptance, hence the mediation models with these measures of well-being as outcome variables were not assessed.

**Qualitative Assessment of Expressed Nostalgia**

To gain a deeper understanding of the contents of survivors’ nostalgic reverie, examples of participants’ responses to the open-ended prompts are provided in Table 6. First, participants were asked what they were longing for when they nostalgized about the life they had prior to surviving SA. Many participants spoke of a more carefree life before the trauma, in addition to describing more ruminative or counterfactual thinking after the SA (e.g., “I miss not constantly thinking about how I should have fought harder. How I should have made a scene. Replaying that night, nearly every night, since.”). Many participants also described alterations to their core beliefs (e.g., “I miss feeling like the world was a good place.”, “I long to feel a sense of safety and trust in others again”), as well as searching for meaning in the traumatic experience (e.g., “My mind can’t stop thinking about it and why did it happen to me?”).

The second prompt asked participants to describe what they were longing for when nostalgizing about the person they were before the SA. Interestingly, many participants referred to their pre-trauma selves in the third person (e.g., “she was a carefree and loving person who loved hugs”, “He was happier and less jaded than I am”, “She was happy and goofy and excited

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5 There were no gender differences among these variables at Time 1, so I did not control for gender in these mediation analyses.
about things”), which may be denoting some psychological distance between the pre- and post-trauma self (see Kross & Ayduk, 2017). As expected, the majority of participants described significant, negative changes to their sense of self following the SA (e.g., “The person I was before was trusting, open, and shared my kindness easily. Now I’m intensely guarded and unwilling to get to know new people”, “I feel more distant from who I intrinsically am”), with some also describing perceptions of permanent or irreparable damage (e.g., “Now I have trust issue and I think I'm traumatized by the assault. I can never be the same”, “I know that that person is gone forever, and that's okay”, “[the more carefree and trusting person I was] is something I feel that can never truly be obtained again”).

Table 6

Nostalgia for the Pre-Trauma Life and Self: Qualitative Data

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Example quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please describe what you are longing for when you nostalgize about the life you had before surviving sexual assault.</td>
<td>“I am longing for an opportunity to have peace of mind in my life. Without having peace of mind, my days can sometimes be tormenting.” (S1)</td>
</tr>
<tr>
<td></td>
<td>“I miss not having the memory of it. I miss not constantly thinking about how I should have fought harder. How I should have made a scene. Replaying that night, nearly every night, since.” (S1)</td>
</tr>
<tr>
<td></td>
<td>“Life seemed to be easier and brighter back then. It was easier for me to feel good about life. I still thought of life as being beautiful and I trusted there was a bigger part of life of being good.” (S2.1)</td>
</tr>
<tr>
<td></td>
<td>“Life was a lot better then, in my memory. It was much simpler and more beautiful. There was bad in life but it wasn't the bigger part. Now in my mind, life is such a dark place.” (S2.1)</td>
</tr>
<tr>
<td></td>
<td>“I miss feeling safe and comfortable. My mind can't stop thinking about it and why did it happen to me? I am too old for this and I am dead inside now.” (S2.1)</td>
</tr>
<tr>
<td></td>
<td>“I long for the carefree life I had before the assault. I long to feel a sense of safety and trust in others again.” (S2.1)</td>
</tr>
</tbody>
</table>
“As a survivor of sexual assault, there are many things in my past life that I long for. I often find myself nostalgic for the carefree days before the assault happened. I miss feeling safe and secure in my own body. I miss feeling like I could trust people. I miss feeling like the world was a good place. After surviving such a traumatic event, it's difficult to feel any of those things again. The world feels like a dark and dangerous place. My body feels like a site of violence and betrayal. And trusting people feels impossible. So when I find myself longing for the life I had before, it's not surprising. I'm longing for a time when I felt whole and complete, when I felt like part of something bigger than myself.” (S2.1)

“I miss naturally feeling safe. I miss feeling carefree, not stressing over every logistical detail like if my clothing is too revealing, if someone can walk me to my car, if I remembered to bring my pepperspray, etc.” (S2.2)

“I miss the old me because I didn't have to think about the sexual assault everyday. I had a happier life before it happened.” (S2.2)

“just not knowing it happened and to not be able to re live it in my head and see it.” (S2.2)

“I long for nights where I don't overthink it. Sometimes I think I have moved on, but then I will see something triggering and it ruins my day. When this happens, I am reminded of everything again and realize I will never go back to my normal.” (S2.2)

“I survived sexual assault, and while I don't Nostalgize about the life I had before the attack, there are certain things I do miss. I miss feeling safe. I miss feeling like my body was my own and not something to be feared or reviled. I miss feeling like I could trust people. But more than anything, I think I nostalgize about the person I was before the attack. I was carefree and optimistic and full of love. I didn't know how dark the world could be, and I didn't know how much pain one person could cause another. Now, I'm more guarded and cynical. I don't give my heart away as easily, because I'm afraid of being hurt again. But sometimes, on a good day, when the sun is shining and the birds are singing, I can close my eyes and remember who I used to be. And for a moment, everything feels okay again.” (S2.2)

Please describe what you are longing for when you nostalgize

“she was a carefree and loving person who loved hugs. i dont view hugs or any form of physical touch the same way now. it kind of grosses me out now” (S1)
about the person you were before surviving sexual assault.

“This is similar to my response above, but I just miss my old brain. Now, I go to bed every night and think about it. Intrusive thoughts keep me up, and these thoughts tell me I am worthless. I know they are not true, but it just keeps cycling. I still love myself and the person that I am, I just miss my old self when I wasn't riddled with thinking about the assault. It is tiring.” (S1)

“He was happier and less jaded than I am.” (S1)

“Someone who was a little happier and a lot more hopeful, someone who was not on edge constantly and checking out the windows at night to see if the perpetrator is back.” (S1)

“I was a person who generally trusted others. I didn't walk around feeling like a victim, and worrying about what people were capable of all of the time. I was happier before, and now I feel damaged.” (S1)

“I'm longing for the sense of openness and innocence that I felt prior to my sexual assault. I was more fun and open and trustful. I wasn't as scared and as serious and distrustful of those around me. Sometimes my paranoia creeps in and ruins moments for me or causes me to act in a way that isn't true to my authentic self. I feel more distant from who I intrinsically am.” (S1)

“I was happy and outgoing, ready to take the world by storm. I wasn't paranoid, depressed, and disgusted like I am now.” (S1)

“I am longing for the version of myself that doesn't feel gross about my body or being touched.” (S2.1)

“I was more innocent then. I had more trust in humans then. Now I have trust issue and I think I'm traumatized by the assault. I can never be the same.” (S2.1)

“She was happy and goofy and excited about things.” (S2.1)

“I long for the person who was happy go lucky and not looking over my shoulder when I go out. I want the person who would smile more often and be trusting.” (S2.1)

“The confidence I had; the innocence. The feeling that I could overcome obstacles rather than nothing is going to be the same no matter what. That someone took something from me and I did not fight for it hard enough.” (S2.1)
“I long for the person who saw the good in all people. I long for the person that used to trust people and the person that had hope for the future. I long for the person who experienced humor and could laugh from time to time.” (S2.1)

“The person I was before was trusting, open, and shared my kindness easily. Now I’m intensely guarded and unwilling to get to know new people. I wish I could let my guard down and feel emotionally safe like before.” (S2.1)

“I miss the person who used to have a smile on her face. I miss the person who always gave people the benefit of the doubt, instead of assuming everyone is just going to use or abuse me. I miss the person who loved life.” (S2.1)

“I wish that the person I am now could be as free as the one I was before the assault.” (S2.1)

“It's been almost a year since I survived sexual assault, and in many ways I feel like a different person. I'm not the carefree person I used to be; instead, I'm more guarded and reserved. I don't trust people as easily as I used to, and I find myself constantly looking over my shoulder, wondering if someone is going to hurt me again. But sometimes, when I'm feeling particularly down or triggered, I find myself longing for the person I was before. The person who didn't have to worry about being hurt or taken advantage of. The person who could just go about her life without constantly being on alert. I know that that person is gone forever, and that's okay. Because even though she might be gone, she's also made me into a stronger, more resilient person. And for that, I will always be grateful.” (S2.1)

“I long for the person I used to be before my assault; the person who was unafraid to trust and be vulnerable. I long for the person who was confident and full of life, who felt secure in her boundaries and respected the boundaries of others. I long for the person who was unafraid to speak her truth and stand up for herself, and who believed she was worthy of respect and love.” (S2.1)

“I was a more carefree and trusting person before the sexual assault. It is something I feel that can never truly be obtained again.” (S2.1)

“I miss the person that was carefree and happy, with a light and fun mind. Someone who didn't worry so much or have darkness in their mind.” (S2.2)
“I miss the girl who used to believe that everyone had her best interest at heart. I miss the girl who could have fun without wondering if someone was waiting until I was vulnerable, so they could attack me.” (S2.2)

“I was happy and outgoing and I really miss everything about myself.” (S2.2)

“I think I had more innocence back then. I long to have a bit of that back, it feels like my young adult life was robbed from me and now I have to live with an experience and feelings that no one at 22 should.” (S2.2)

“I'm longing for the trusting and innocent person I used to be. I used to trust everyone off the bat and now I feel I am more suspicious of everyone and their motives and agendas. I miss not being so jaded.” (S2.2)

Note. Responses from Study 1 (S1); responses from Study 2 Time 1 (S2.1) and Study 2 Time 2 (S2.2).

Discussion

The results of Study 2 supported my general hypothesis that nostalgia about life prior to SA undermines well-being via a persistent search for meaning in the trauma. Consistent with the results of Study 1, the findings from Study 2 revealed that the more survivors longed for the person they were before the SA, the more they reported searching for meaning in their trauma, in conjunction with also reporting more negative affect and PTSD symptoms, and less positive affect, self-compassion, and trauma acceptance. Importantly, nostalgia and finding meaning were once again unrelated, whereas finding meaning was consistently shown to relate to greater overall well-being.

Importantly, in Study 2, I also assessed these associations over time. Specifically, participants were recontacted one month following the initiation sessions. Results showed that searching for meaning and PTSD both declined over the course of one month, but nostalgia stayed relatively the same. Perhaps one month was not enough time to observe natural changes in
nostalgia (or the other measures of well-being). Additionally, despite all my participants noting that they have access to a treatment provider, the lack of change in nostalgia may be a by-product of the lack of attention paid to the past (and nostalgizing in particular) in most treatment modalities (see Salmon et al., 2017). That is, even if all participants were in active treatment, nostalgizing may be unchanged because it is typically not addressed in treatment.

Study 2, however, did allow me to assess the associations amongst nostalgia, meaning-making, and measures of health and well-being at two time-points. Results were consistent at both time points: greater nostalgia for the pre-trauma self is linked to more searching—but not finding—meaning in the trauma, greater PTSD and negative affect, and less positive affect, self-compassion, and trauma acceptance. Further, the associations between nostalgia and PTSD and nostalgia and negative affect were mediated by searching for meaning at both Time 1 and Time 2, replicating the results observed in Study 1. This provides further support for the validity of the proposed model despite not detecting this mediation over the course of one month.

**General Discussion**

Mental time travel—that is, the ability to mentally relive past events or anticipate future scenarios—is a fundamental human experience (see Atance & O’Neill, 2001; Suddendorf & Corballis, 2007). Following a traumatic experience, individuals may be particularly prone to engaging in mental time travel to make sense of the event and its impact on their lives (e.g., Barnett & Maciel, 2021; Byrne, 2016; Epstude & Roese, 2008; Roese, 1997). Recent research suggests that survivors of sexual assault may be especially likely to engage in this form of mental processing (e.g., Barnett & Maciel, 2021; Branscombe et al., 2003; Katz & Burt, 1988). In the current research, I tested the novel idea that some people who experience SA are apt to engage in a form of mental time travel in which they wistfully reflect or nostalgize about the life they lived
prior to the SA—a process that may hinder psychological well-being. Across two studies (one correlational and one longitudinal), I found support for this general hypothesis.

In Study 1, I employed a correlational design to assess nostalgia, meaning making, and measures of well-being (i.e., PTSD, self-compassion, trauma acceptance) amongst survivors of recent SA. As expected, nostalgizing about the pre-trauma self was negatively associated with psychological well-being. Specifically, the more survivors longed for the person they were before the SA, the more they reported searching for meaning in the trauma, in concert with also reporting more symptoms of PTSD and both less self-compassion and trauma acceptance. Contrary to the existing literature, which presents nostalgia as a tool for enhancing well-being and for finding and sustaining a more general sense of meaning in life (see Routledge et al., 2012; Sedikides & Wildschut, 2018), nostalgia was related to poor psychological health and well-being, and unrelated to finding meaning. Moreover, searching for meaning was negatively associated with well-being (i.e., more symptoms of PTSD), whereas finding meaning was associated with well-being (i.e., more self-compassion and trauma acceptance). This aligns with the existing literature on meaning-making, which suggests the benefits of finding meaning in trauma whilst noting the potential negative consequences of persistently searching for meaning (Davis & McLeod, 2021, for review).

In Study 2, I attempted to replicate and extend the results of Study 1 by assessing the relations among nostalgia, meaning making, and well-being over time. Although searching for meaning and PTSD declined over the course of one month, a lack of significant change in nostalgia over this same time period prevented me from extending the results of Study 1 as I had originally intended. Nevertheless, the lack of change in survivors’ nostalgia could be valuable in and of itself, as it suggests a relative stability in survivors’ nostalgia over this period of time.
Moreover, although all the participants in my study acknowledged having access to a treatment provider, the absence of any noticeable shift in their level of nostalgia might be attributed to the limited emphasis placed on the past and specifically on nostalgizing within conventional treatment approaches (refer to Salmon et al., 2017). In other words, even if every participant were actively undergoing treatment, the act of nostalgizing may remain unaffected due to its general neglect in the therapeutic process.

Study 2 did allow me to replicate the results of Study 1 at two separate timepoints. Specifically, greater longing for one’s life prior to SA was related to more searching for meaning and poorer health and well-being (i.e., more negative affect and PTSD symptoms, and less positive affect, self-compassion, and trauma acceptance) at Time 1 and Time 2. Notably, nostalgia was again unrelated to finding meaning, whereas finding meaning was linked to greater overall well-being at both timepoints. Moreover, searching for meaning and finding meaning were consistently related, adding further support to the notion that finding meaning does not necessarily bring the search to an end, but rather the search can continue as meaning evolves over time (see Davis & McLeod, 2021).

Additionally, the larger sample size in Study 2 provided sufficient power to re-test the mediation model hypothesized in Study 1 using the Time 1 and Time 2 data. As expected, searching for meaning was consistently found to mediate the association between nostalgia and both PTSD and negative affect. This suggests that the more survivors experience nostalgia for the pre-trauma self, the more they search for meaning in the trauma, which, in turn, leads to more negative affect and symptoms of PTSD.

Lastly, since SA affects all genders, I did not limit participant recruitment to one gender. Although I did not specifically recruit participants to conduct gender-based analyses, I recruited
a sufficient number of men to conduct such analyses. Although underpowered, the results suggested that there were no gender differences on the central variables of interest. Specifically, men and women who have experienced SA did not differ in the extent to which they nostalgized about life prior to the SA, the extent to which they searched for meaning, and in terms of the negative downstream consequences of their nostalgizing. Importantly, men (as victims) are largely underrepresented in the existing literature on sexual trauma (e.g., Dario & O’Neil, 2017; Das et al., 2022), despite recent studies showing that 1 in 4 men in the United-States have experienced sexual violence (CDC, 2020). Hence, this study provides an important contribution to the literature by including men who have survived SA, and by showing that nostalgia, searching for meaning, and the negative consequences of these processes occur regardless of gender.

**Implications**

Although previous research has found that nostalgizing is functional in that it facilitates coping by helping people find meaning in their life (see Sedikides & Wildschut, 2018), the results of the current research suggest that nostalgia among SA survivors may be counterproductive. One possible explanation for this is that nostalgia for the pre-trauma self may anchor survivors in their feelings of loss and perceptions of being permanently changed or damaged by the SA. These feelings may lead survivors to constantly search for meaning in the trauma, which may be especially maladaptive for survivors of SA as they tend to make excessively negative appraisals of their trauma and/or its sequelae (e.g., Wiedemann et al., 2020; Asmundson et al., 2019; Resick & Schnicke, 1993). This can be a hindrance to the healing process, because it may keep the maladaptive beliefs about the trauma and the self at the forefront of the survivor's thoughts, which may hinder recovery by promoting secondary
emotional responses (e.g., shame, guilt; Asmundson et al., 2019) and avoidance behaviours (e.g., substance use, engaging in risky sexual behaviour; e.g., Weiss et al., 2015, Werner et al., 2018).

Some support for the supposition that nostalgia is maladaptive for SA survivors can be found in the effectiveness of cognitive therapy for PTSD (CT-PTSD; Ehlers et al., 2005) amongst trauma survivors. Core interventions in CT-PTSD involve addressing the client’s perceived permanent change after trauma, changing problematic appraisals of the trauma and their sequelae, and updating the threatening meanings clients attribute to the trauma with new adaptive meanings to reclaim or rebuild the client’s sense of self and their life (Wiedemann et al., 2020). Similarly, cognitive-processing therapy (CPT; Resick & Schnicke, 1992) was developed to help SA survivors recover from PTSD by helping clients understand and reconceptualize their trauma by altering the maladaptive appraisals that are hindering recovery (e.g., assuming personal blame for the SA, believing no one can be trusted; Asmundson et al., 2019). Both of these treatment interventions have been shown to result in lasting improvements in PTSD and related symptoms amongst survivors of SA and other trauma (Resick et al., 2012; Wiedemann et al., 2020). That said, incorporating an assessment of nostalgia for the pre-trauma self along with finding ways to address this sentimental longing amongst clients who have survived SA could potentially further bolster the effectiveness of these therapeutic interventions.

Lastly, it is important to note that these findings do not suggest that survivors should simply forget about the trauma and move on. Rather, I propose that a focus on building a new, post-trauma self, one that incorporates the trauma but does not define the survivor, may be a more productive approach. This aligns with Herman’s (1998) three-stage process to recovery from SA trauma, which involves re-establishing safety, retelling the story of the traumatic experience, and reconnecting with others. One key feature of this process that I believe may be
of particular use for countering nostalgia for the pre-trauma self involves the survivor grieving or mourning their loss (e.g., the loss of their identity, the loss of the ‘normality’ of their pre-trauma life, or perhaps the loss of their relationships with family, friends, or even the abuser). This dreaded, albeit necessary part of the recovery process could help survivors begin to move forward and start reconstructing a new sense of meaning and purpose in their lives. The hope is that survivors will begin to see that although trauma is part of their life experience, it is not what defines the entirety of their life story (Murn & Schultz, 2022). Moreover, interventions aimed at promoting a future focus amongst survivors (e.g., the best possible selves activity; King, 2001) or at highlighting the enduring similarities between the pre- and post-trauma self could help assuage feelings of nostalgia by generating hope for a better possible future (see Loveday et al., 2018) or re-establishing a sense of self-continuity (see Sedikides et al., 2023), respectively.

**Limitations and Future Directions**

The present research is not without limitations. First, the samples in both studies were mostly consisted of White/Caucasian participants. Consequently, the findings may not be generalizable across different ethnic groups. Future research may want to assess nostalgia among a more diverse sample of SA survivors to see if there are any racial/ethnic differences in nostalgia and meaning making.

Second, both studies were correlational in nature, hence causality could neither be inferred nor established. Although a manipulation in Study 2 could have helped determine whether nostalgia leads to meaning-making and poor health and well-being outcomes, I opted for a repeated-measures design to avoid potentially evoking nostalgia for the pre-trauma self and its associated negative outcomes among this vulnerable population. I instead employed a longitudinal design to assess the temporal relation between nostalgia, meaning making, and
health and well-being outcomes, in order to avoid the risk of unnecessarily harming this population. Longitudinal studies also allow for the examination of how variables progress or change over time, which is important given that SA consequences and recovery are dynamic processes that cannot be reduced to a single moment in time. Moreover, causes are generally thought to precede their effects in time, hence observing the same individuals over a period of time can facilitate causal inferences in situations where manipulating a variable may present some challenges (see Wunsch et al., 2010). That said, nostalgia did not change over the course of one month, which prevented me from going further with the longitudinal analyses. While this lack of change may denote the stability of nostalgia amongst SA survivors, which is important knowledge in and of itself, one month may not have been enough time to observe meaningful changes in the variables or to fully grasp the complex evolution and interplay of these variables amongst survivors of SA. Hence, future studies may want to assess nostalgia over a longer period of time to see how nostalgia, meaning making, and well-being might change throughout the recovery experience. Moreover, future research may want to test the causal direction amongst the study variables as well as interventions that could potentially counteract nostalgia and promote better health and well-being amongst survivors of sexual assault (e.g., promoting a future-focus, re-establishing self-continuity).

It is also worth noting that although the study assessed the experiences of survivors of recent sexual assault, there is a possibility that some participants experienced multiple incidents of SA throughout their lives, which may have had an impact on the scope of their nostalgic reverie. Future research may want to look at how nostalgia manifests itself amongst survivors of childhood or adolescent SA, when one’s self-identity may not yet fully be established.
Lastly, the findings from this research support the notion that survivors of SA do experience nostalgia for the pre-trauma self, and that this nostalgia has negative implications for recovery and well-being. Future research might want to examine this nostalgia in a clinical setting, and assess whether treatment for SA survivors (e.g., CT-PTSD, CPT) has efficacy in down-regulating nostalgia, which should improve well-being and facilitate the recovery process.

**Conclusion**

The purpose of the current research was to assess the relationship between nostalgia, meaning making, and well-being amongst individuals who have experienced trauma. The findings from the present two studies indicate that survivors of SA often feel nostalgic for their former selves or the life they had before the traumatic event. This nostalgia appears to be detrimental to survivors, as it consistently relates to a search for meaning in the trauma (without finding meaning) and poorer health and well-being outcomes. Future research may want to find ways to assuage survivors’ nostalgia for the pre-trauma self, as doing so could potentially help survivors heal and recover from their trauma.
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https://doi.org/10.1177/0759106309360114


https://doi.org/10.1002/da.22942
Appendix A
Recruitment Notice

**Study Name:** Examining the post-traumatic experience of recent sexual assault survivors

**Description:** In this study, we will ask you a variety of questions about your post-traumatic experience as a survivor of recent sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). We will also ask you to reflect on aspects of your life and self before and after surviving sexual assault.

Your participation, as well as your responses, will be treated as confidential, however absolute anonymity cannot be guaranteed. Only researchers associated with this project will know you participated in the study and no one will know how you responded to the questions asked.

**Risks:** We can anticipate no physical discomfort to you as a result of your participation in this study. It is not uncommon, however, for people to experience anxiety or distress when thinking about their traumatic experience and when reflecting on aspects of their lives and selves before and after surviving sexual assault. Activities and resources are provided to mitigate the impact of such feelings. In the event you feel anxiety or distress, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault. A copy of this information will be provided to you in the debriefing sheet following the questionnaires.

The **Rape, Abuse, & Incest National Network (RAINN)** provides an online chat service ([https://www.rainn.org/get-help](https://www.rainn.org/get-help)) and organizes the **National Sexual Assault Hotline** (800-656-4673) which can refer you to the rape crisis centre nearest your location.

The **National Sexual Violence Resource Centre (NSVRC)** maintains a directory of organizations that lists state and territory sexual assault coalitions, victim/survivor support organizations, and local communities of color sexual assault organizations ([https://www.nsvrc.org/organizations](https://www.nsvrc.org/organizations)).

The **Rape Crisis Centre (RCC)** has a **24/7 helpline** (608-251-7273) and resources for local, state, and federal support services ([https://thercc.org/get-support/survivor%20resources/](https://thercc.org/get-support/survivor%20resources/)) available for survivors of sexual assault.

For more general information and resources regarding sexual assault, please visit the following websites:

RAINN: [https://www.rainn.org/](https://www.rainn.org/)
NSVRC: [https://www.nsvrc.org/](https://www.nsvrc.org/)
RCC: [https://thercc.org/](https://thercc.org/)

**Eligibility:**

1. Must be a resident of the United-States.
2. Must be at least 20 years of age.
3. Must be a survivor of recent sexual assault (i.e., occurred in the past year).
4. Must have access to a health care or treatment provider (i.e., you currently have a family doctor, therapist, counselor, or other professional available to you that you are willing and able to contact for assistance should you feel it necessary).

**Duration and Locale:** This takes place online and will take approximately 10-12 minutes to complete. Upon completion, you will receive US$1.00 for your participation.

**Researchers:** Renee St-Jean ([reeneestjean@cmail.carleton.ca](mailto:reeneestjean@cmail.carleton.ca)), Michael Wohl ([Michael.wohl@carleton.ca](mailto:Michael.wohl@carleton.ca)), Chris Davis ([chris.davis@carleton.ca](mailto:chris.davis@carleton.ca))

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).
Appendix B
Informed Consent

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).

Present Study: Examining the post-traumatic experience of recent sexual assault survivors

Research Personnel. The following people are involved in this study, and may be contacted at any time if you have questions or concerns: Renee St-Jean (Principal Investigator, Graduate Student; reneestjean@email.carleton.ca), Dr. Michael Wohl (Faculty Co-Investigator; michael.wohl@carleton.ca), Dr. Chris Davis (Faculty Co-Investigator; chris.davis@carleton.ca).

During Covid, the Research Ethics Staff are working from home without access to their Carleton phone extensions. Accordingly, until staff return to campus, please contact them by email. Should you have any ethical concerns about this research, please contact the Chair of Carleton University Research Ethics Board-B (email: ethics@carleton.ca). For all other questions about the study, please contact the researchers.

Purpose. The purpose of the study is to gain a better understanding of the post-traumatic experience of sexual assault survivors.

Task Requirements. In this study, you will be asked a variety of questions about your post-traumatic experience as a survivor of sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). You will also be asked to reflect on aspects of your life and self before and after surviving sexual assault. Should you choose to participate, we ask that you choose a location where you feel safe and will not be disturbed.

Benefits/Compensation. We are offering US$1.00 to eligible participants as compensation for participating in the current survey. The survey will take approximately 10-12 minutes to complete. Participating in this research will help future survivors of sexual assault by deepening our understanding of the post-traumatic experience of trauma survivors and by contributing to the improvement of treatment and therapy methods for survivors of sexual assault.

Eligibility:

1. Must be a resident of the United-States.
2. Must be at least 20 years of age.
3. Must be a survivor of recent sexual assault (i.e., occurred in the past year).
4. Must have access to a health care or treatment provider (i.e., you currently have a family doctor, therapist, counselor, or other professional available to you that you are willing and able to contact for assistance should you feel it necessary).
Please note that you will be assessed on your eligibility to participate immediately following this consent form. Only eligible participants will be permitted to participate in the survey and receive US$1.00.

**Duration and Locale:** The survey will be administered online and should take approximately 10-12 minutes to complete. Your name will not be associated in any way with the research findings.

**Potential Risk/Discomfort.** It is not uncommon for people to experience anxiety or distress when thinking about their traumatic experience and when reflecting on aspects of their lives and selves before and after surviving sexual assault. Activities and resources are provided to mitigate the impact of such feelings. In the event you feel anxiety or distress, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault. A copy of this information will be provided to you in the debriefing sheet following the questionnaires.

The **Rape, Abuse, & Incest National Network (RAINN)** provides an online chat service ([https://www.rainn.org/get-help](https://www.rainn.org/get-help)) and organizes the **National Sexual Assault Hotline** (800-656-4673) which can refer you to the rape crisis centre nearest your location.

The **National Sexual Violence Resource Centre (NSVRC)** maintains a directory of organizations that lists state and territory sexual assault coalitions, victim/survivor support organizations, and local communities of color sexual assault organizations ([https://www.nsvrc.org/organizations](https://www.nsvrc.org/organizations)).

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For more general information and resources regarding sexual assault, please visit the following websites:

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RCC: [https://thercc.org/](https://thercc.org/)

**Right to Withdraw.** Your participation in this study is entirely voluntary. To withdraw at any point during the study, simply click the “withdraw” button at the bottom of each page. By clicking “withdraw” you will be automatically redirected to the debriefing page. This means that **you will still receive compensation for your participation should you choose to withdraw.** Any data you provide before choosing to withdraw during the study will be manually destroyed before data analysis. If you choose to withdraw, it is essential that you read the debriefing form at the end of the survey. Note that if you complete the study, there will be no way for us to withdraw your data after the day in which data collection has ended (when participants are credited and MTurk ID is removed from the data set). We make every effort to credit participants as soon as possible (24 hrs after participating if not sooner). As soon as a participant is credited their MTurk ID is removed from the data set, thus making withdrawal of your data not possible.
**Anonymity/Confidentiality:** The data collected in this experiment are confidential. MTurk worker IDs will only be collected for the purposes of distributing compensation and will not be associated with survey responses. Furthermore, worker IDs will not be shared with anyone outside of the research team and will be removed from the data set. Although you have been recruited to participate in this study through MTurk, all of your responses and data will be recorded on Qualtrics (and none of your responses will be stored on MTurk). All data on the Qualtrics server is encrypted and protected using multiple layers of security (e.g., encrypted websites and password protected storage). For more information about the security of data on Qualtrics, please see the Qualtrics security and privacy policy, which can be found at the following link: [http://www.qualtrics.com/security-statement](http://www.qualtrics.com/security-statement).

During the study, data will be collected and stored on Qualtrics servers hosted in Canada. Data from Qualtrics servers may only be disclosed via a court order or data breach. In view of this, we cannot absolutely guarantee the full confidentiality and anonymity of your data. After the survey is complete, anonymized survey data will remain accessible indefinitely to the research team and be secured on encrypted computers in Dr. Wohl’s laboratory. With your consent to participate in this study, you acknowledge this.

**Data Storage and Sharing.** The data will be stored on the computers of the researchers and research assistants involved with this project. As there will be no personal information associated with the data, this dataset will be stored electronically and kept indefinitely. Additionally, we will upload this anonymized dataset to an online data repository called Open Science Framework ([http://osf.io/](http://osf.io/)) for research and teaching purposes.

**Research Funding.** This research has been funded by a Research Achievement Award from Carleton University to Dr. Michael Wohl.

By checking this box you agree to the following terms:

- [□] Yes, I am aware that there are various treatment and support options available to me.
- [□] I have chosen a location where I am safe and will not be disturbed.
- [□] I agree to participate in the study.
- [□] I do not consent to the study.
Appendix C
Eligibility

Sexual assault is *non-consensual* sexual contact or activity, including the threat of such activity done by one person or a group of persons to another.

Consent cannot be given by individuals who are underage, intoxicated or incapacitated by drugs or alcohol, or asleep or unconscious.

Sexual assault can range from unwanted sexual touching, fondling, or kissing to forced sexual intercourse. Sexual assault can involve the use of physical force, intimidation, coercion, or the abuse of a position of trust or authority.

1. Are you a resident of the United States?
   a. Yes [continue]
   b. No [ineligible]

2. Are you 20 years of age or older?
   a. Yes [continue]
   b. No [ineligible]

3. Have you ever been the victim/survivor of a sexual assault in your lifetime?
   a. Yes [continue]
   b. No [ineligible]

4. Did the sexual assault occur in the past year?
   a. Yes [continue]
   b. No [ineligible]

5. Do you have access to a health care or treatment provider (i.e., do you currently have a family doctor, therapist, counselor, or other professional available to you that you are willing and able to contact for assistance should you feel it necessary?)
   a. Yes [continue]
   b. No [ineligible]
Appendix D
Ineligibility Debriefing

Thank you for your interest in this study. Unfortunately, you have not met one or more of the eligibility criteria outlined in the recruitment notice and consent form.

If you identify as a survivor of sexual assault but did not meet the specific eligibility criteria for this study, we want to emphasize that sexual assault is never the victim’s fault. You deserve to be supported in the ways that you need, and we understand that you know what is best for you. Know that you are not alone, and there are services at your disposal should you require support of any kind. We have provided information for support services, should you need them, and know that there will be other opportunities to participate in research in the future.

Resources, support services, and information regarding sexual assault can be found at the following:

The Rape, Abuse, & Incest National Network (RAINN) provides an online chat service ([https://www.rainn.org/get-help](https://www.rainn.org/get-help)) and organizes the National Sexual Assault Hotline (800-656-4673) which can refer you to the rape crisis centre nearest your location.

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The Rape Crisis Centre (RCC) has a 24/7 helpline (608-251-7273) and resources for local, state, and federal support services ([https://thercc.org/get-support/survivor%20resources/](https://thercc.org/get-support/survivor%20resources/)) available for survivors of sexual assault.

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RCC: [https://thercc.org/](https://thercc.org/)

If you have any questions or concerns about this, you can contact Renee St-Jean at reneestjean@cmail.carleton.ca.
Appendix E
Survey Materials

Demographics

1. Age: ___

2. What is your gender identity:
   a. Woman
   b. Man
   c. Non-binary
   d. Two-spirit
   e. My gender is _______
   f. Prefer not to say

3. People in the United States come from many racial or cultural groups. You may belong to more than one group of the following. Are you…. [Select all that apply]
   a. African, Caribbean, or Black
   b. East Asian or Southeast Asian (e.g., Chinese, Japanese, Korean)
   c. Indigenous (First Nations, Inuk/Inuit, Metis)
   d. Latin American, Hispanic
   e. Middle Eastern (e.g., Iranian, Afghan)
   f. South Asian (e.g., East Indian, Pakistani, Sri Lankan)
   g. White, Caucasian
   h. Other (specify) _______
   i. Don’t know
   j. Prefer not to answer

Sexual Assault

1. How long ago did the sexual assault occur? ____year_____month(s) ago.

2. If you have received any intervention or support from the following resources regarding the sexual assault, please check all that apply:
   a. Counselling (i.e., with a counselor)
   b. Psychotherapy (i.e., with a psychologist)
   c. Support group(s)
   d. Medical intervention [e.g., sexual assault evidence kit (or ‘rape kit’)]
   e. Other: _______
   f. I received no intervention or support from such sources

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]
Nostalgia: Pre-Trauma Self (adapted from Kim & Wohl, 2015)

Nostalgia is a sentimental longing for the past. People can feel nostalgic, or reminisce, about various objects including past-selves, places, experiences, and other people.

Using the following scale, please indicate if you agree or disagree with the following statements. Please mark the answer of your choice to each question according to the following scale.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Somewhat Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

1. I am already feeling quite nostalgic about who I was before I was sexually assaulted.  
2. Since I was sexually assaulted, I miss the person I used to be.  
3. I long for the person I was before I was sexually assaulted.  
4. Before I was sexually assaulted, I was a better person than I am today.  
5. I like the person I was before I was sexually assaulted better than the person I am now.

Open-Ended Questions...

If applicable, please describe what you are longing for when you nostalgize about the life you had before surviving sexual assault.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

If applicable, please describe what you are longing for when you nostalgize about the person you were before surviving sexual assault.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here ____. You will still receive compensation for your participation in the study.]

Self-Discontinuity (adapted from Kim & Wohl, 2015)

The following questions are about how you perceive yourself and your self-concept.

Using the following scale, please indicate if you agree or disagree with the following statements. Please mark the answer of your choice to each question according to the following scale.

<table>
<thead>
<tr>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Somewhat Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

_____ 1. Being sexually assaulted has changed who I am.

_____ 2. There is a difference between who I am now and who I was before I was sexually assaulted.

_____ 3. The person I was before I was sexually assaulted is different from the person I am now.

_____ 4. When I think about who I am now, it is different from who I was before I was sexually assaulted.

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here. You will still receive compensation for your participation in the study.]

Meaning-Making (adapted from Davis & Novoa, 2013)

Searching for Meaning

Some people who have survived sexual assault find themselves searching to make sense or find some meaning in their traumatic experience. Have you done this since being sexually assaulted?

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<th>4</th>
<th>5</th>
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</table>
Have you searched for meaning in the past 2 weeks?

1. No, never
2. A little
3. Sometimes
4. Quite a bit
5. Yes, all the time

How important is it to you to make some sense of or find some meaning in this sexual assault experience?

1. Not at all
2. A little
3. Somewhat
4. Quite a bit
5. Very important

**Finding Meaning**

Have you been able to make any sense or find any meaning in this sexual assault experience?

1. No, not at all
2. A little
3. Somewhat
4. Quite a bit
5. Yes, a great deal

*If not found meaning...*

If applicable, please describe why you feel you were unable to find meaning in this sexual assault experience.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Please rate how painful it has been to have not found meaning in this traumatic experience.

1. Not at all
2. A little
3. Somewhat
4. Quite a bit
5. A great deal

*If found meaning...*

If applicable, please describe what meaning or purpose you have found in this traumatic experience.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Please rate how comforting it has been to have found purpose/meaning in this traumatic experience.

<table>
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<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Quite a bit</td>
<td>A great deal</td>
</tr>
</tbody>
</table>

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]

Spontaneous Self-Distancing (Ayduk & Kross, 2010)

No matter how well someone is doing in terms of their recovery from sexual assault, sometimes it can be difficult, so difficult that they feel anxious about the possibility of relapse.

Take a few moments now to think about a time where you felt anxious about your recovery from sexual assault. Try to remember an event that happened not too long ago and that still makes you anxious when you think about it.

*Press the spacebar when the specific event comes to mind.*

[In Qualtrics we will time how long it takes them to hit the spacebar]

Page Break

Now that you’ve thought of a specific event that made you feel anxious, spend a few moments right now focusing on the causes and reasons underlying the thoughts and feelings you experienced. Try to understand why you had those feelings. Take a few minutes to do this.

*Press the spacebar when the specific event comes to mind.*

[In Qualtrics we will time how long it takes them to hit the spacebar]

Page Break

1. When you thought about the event that made you feel anxious, how much did you feel like you were seeing it through your own eyes versus watching it from a distance (like watching yourself in a movie)?
2. When you saw that event again, how far away from it did you feel?

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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very close</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very far</td>
</tr>
</tbody>
</table>

3. When you think about the event now, how close or distant in time does it feel?

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<tr>
<th>1</th>
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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feels like yesterday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Feels like very far away</td>
</tr>
</tbody>
</table>

4. When you think about the event now, how close or distant in time does it feel?

<table>
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<tr>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feels very close</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Feels very distant</td>
</tr>
</tbody>
</table>

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]

**PTSD Checklist for DSM-5 Short-Form (Short Form PCL-5; Zuromski et al., 2019)**

Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little bit</td>
<td>Moderately</td>
<td>Quite a bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>
In the past month, how much were you bothered by:

1. Suddenly feeling or acting as if the sexual assault was actually happening again *(as if you were actually back there reliving it)*?

2. Avoiding external reminders of the sexual assault *(for example, people, places, conversations, activities, objects, or situations)*?

3. Feeling distant or cut off from other people?

4. Irritable behavior, angry outbursts, or acting aggressively?

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]

**Self-Compassion Scale Short Form (SCS-SF) (Raes et al., 2011)**

Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Almost never</td>
<td></td>
<td></td>
<td></td>
<td>Almost always</td>
</tr>
</tbody>
</table>

1. When I fail at something important to me I become consumed by feelings of inadequacy.

2. I try to be understanding and patient towards those aspects of my personality I don’t like.

3. When something painful happens I try to take a balanced view of the situation.

4. When I’m feeling down, I tend to feel like most other people are probably happier than I am.

5. I try to see my failings as part of the human condition.

6. When I’m going through a very hard time, I give myself the caring and tenderness I need.

7. When something upsets me I try to keep my emotions in balance.

8. When I fail at something that’s important to me, I tend to feel alone in my failure.

9. When I’m feeling down I tend to obsess and fixate on everything that’s wrong.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

11. I’m disapproving and judgmental about my own flaws and inadequacies.

12. I’m intolerant and impatient towards those aspects of my personality I don’t like.

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here ____. You will still receive compensation for your participation in the study.]

**Peaceful Acceptance Subscale (PEACE; adapted from Mack et al., 2008)**

Using the following scale, please indicate to what extent you agree or disagree with the following statements. Please mark the answer of your choice to each question according to the following scale.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>To a slight extent</td>
<td>To some extent</td>
<td>To a large extent</td>
</tr>
</tbody>
</table>

1. To what extent are you able to accept your experience as a sexual assault survivor?

2. To what extent would you say you have a sense of inner peace and harmony?

3. To what extent do you feel that you have made peace with your experience as a sexual assault survivor?

4. Do you feel well loved now?

5. To what extent do you feel a sense of inner calm and tranquility?

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here ____. You will still receive compensation for your participation in the study.]

**Positive Mood Prime**

Sometimes people who survive a sexual assault find some positive aspect in the recovery experience. For example, some people feel they learned something about themselves or others.
Have you found anything positive in your recovery experience? If nothing comes to mind, please tell us what you perceive has been your greatest strength throughout this experience. (Explain)

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]

Distress & Feedback Measure

1. How distressing was completing this survey for you on average? Please respond using the scale from 1-7.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very much</td>
</tr>
</tbody>
</table>

2. We would now like to provide you with the opportunity to deliver feedback on how this study made you feel. Responding to this item is optional. [Open Text Box]

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]
Appendix F: Debriefing

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).

Thank you for participating in this study! This post-survey information is provided to inform you of the exact nature of the study you just participated in.

Thank you for participating in this study. We understand how difficult it must be to reflect on such a traumatic experience. We commend you for your strength and resilience, and want to emphasize that sexual assault is never the victim’s fault. You deserve to be supported in the ways that you need, and we understand that you know what is best for you. Know that you are not alone, and there are services at your disposal should you require support of any kind. We have provided information for support services, should you need them, and know that your participation in this study will inform future research that will benefit survivors of sexual assault.

What is the aim of the study you completed?

Past research has shown that nostalgia (i.e., sentimental longing for the past) can help people find comfort and meaning in their life following hardship. However, other research has found that nostalgic reflections can hinder forgiveness following a major transgression in one’s romantic relationship (i.e., infidelity). Past research has also shown that individuals tend to search for meaning following life-threatening or life-changing events, and that finding meaning in traumatic experiences can potentially help recovery.

In this study, we were interested in learning more about the role of nostalgia and meaning-making in the aftermath of sexual assault. That is, are survivors of recent sexual assault nostalgic about the person they were or the life they had prior to sexual assault? Do they search for and find meaning in the traumatic experience? Additionally, we wanted to examine the psychological distance of sexual assault survivors when reflecting on their post-traumatic experience (i.e., are memories related to recovery from sexual assault recalled from a first-person or bird’s-eye-view perspective?). The findings from this study will help us to understand how nostalgia, meaning-making, and psychological distance may help or hinder recovery from sexual trauma.

Is there anything I can do if I found this study to be emotionally upsetting?

Yes. It is normal to feel distress or anxiety when thinking about a traumatic experience like sexual assault. These emotions are sometimes necessary in order to research or study the effects of traumatic experiences. If you are feeling distressed from answering questions about this experience, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault.
The Rape, Abuse, & Incest National Network (RAINN) provides an online chat service (https://www.rainn.org/get-help) and organizes the National Sexual Assault Hotline (800-656-4673) which can refer you to the rape crisis centre nearest your location.

The National Sexual Violence Resource Centre (NSVRC) maintains a directory of organizations that lists state and territory sexual assault coalitions, victim/survivor support organizations, and local communities of color sexual assault organizations (https://www.nsvrc.org/organizations).

The Rape Crisis Centre (RCC) has a 24/7 helpline (608-251-7273) and resources for local, state, and federal support services (https://thercc.org/get-support/survivor%20resources/) available for survivors of sexual assault.

For more information and resources regarding sexual assault, please visit the following websites:

RAINN : https://www.rainn.org/
NSVRC: https://www.nsvrc.org/
RCC: https://thercc.org/

What if I have questions later?

If you have any questions or comments about this research, then please feel free to contact one of the personnel involved in this research:

Renee St-Jean: reneestjean@cmail.carleton.ca
Dr. Michael Wohl: michael.wohl@carleton.ca
Dr. Chris Davis: chrisdavis@cu.net.carleton.ca

During Covid, the Research Ethics Staff are working from home without access to their Carleton phone extensions. Accordingly, until staff return to campus, please contact them by email. Should you have any ethical concerns about this research, please contact the REB Chair, Carleton University Research Ethics Board-B (by phone: 613-520-2600 ext. 4085, or by email: ethics@carleton.ca). For all other questions about the study, please contact the researchers.

Compensation

We will use your Worker ID to grant your reward for completing this study. Please note that this information will not be tied to your responses in any way.

Thank you for participating in this study! We greatly appreciate your participation.

This research has been funded by a Research Achievement Award from Carleton University to Dr. Michael Wohl.
Appendix G

Study 1 Regression Assumptions Check

Prior to conducting the linear regression analysis, a comprehensive assumptions test was conducted with PROCESS to ensure that the necessary assumptions were met. The mediation analysis included a continuous dependent variable, as well as a continuous independent variable and mediator, supporting the use of a linear regression analysis.

**Regression Model: Nostalgia (X), Searching for Meaning (M), PTSD (Y)**

**Independence of Observations**

All cases were independently drawn, with no temporal component, indicating that the assumption of independence was met.

**Linearity**

Scatterplots of the associations between the independent variables and the dependent variable suggested a non-linear relationship (i.e., no u-shaped or inversely u-shaped curve). The assumption of linearity was thus met.
Outliers

The data was then assessed for the presence of outliers (i.e., highly influential points). One univariate outlier was identified (above or below $2.5SD$), however the case was retained to avoid removing variance in the data.

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Std. Residual</th>
<th>PTSD</th>
<th>Predicted Value</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>88</td>
<td>3.208</td>
<td>16.00</td>
<td>4.9403</td>
<td>11.05967</td>
</tr>
</tbody>
</table>

a. Dependent Variable: PTSD

Normality

After inspecting the normal probability plot of standardized residuals (i.e., histogram and p-p plot), no major departures from normality were identified. The assumption of normality was thus met.

Homoscedasticity

Inspection of the scatterplot of standardized predicted values x studentized residuals, there was no evidence of heteroscedasticity (i.e., the plot showed a random rectangular shape as opposed to a funnel shape). Hence, the assumption of homoscedasticity was met.
**Multicollinearity**

There was evidence of some collinearity among variables. Specifically, although the Durbin-Watson-statistic was near 2 (2.19), the variance inflation factor (VIF) for the interaction between nostalgia and searching for meaning (14.15) was slightly higher than 10. Although this might affect the interpretability of the findings, values of VIF higher than 10 do not necessarily discount the results of regression analyses or call for the removal of one or more independent variables from the analysis (O’brien, 2007). This is further discussed in the discussion section of the paper.

**References**

Appendix H
Recruitment Notice (Wave I)

Study Name: Examining the experience of recent sexual assault survivors over time

Description: In this longitudinal study, we will ask you a variety of questions about your experience as a survivor of recent sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). We will ask you to reflect on aspects of your life and self before and after surviving sexual assault. If eligible and consenting, one month after completing the survey, you will be re-contacted to participate in the follow-up session (at which point you will have the option to participate again, should you consent to do so). You will receive USD$1.20 for participating in the 1-month follow-up. We may also run a 3-month follow-up (funds permitting). If that occurs, and you participate, you will once again receive USD$1.20.

Your participation, as well as your responses, will be treated as confidential, however absolute anonymity cannot be guaranteed. Only researchers associated with this project will know you participated in the study and no one will know how you responded to the questions asked.

Risks: We can anticipate no physical discomfort to you as a result of your participation in this study. It is not uncommon, however, for people to experience anxiety or distress when thinking about their traumatic experience and when reflecting on aspects of their lives and selves before and after surviving sexual assault. Activities and resources are provided to mitigate the impact of such feelings. In the event you feel anxiety or distress, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault. A copy of this information will be provided to you in the debriefing sheet following the questionnaires.

The Rape, Abuse, & Incest National Network (RAINN) provides an online chat service (https://www.rainn.org/get-help) and organizes the National Sexual Assault Hotline (800-656-4673) which can refer you to the rape crisis centre nearest your location.

The National Sexual Violence Resource Centre (NSVRC) maintains a directory of organizations that lists state and territory sexual assault coalitions, victim/survivor support organizations, and local communities of color sexual assault organizations (https://www.nsvrc.org/organizations).

The Rape Crisis Centre (RCC) has a 24/7 helpline (608-251-7273) and resources for local, state, and federal support services (https://thercc.org/get-support/survivor%20resources/) available for survivors of sexual assault.

For more general information and resources regarding sexual assault, please visit the following websites:

RAINN: https://www.rainn.org/
NSVRC: https://www.nsvrc.org/
RCC: https://thercc.org/
Eligibility:
1. Must be a resident of the United-States.
2. Must be at least 20 years of age.
3. Must be a survivor of recent sexual assault (i.e., occurred in the past year).
4. Must have access to a health care or treatment provider (i.e., you currently have a family doctor, therapist, counselor, or other professional available to you that you are willing and able to contact for assistance should you feel it necessary).

Duration and Locale: This takes place online and will take approximately 10-12 minutes to complete. Upon completion, you will receive USD$1.00 for your participation.

Researchers: Renee St-Jean (reneestjean@cmail.carleton.ca), Michael Wohl (Michael.wohl@carleton.ca), Chris Davis (chris.davis@carleton.ca)

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).

Recruitment Notice (Wave II & Wave III)

[Wave II]
This is the first follow-up to a survey you completed 1 month ago that assessed the experience of recent sexual assault survivors. In this follow-up, as in the survey you completed 1 month ago, you will be asked a variety of questions about your experience as a survivor of sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). This survey takes about 10-12 minutes to complete and you will be compensated $1.20 for participating.

Thank you for your continued participation!

[Wave III]
This is the second follow-up to a survey you completed 3 months ago that assessed the experience of recent sexual assault survivors. In this follow-up, as in the survey you completed 3 months ago, you will be asked a variety of questions about your experience as a survivor of sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). This survey takes about 10-12 minutes to complete and you will be compensated $1.20 for participating.

Thank you for your continued participation!
Appendix I
Informed Consent

(Wave I)

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).

Present Study: Examining the experience of recent sexual assault survivors over time

Research Personnel. The following people are involved in this study and may be contacted at any time if you have questions or concerns: Renee St-Jean (Principal Investigator, Graduate Student; reneestjean@email.carleton.ca), Dr. Michael Wohl (Faculty Co-Investigator; michael.wohl@carleton.ca), Dr. Chris Davis (Faculty Co-Investigator; chris.davis@carleton.ca).

During Covid, the Research Ethics Staff are working from home without access to their Carleton phone extensions. Accordingly, until staff return to campus, please contact them by email. Should you have any ethical concerns about this research, please contact the Chair of Carleton University Research Ethics Board-B (email: ethics@carleton.ca). For all other questions about the study, please contact the researchers.

Purpose. The purpose of the study is to gain a better understanding of the experience of sexual assault survivors over time.

Task Requirements. In this longitudinal study, you will be asked a variety of questions about your experience as a survivor of sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). You will be asked to reflect on aspects of your life and self before and after surviving sexual assault. If eligible and consenting, you will be re-contacted in one month to participate in the follow-up session (at which point you will have the option to participate again, should you consent to do so). You will receive USD$1.20 for participating in the 1-month follow-up. We may also run a 3-month follow-up (funds permitting). If that occurs, and you participate, you will once again receive USD$1.20.

Should you choose to participate in the current study, we ask that you choose a location where you feel safe and will not be disturbed.

Benefits/Compensation. We are offering USD$1.00 to eligible participants as compensation for participating in the current survey. Another USD$1.20 will be offered to returning participants who complete the survey again in 1 month and another USD$1.20 should the 3-month follow-up take place. The survey will take approximately 10-12 minutes to complete. Participating in this research will help future survivors of sexual assault by deepening our understanding of the
experience of trauma survivors and by contributing to the improvement of treatment and therapy methods for survivors of sexual assault.

**Eligibility:**

1. Must be a resident of the United States.
2. Must be at least 20 years of age.
3. Must be a survivor of recent sexual assault (i.e., occurred in the past year).
4. Must have access to a health care or treatment provider (i.e., you currently have a family doctor, therapist, counselor, or other professional available to you that you are willing and able to contact for assistance should you feel it necessary).

Please note that you will be assessed on your eligibility to participate immediately following this consent form. Only eligible participants will be permitted to participate in the survey and receive USD$1.00.

**Duration and Locale:** The survey will be administered online and should take approximately 10-12 minutes to complete. Your name will not be associated in any way with the research findings. With your consent, your worker ID will be retained to re-contact you for the follow-up session(s).

**Potential Risk/Discomfort.** It is not uncommon for people to experience anxiety or distress when thinking about their traumatic experience and when reflecting on aspects of their lives and selves before and after surviving sexual assault. Activities and resources are provided to mitigate the impact of such feelings. In the event you feel anxiety or distress, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault. A copy of this information will be provided to you in the debriefing sheet following the questionnaires.

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For more general information and resources regarding sexual assault, please visit the following websites:
Right to Withdraw. Your participation in this study is entirely voluntary. To withdraw at any point during the study, simply click the “withdraw” button at the bottom of each page. By clicking “withdraw” you will be automatically redirected to the debriefing page. This means that you will still receive compensation for your participation should you choose to withdraw. Any data you provide before choosing to withdraw during the study will be manually destroyed before data analysis. If you choose to withdraw, it is essential that you read the debriefing form at the end of the survey. Note that if you complete the study, there will be no way for us to withdraw your data after the day in which data collection has ended. We make every effort to credit participants as soon as possible (24 hrs after participating if not sooner). As soon as a participant is credited, their worker ID is removed from the data set, thus making withdrawal of your data not possible. Additionally, you will still receive compensation for completing this session even if you do not consent to be re-contacted for the follow-up session(s).

Anonymity/Confidentiality: The data collected in this experiment are confidential. Worker IDs will only be collected for the purposes of distributing compensation and, with your consent, to invite you to participate in the study again in 1 month (and maybe 3 months). If you consent to participate in the follow-up(s), we will delete your worker ID as soon as that wave of data collection comes to an end. If you do not grant consent to participate in the follow-up session, we will delete your worker ID when data collection ends for the current wave of data collection. Furthermore, worker IDs will not be shared with anyone outside of the research team and will be removed from the data set. Although you have been recruited to participate in this study through CloudResearch, all of your responses and data will be recorded on Qualtrics (and none of your responses will be stored on CloudResearch). All data on the Qualtrics server is encrypted and protected using multiple layers of security (e.g., encrypted websites and password protected storage). For more information about the security of data on Qualtrics, please see the Qualtrics security and privacy policy, which can be found at the following link: http://www.qualtrics.com/security-statement.

During the study, data will be collected and stored on Qualtrics servers hosted in Canada. Data from Qualtrics servers may only be disclosed via a court order or data breach. In view of this, we cannot absolutely guarantee the full confidentiality and anonymity of your data. After the survey is complete, anonymized survey data will remain accessible indefinitely to the research team and be secured on encrypted computers in Dr. Wohl’s laboratory. With your consent to participate in this study, you acknowledge this.

Data Storage and Sharing. The data will be stored on the computers of the researchers and research assistants involved with this project. As there will be no personal information associated with the data, this dataset will be stored electronically and kept indefinitely. Additionally, we will upload this anonymized dataset to an online data repository called Open Science Framework (http://osf.io/) for research and teaching purposes.
**Research Funding.** This research has been funded by a Research Achievement Award from Carleton University to Dr. Michael Wohl.

By checking this box you agree to the following terms:

- Yes, I am aware that there are various treatment and support options available to me.
- I have chosen a location where I am safe and will not be disturbed.
- I agree to participate in the study.
- I do not consent to the study.

**Informed Consent**  
(Wave II and Wave III)

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).

**Present Study:** Examining the experience of recent sexual assault survivors over time

**Research Personnel.** The following people are involved in this study and may be contacted at any time if you have questions or concerns: Renee St-Jean (Principal Investigator, Graduate Student; reneestjean@cmail.carleton.ca), Dr. Michael Wohl (Faculty Co-Investigator; michael.wohl@carleton.ca), Dr. Chris Davis (Faculty Co-Investigator; chris.davis@carleton.ca).

During Covid, the Research Ethics Staff are working from home without access to their Carleton phone extensions. Accordingly, until staff return to campus, please contact them by email. Should you have any ethical concerns about this research, please contact the Chair of Carleton University Research Ethics Board-B (email: ethics@carleton.ca). For all other questions about the study, please contact the researchers.

**Purpose.** The purpose of the study is to gain a better understanding of the experience of sexual assault survivors over time.

**Task Requirements.** In the follow-up session for this longitudinal study, you will be asked a variety of questions about your experience as a survivor of sexual assault (e.g., behaviours, thoughts, beliefs about the self and the world, impact). You will be asked to reflect on aspects of your life and self before and after surviving sexual assault. You will receive a USD$1.20 for participating in this follow-up study. Should you choose to participate in the current study, we ask that you choose a location where you feel safe and will not be disturbed.

**Benefits/Compensation.** We are offering USD$1.20 to returning participants as compensation for participating in the survey again after initial participation. The survey will take approximately
10-12 minutes to complete. Participating in this research will help future survivors of sexual assault by deepening our understanding of the experience of trauma survivors and by contributing to the improvement of treatment and therapy methods for survivors of sexual assault.

**Eligibility:**

1. You must have completed the completed the first session… [Wave II: …one month ago; Wave III: …three months ago]

Only eligible participants will be permitted to participate in the survey and receive USD$1.20.

**Duration and Locale:** The survey will be administered online and should take approximately 10-12 minutes to complete. Your name will not be associated in any way with the research findings.

**Potential Risk/Discomfort.** It is not uncommon for people to experience anxiety or distress when thinking about their traumatic experience and when reflecting on aspects of their lives and selves before and after surviving sexual assault. Activities and resources are provided to mitigate the impact of such feelings. In the event you feel anxiety or distress, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault. A copy of this information will be provided to you in the debriefing sheet following the questionnaires.

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**NSVRC** : [https://www.nsvrc.org/](https://www.nsvrc.org/)

**RCC** : [https://thercc.org/](https://thercc.org/)

**Right to Withdraw.** Your participation in this study is entirely voluntary. To withdraw at any point during the study, simply click the “withdraw” button at the bottom of each page. By
clicking “withdraw” you will be automatically redirected to the debriefing page. This means that you will still receive compensation for your participation should you choose to withdraw. Any data you provide before choosing to withdraw during the study will be manually destroyed before data analysis. If you choose to withdraw, it is essential that you read the debriefing form at the end of the survey. Note that if you complete the study, there will be no way for us to withdraw your data after the day in which data collection has ended. We make every effort to credit participants as soon as possible (24 hrs after participating if not sooner). As soon as a participant is credited, their worker ID is removed from the data set, thus making withdrawal of your data not possible.

**Anonymity/Confidentiality:** The data collected in this experiment are confidential. Worker IDs will only be collected for the purposes of distributing compensation. If you consent to participate in this 1-month follow-up, we will delete your worker ID as soon as this wave of data collection comes to an end. If you do not grant consent to participate in this follow-up session, we will delete your worker ID at that time. Furthermore, worker IDs will not be shared with anyone outside of the research team and will be removed from the data set. Although you have been recruited to participate in this study through CloudResearch, all of your responses and data will be recorded on Qualtrics (and none of your responses will be stored on CloudResearch). All data on the Qualtrics server is encrypted and protected using multiple layers of security (e.g., encrypted websites and password protected storage). For more information about the security of data on Qualtrics, please see the Qualtrics security and privacy policy, which can be found at the following link: [http://www.qualtrics.com/security-statement](http://www.qualtrics.com/security-statement).

During the study, data will be collected and stored on Qualtrics servers hosted in Canada. Data from Qualtrics servers may only be disclosed via a court order or data breach. In view of this, we cannot absolutely guarantee the full confidentiality and anonymity of your data. After the survey is complete, anonymized survey data will remain accessible indefinitely to the research team and be secured on encrypted computers in Dr. Wohl’s laboratory. With your consent to participate in this study, you acknowledge this.

**Data Storage and Sharing.** The data will be stored on the computers of the researchers and research assistants involved with this project. As there will be no personal information associated with the data, this dataset will be stored electronically and kept indefinitely. Additionally, we will upload this anonymized dataset to an online data repository called Open Science Framework ([http://osf.io/](http://osf.io/)) for research and teaching purposes.

**Research Funding.** This research has been funded by a Research Achievement Award from Carleton University to Dr. Michael Wohl.

By checking this box you agree to the following terms:

- Yes, I am aware that there are various treatment and support options available to me.
- I have chosen a location where I am safe and will not be disturbed.
- I agree to participate in the study.
- I do not consent to the study.
Appendix J
Survey Materials (all Waves unless otherwise noted)

Sexual Assault

1. How long ago did the sexual assault occur? _____ month(s) ago.

2. If you have received any intervention or support from the following resources regarding the sexual assault, please check all that apply:
   a. Counselling (i.e., with a counselor)
   b. Psychotherapy (i.e., with a psychologist)
   c. Support group(s)
   d. Medical intervention [e.g., sexual assault evidence kit (or ‘rape kit’)]
   e. Other: __________
   f. I received no intervention or support from such sources

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here ___. You will still receive compensation for your participation in the study.]

Self-Discontinuity (adapted from Kim & Wohl, 2015)

The following questions are about how you perceive yourself and your self-concept. Using the following scale, please indicate if you agree or disagree with the following statements. Please mark the answer of your choice to each question according to the following scale.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Somewhat Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

_____ 1. Being sexually assaulted has changed who I am.

_____ 2. There is a difference between who I am now and who I was before I was sexually assaulted.

_____ 3. The person I was before I was sexually assaulted is different from the person I am now.

_____ 4. When I think about who I am now, it is different from who I was before I was sexually assaulted.

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here ___. You will still receive compensation for your participation in the study.]
Nostalgia: Pre-Trauma Self (adapted from Kim & Wohl, 2015)

Nostalgia is a sentimental longing for the past. People can feel nostalgic, or reminisce, about various objects including past-selves, places, experiences, and other people.

Using the following scale, please indicate if you agree or disagree with the following statements. Please mark the answer of your choice to each question according to the following scale.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Somewhat Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

_____ 1. I am already feeling quite nostalgic about who I was before I was sexually assaulted.

_____ 2. Since I was sexually assaulted, I miss the person I used to be.

_____ 3. I long for the person I was before I was sexually assaulted.

_____ 4. Before I was sexually assaulted, I was a better person than I am today.

_____ 5. I like the person I was before I was sexually assaulted better than the person I am now.

Open-Ended Questions...

If applicable, please describe what you are longing for when you nostalgize about the life you had before surviving sexual assault.

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

If applicable, please describe what you are longing for when you nostalgize about the person you were before surviving sexual assault.

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here ___. You will still receive compensation for your participation in the study.]

Meaning-Making (adapted from Davis & Novoa, 2013)

Searching for Meaning

Some people who have survived sexual assault find themselves searching to make sense or find some meaning in their traumatic experience. Have you done this since being sexually assaulted?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Quite a bit</td>
<td>A great deal</td>
</tr>
</tbody>
</table>

Have you searched for meaning in the past 2 weeks?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, never</td>
<td>A little</td>
<td>Sometimes</td>
<td>Quite a bit</td>
<td>Yes, all the time</td>
</tr>
</tbody>
</table>

How important is it to you to make some sense of or find some meaning in this sexual assault experience?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Quite a bit</td>
<td>Very important</td>
</tr>
</tbody>
</table>

Finding Meaning

Have you been able to make any sense or find any meaning in this sexual assault experience?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Quite a bit</td>
<td>Yes, a great deal</td>
</tr>
</tbody>
</table>

If not found meaning…

If applicable, please describe why you feel you were unable to find meaning in this sexual assault experience.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Please rate how painful it has been to have not found meaning in this traumatic experience.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Quite a bit</td>
<td>A great deal</td>
</tr>
</tbody>
</table>
If found meaning...

If applicable, please describe what meaning or purpose you have found in this traumatic experience.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Please rate how comforting it has been to have found purpose/meaning in this traumatic experience.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Quite a bit</td>
<td>A great deal</td>
</tr>
</tbody>
</table>

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]

Positive and Negative Affect Schedule (PANAS-SF; Watson et al., 1988)

| PANAS1 | Interested |
| PANAS2 | Distressed |
| PANAS3 | Excited |
| PANAS4 | Upset |
| PANAS5 | Strong |
| PANAS6 | Guilty |
| PANAS7 | Scared |
| PANAS8 | Hostile |
| PANAS9 | Enthusiastic |
| PANAS10 | Proud |
| PANAS11 | Irritable |
| PANAS12 | Alert |
| PANAS13 | Ashamed |
| PANAS14 | Inspired |
| PANAS15 | Nervous |
| PANAS16 | Determined |
| PANAS17 | Attentive |
| PANAS18 | Jittery |
PTSD Checklist for DSM-5 Short-Form (Short Form PCL-5; Zuromski et al., 2019)

Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little bit</td>
<td>Moderately</td>
<td>Quite a bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

In the past month, how much were you bothered by:

1. Suddenly feeling or acting as if the sexual assault was actually happening again *(as if you were actually back there reliving it)*?

2. Avoiding external reminders of the sexual assault *(for example, people, places, conversations, activities, objects, or situations)*?

3. Feeling distant or cut off from other people?

4. Irritable behavior, angry outbursts, or acting aggressively?

Self-Compassion Scale Short Form (SCS-SF) (Raes et al., 2011)

Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost never</td>
<td></td>
<td></td>
<td></td>
<td>Almost always</td>
</tr>
</tbody>
</table>

1. When I fail at something important to me I become consumed by feelings of inadequacy.

2. I try to be understanding and patient towards those aspects of my personality I don’t like.
3. When something painful happens I try to take a balanced view of the situation.

4. When I’m feeling down, I tend to feel like most other people are probably happier than I am.

5. I try to see my failings as part of the human condition.

6. When I’m going through a very hard time, I give myself the caring and tenderness I need.

7. When something upsets me I try to keep my emotions in balance.

8. When I fail at something that’s important to me, I tend to feel alone in my failure.

9. When I’m feeling down I tend to obsess and fixate on everything that’s wrong.

10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

11. I’m disapproving and judgmental about my own flaws and inadequacies.

12. I’m intolerant and impatient towards those aspects of my personality I don’t like.

[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]

Demographics

1. Age: ___ [Wave 1 only]

2. What is your gender identity: [Wave 1 only]
   a. Woman
   b. Man
   c. Non-binary
   d. Two-spirit
   e. My gender is ______
   f. Prefer not to say

3. People in the United States come from many racial or cultural groups. You may belong to more than one group of the following. Are you…. [Select all that apply] [Wave 1 only]
   a. African, Caribbean, or Black
   b. East Asian or Southeast Asian (e.g., Chinese, Japanese, Korean)
   c. Indigenous (First Nations, Inuk/Inuit, Metis)
   d. Latin American, Hispanic
   e. Middle Eastern (e.g., Iranian, Afghan)
f. South Asian (e.g., East Indian, Pakistani, Sri Lankan)
g. White, Caucasian
h. Other (specify)___
i. Don’t know
j. Prefer not to answer

4. Are you currently in a romantic relationship or have you been in a romantic relationship since the sexual assault?
   a. Yes, I am currently in a romantic relationship
   b. I have been in a romantic relationship since the sexual assault, but that relationship has now ended
   c. No, I have not been in a romantic relationship since the sexual assault

Secret-Keeping

1. To what extent is your sexual assault a secret that you are keeping from significant people in your life (e.g., current partner, family members, close friends).
   a. I haven’t told anyone close to me
   b. I have told 1-2 people
   c. I have told more than 2 of these people
   d. It is not a secret

2. Have you told your current romantic partner?
   a) Yes
   b) No
   c) Not applicable

3. [If disclosed:] To what extent do you think that talking about your experience with significant people in your life helped?
   a. Not at all
   b. A little
   c. Somewhat
   d. Quite a bit
   e. A great deal

Positive Mood Prime

Sometimes people who survive a sexual assault find some positive aspect in the recovery experience. For example, some people feel they learned something about themselves or others. Have you found anything positive in your recovery experience? If nothing comes to mind, please tell us what you perceive has been your greatest strength throughout this experience. (Explain)
[If you are experiencing distress, you may end the survey and go to the debriefing by clicking here _____. You will still receive compensation for your participation in the study.]
Appendix K
Debriefing

(Wave I)

This research has been cleared by Carleton University Research Ethics Board-B (Clearance #116170).

Thank you for participating in this study! This post-survey information is provided to inform you of the exact nature of the study you just participated in.

Thank you for participating in this study. We understand how difficult it must be to reflect on such a traumatic experience. We commend you for your strength and resilience, and want to emphasize that sexual assault is never the victim’s fault. You deserve to be supported in the ways that you need, and we understand that you know what is best for you. Know that you are not alone, and there are services at your disposal should you require support of any kind. We have provided information for support services, should you need them, and know that your participation in this study will inform future research that will benefit survivors of sexual assault.

What is the aim of the study you completed?

Past research has shown that nostalgia (i.e., sentimental longing for the past) can help people find comfort and meaning in their life following hardship. However, other research has found that nostalgic reflections can hinder forgiveness following a major transgression in one’s romantic relationship (i.e., infidelity). Past research has also shown that individuals tend to search for meaning following life-threatening or life-changing events, and that finding meaning in traumatic experiences can potentially help recovery.

In this study, we were interested in learning more about the role of nostalgia and meaning-making in the aftermath of sexual assault. That is, are survivors of recent sexual assault nostalgic about the person they were or the life they had prior to sexual assault? Do they search for and find meaning in the traumatic experience? Additionally, we wanted to examine the well-being of sexual assault survivors over time. The findings from this study will help us to understand how nostalgia, meaning-making, and well-being relate to one another over the course of survivors’ recovery from sexual trauma.

Is there anything I can do if I found this study to be emotionally upsetting?

Yes. It is normal to feel distress or anxiety when thinking about a traumatic experience like sexual assault. These emotions are sometimes necessary in order to research or study the effects of traumatic experiences. If you are feeling distressed from answering questions about this experience, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault.
The Rape, Abuse, & Incest National Network (RAINN) provides an online chat service (https://www.rainn.org/get-help) and organizes the National Sexual Assault Hotline (800-656-4673) which can refer you to the rape crisis centre nearest your location.

The National Sexual Violence Resource Centre (NSVRC) maintains a directory of organizations that lists state and territory sexual assault coalitions, victim/survivor support organizations, and local communities of color sexual assault organizations (https://www.nsvrc.org/organizations).

The Rape Crisis Centre (RCC) has a 24/7 helpline (608-251-7273) and resources for local, state, and federal support services (https://thercc.org/get-support/survivor%20resources/) available for survivors of sexual assault.

For more general information and resources regarding sexual assault, please visit the following websites:

RAINN: https://www.rainn.org/
NSVRC: https://www.nsvrc.org/
RCC: https://thercc.org/

What if I have questions later?

If you have any questions or comments about this research, then please feel free to contact one of the personnel involved in this research:

Renee St-Jean: reeneestjean@cmail.carleton.ca
Dr. Michael Wohl: michael.wohl@carleton.ca
Dr. Chris Davis: chrisdavis@cunet.carleton.ca

During Covid, the Research Ethics Staff are working from home without access to their Carleton phone extensions. Accordingly, until staff return to campus, please contact them by email. Should you have any ethical concerns about this research, please contact the REB Chair, Carleton University Research Ethics Board-B (by phone: 613-520-2600 ext. 4085, or by email: ethics@carleton.ca). For all other questions about the study, please contact the researchers.

Compensation

We will use your worker ID to grant your reward for completing this study.

Thank you for participating in this study! We greatly appreciate your participation.

This research has been funded by a Research Achievement Award from Carleton University to Dr. Michael Wohl.

(Waves II and III)
Thank you for participating in the follow-up session of this study! This post-survey information is provided to inform you of the exact nature of the study you just participated in.

Thank you for participating in this study again. We understand how difficult it must be to reflect on such a traumatic experience. We commend you for your strength and resilience, and want to emphasize that sexual assault is never the victim’s fault. You deserve to be supported in the ways that you need, and we understand that you know what is best for you. Know that you are not alone, and there are services at your disposal should you require support of any kind. We have provided information for support services, should you need them, and know that your participation in this study will inform future research that will benefit survivors of sexual assault.

**What is the aim of the study you completed?**

Past research has shown that nostalgia (i.e., sentimental longing for the past) can help people find comfort and meaning in their life following hardship. However, other research has found that nostalgic reflections can hinder forgiveness following a major transgression in one’s romantic relationship (i.e., infidelity). Past research has also shown that individuals tend to search for meaning following life-threatening or life-changing events, and that finding meaning in traumatic experiences can potentially help recovery.

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**Is there anything I can do if I found this study to be emotionally upsetting?**

Yes. It is normal to feel distress or anxiety when thinking about a traumatic experience like sexual assault. These emotions are sometimes necessary in order to research or study the effects of traumatic experiences. If you are feeling distressed from answering questions about this experience, we recommend that you contact your healthcare provider. You may also wish to contact one of the sexual assault helplines nearest to your location. The following is a list of helplines, support services, and resources available for survivors of sexual assault.

The Rape, Abuse, & Incest National Network (RAINN) provides an online chat service ([https://www.rainn.org/get-help](https://www.rainn.org/get-help)) and organizes the National Sexual Assault Hotline (800-656-4673) which can refer you to the rape crisis centre nearest your location.
The National Sexual Violence Resource Centre (NSVRC) maintains a directory of organizations that lists state and territory sexual assault coalitions, victim/survivor support organizations, and local communities of color sexual assault organizations (https://www.nsvrc.org/organizations).

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For more general information and resources regarding sexual assault, please visit the following websites:

RAINN: https://www.rainn.org/
NSVRC: https://www.nsvrc.org/
RCC: https://thercc.org/

What if I have questions later?

If you have any questions or comments about this research, then please feel free to contact one of the personnel involved in this research:

Renee St-Jean: reneestjean@cmail.carleton.ca
Dr. Michael Wohl: michael.wohl@carleton.ca
Dr. Chris Davis: chrisdavis@cunet.carleton.ca

During Covid, the Research Ethics Staff are working from home without access to their Carleton phone extensions. Accordingly, until staff return to campus, please contact them by email. Should you have any ethical concerns about this research, please contact the REB Chair, Carleton University Research Ethics Board-B (by phone: 613-520-2600 ext. 4085, or by email: ethics@carleton.ca). For all other questions about the study, please contact the researchers.

Compensation

We will use your worker ID to grant your bonus reward for completing this follow-up study.

Thank you for participating in this study! We greatly appreciate your participation.

This research has been funded by a Research Achievement Award from Carleton University to Dr. Michael Wohl.
Appendix L
Consent to Re-Contact

Given that this study is longitudinal (i.e., assessing participants over time), we would like to contact you at a later date to complete a follow-up session 1 month from now (and, potentially, 3 months from now). Granting us consent to recontact you would make such a follow-up possible. Know that a) you will still be compensated for your participation in the current session regardless of whether you consent to be re-contacted, and b) should you consent to be re-contacted, you will still have the option not to participate when you receive the recruitment form on CloudResearch in one month's time (and potentially 3-months' time). Compensation (USD$1.20) will be given to participants who complete the follow-up in one month. Though there is a possibility we might not re-contact you in 3-months for a second follow-up, if we do and you choose to participate, you will again receive compensation (USD$1.20).

Know that re-contact occurs only through CloudResearch using your worker ID.

Anonymity/Confidentiality: The data collected in this experiment and in the context of any follow-up studies are confidential. All information you supply during the research will be held in confidence. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. The data are made available only to the researchers associated with this project. Your data will be labeled with a unique identification code. Any identifying information associated with your code will be confined to a single page that will be separated from your questionnaire, and kept in a separate, secured file by the research investigators, who will keep this information confidential and will only use it in the event of a follow-up study to connect your questionnaires. If you give us permission to contact you again, then your personal information will be kept until the end of the study and then deleted.

Right to withdraw data: You have the right to withdraw this consent to be re-contacted at any time.

By checking this box, you agree to the following terms:

- I would like to be recontacted to take part in the follow-up study. If at the time of contact I do not wish to take part, I recognize that I’m free to decline at that time.

- I do not want to be recontacted to take part in the follow-up study.

Thank you for your interest in completing our research! We would like to reiterate that the information you provide is strictly confidential and will not be associated with your responses. If at the time of contact you do not wish to take part, you are free to decline at that time. Please complete the following information:

Worker ID: ___________________________________________
Appendix M

Study 2 A-Priori Power Analysis

An a priori joint-significance power analysis (Montoya, 2022) was conducted based on the mediation coefficients from Study 1 (see below). Additionally, to control for correlations between repeated-measures (i.e., searching for meaning, PTSD), we relied on repeated-measures correlations in a longitudinal meaning-making study by Davis and Novoa (2013) and a longitudinal sexual assault/PTSD study by Kline and colleagues (2021). The results indicated that a minimum of 150 participants would be needed to detect a moderate effect at an alpha of .05 with 82% power.

R Script

```r
# corm: correlation among repeated measurements of mediator = .50 (T1 to T2 search)
# cory: correlation among repeated measurements of outcome = .47 (T1 to T2 PTSD)
# aest: a-path estimates standardized by SD(M) = .24 (Nostalgia to search)
# best: b-path estimate standardized by SD(M) and SD(Y) = .34 (Search to PTSD)
# cest: c-path estimate standardized by SD(Y) = .34 (Nostalgia to PTSD)

WSmedpower(nsims = 5000, boots = 0, MCsamples = 0, alpha = 0.05, N = 150, corm = .50, cory = .47, aest = .24, best = .34, cest = .34, dest = 0)
```

References


Appendix N
Study 2 Regression Assumptions Check

Prior to conducting the linear regression analyses, a comprehensive assumptions test was conducted with PROCESS to ensure that the necessary assumptions were met. All the mediation analyses included continuous dependent variables, as well as continuous independent variables and mediators, supporting the use of linear regression analyses.

**Regression 1: Nostalgia (X), Searching for Meaning (M), PTSD (Y)**

**Independence of Observations**

All cases were independently drawn, with no temporal component, indicating that the assumption of independence was met.

**Linearity**

Scatterplots of the associations between the independent variables and the dependent variable suggested a non-linear relationship (i.e., no u-shaped or inversely u-shaped curve). The assumption of linearity was thus met.
Outliers

The data was then assessed for the presence of outliers (i.e., highly influential points). Two univariate outliers were identified (above or below 2.5SD), however the cases were retained to avoid removing variance in the data.

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Std. Residual</th>
<th>PTSD</th>
<th>Predicted Value</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>406</td>
<td>-3.468</td>
<td>0.00</td>
<td>9.9756</td>
<td>-9.97564</td>
</tr>
<tr>
<td>520</td>
<td>-2.913</td>
<td>16.00</td>
<td>7.6202</td>
<td>8.37982</td>
</tr>
</tbody>
</table>

a. Dependent Variable: PTSD

Normality

After inspecting the normal probability plot of standardized residuals (i.e., histogram and p-p plot), no major departures from normality were identified. The assumption of normality was thus met.

Homoscedasticity

Inspection of the scatterplot of standardized predicted values x studentized residuals, there was no evidence of heteroscedasticity (i.e., the plot showed a random rectangular shape as opposed to a funnel shape). Hence, the assumption of homoscedasticity was met.
Multicollinearity

There was evidence of collinearity among variables. Although the Durbin-Watson-statistic was near 2 (1.98), the variance inflation factors (VIF) for searching for meaning (10.76) and the interaction between nostalgia and searching for meaning (24.08) were higher than 10. Although this might affect the interpretability of the findings, values of VIF higher than 10 do not necessarily discount the results of regression analyses or call for the removal of one or more independent variables from the analysis (O’Brien, 2007). This is further discussed in the discussion section of the paper.

Regression 2: Nostalgia (X), Searching for Meaning (M), Negative Affect (Y)

Independence of Observations

All cases were independently drawn, with no temporal component, indicating that the assumption of independence was met.

Linearity

Scatterplots of the associations between the independent variables and the dependent variable suggested a non-linear relationship (i.e., no u-shaped or inversely u-shaped curve). The assumption of linearity was thus met.
Outliers

The data was then assessed for the presence of outliers (i.e., highly influential points). Three univariate outliers were identified (above or below $2.5SD$), however the cases were retained to avoid removing variance in the data.

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Std. Residual</th>
<th>NegAff</th>
<th>Predicted Value</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>303</td>
<td>2.913</td>
<td>45.00</td>
<td>23.9617</td>
<td>21.03828</td>
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<tr>
<td>321</td>
<td>2.519</td>
<td>42.00</td>
<td>23.8096</td>
<td>18.19043</td>
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<tr>
<td>399</td>
<td>-2.527</td>
<td>11.00</td>
<td>29.2481</td>
<td>-18.24806</td>
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</table>

Normality

After inspecting the normal probability plot of standardized residuals (i.e., histogram and p-p plot), no major departures from normality were identified. The assumption of normality was thus met.

Homoscedasticity

Inspection of the scatterplot of standardized predicted values x studentized residuals, there was no evidence of heteroscedasticity (i.e., the plot showed a random rectangular shape as opposed to a funnel shape). Hence, the assumption of homoscedasticity was met.
**Multicollinearity**

There was evidence of collinearity among variables. Although the Durbin-Watson-statistic was near 2 (2.08), the variance inflation factors (VIF) for searching for meaning (10.76) and the interaction between nostalgia and searching for meaning (24.08) were higher than 10. The implications of this is discussed in Regression 1 multicollinearity section.

**Regression 3: Nostalgia (X), Searching for Meaning (M), Self-Compassion (Y)**

**Independence of Observations**

All cases were independently drawn, with no temporal component, indicating that the assumption of independence was met.

**Linearity**

Scatterplots of the associations between the independent variables and the dependent variable suggested a non-linear relationship (i.e., no u-shaped or inversely u-shaped curve). The assumption of linearity was thus met.
Outliers

The data was then assessed for the presence of outliers (i.e., highly influential points). Four univariate outliers were identified (above or below 2.5SD), however the cases were retained to avoid removing variance in the data.

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Std. Residual</th>
<th>.Studentized</th>
<th>Predicted</th>
<th>Residual</th>
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</thead>
<tbody>
<tr>
<td>244</td>
<td>-2.513</td>
<td>1.50</td>
<td>3.1709</td>
<td>-1.67091</td>
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<tr>
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<td>-3.447</td>
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<td>3.2910</td>
<td>-2.29186</td>
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<tr>
<td>318</td>
<td>2.565</td>
<td>4.83</td>
<td>3.1277</td>
<td>1.70566</td>
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<tr>
<td>600</td>
<td>2.808</td>
<td>4.92</td>
<td>2.0498</td>
<td>3.02682</td>
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</table>

a. Dependent Variable: SelfComp

Normality

After inspecting the normal probability plot of standardized residuals (i.e., histogram and p-p plot), no major departures from normality were identified. The assumption of normality was thus met.

Homoscedasticity

Inspection of the scatterplot of standardized predicted values x studentized residuals, there was no evidence of heteroscedasticity (i.e., the plot showed a random rectangular shape as opposed to a funnel shape). Hence, the assumption of homoscedasticity was met.
Multicollinearity

There was evidence of collinearity among variables. Although the Durbin-Watson-statistic was near 2 (1.65), the variance inflation factors (VIF) for searching for meaning (10.76) and the interaction between nostalgia and searching for meaning (24.08) were higher than 10. This is discussed in Regression 1 multicollinearity section.

Regression 4: Nostalgia (X), Searching for Meaning (M), Trauma Acceptance (Y)

Independence of Observations

All cases were independently drawn, with no temporal component, indicating that the assumption of independence was met.

Linearity

Scatterplots of the associations between the independent variables and the dependent variable suggested a non-linear relationship (i.e., no u-shaped or inversely u-shaped curve). The assumption of linearity was thus met.
Outliers

The data was then assessed for the presence of outliers (i.e., highly influential points). One univariate outlier was identified (below 2.5SD), however the case was retained to avoid removing variance in the data.

<table>
<thead>
<tr>
<th>Case Number</th>
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<th>Predicted Value</th>
<th>Residual</th>
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</thead>
<tbody>
<tr>
<td>232</td>
<td>-2.554</td>
<td>1.20</td>
<td>2.9140</td>
<td>-1.7140</td>
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</table>

a. Dependent Variable: Accept

Normality

After inspecting the normal probability plot of standardized residuals (i.e., histogram and p-p plot), no major departures from normality were identified. The assumption of normality was thus met.

Homoscedasticity

Inspection of the scatterplot of standardized predicted values x studentized residuals, there was no evidence of heteroscedasticity (i.e., the plot showed a random rectangular shape as opposed to a funnel shape). Hence, the assumption of homoscedasticity was met.
**Multicollinearity**

There was evidence of collinearity among variables. Although the Durbin-Watson-statistic was near 2 (1.48), the variance inflation factors (VIF) for searching for meaning (10.76) and the interaction between nostalgia and searching for meaning (24.08) were higher than 10. This is discussed in Regression 1 multicollinearity section.

**References**

Appendix O
Within-Variable Correlations Between Time 1 and Time 2 Variables

Table 1

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>p</th>
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<tbody>
<tr>
<td>T1 Nostalgia – T2 Nostalgia</td>
<td>.67</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>T1 Searching – T2 Searching</td>
<td>.52</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>T1 Found – T2 Found</td>
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<td>&lt; .001</td>
</tr>
<tr>
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<td>&lt; .001</td>
</tr>
<tr>
<td>T1 Negative Affect – T2 Negative Affect</td>
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<tr>
<td>T1 Positive Affect – T2 Positive Affect</td>
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<td>&lt; .001</td>
</tr>
<tr>
<td>T1 Self-Compassion – T2 Self-Compassion</td>
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<td>&lt; .001</td>
</tr>
<tr>
<td>T1 Acceptance – T2 Acceptance</td>
<td>.73</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>
Appendix P
Non-Significant Mediation Figures

Mediation models with nostalgia as the predictor, searching for meaning as the mediator, and self-compassion (Figure 1) and trauma acceptance (Figure 2) as the outcome variables.

Figure 1. Mediation model with nostalgia as the independent variable, searching for meaning as the mediator variable, and self-compassion as the dependent variable.
Note. *p < .01, **p < .001

Figure 2. Mediation model with nostalgia as the independent variable, searching for meaning as the mediator variable, and trauma acceptance as the dependent variable.
Note. *p < .001