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Enduring Memories from the Covid Pandemic

A thesis presented by

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To the Department of Psychology

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Connecticut College

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Abstract

The Covid pandemic brought with it a cascade of effects that drastically altered each of our lives. The liminality and uncertainty of this crucial period for students during this time are certain to have long-lasting implications on psychology and personality. The purpose of this study was to examine the enduring memories of students and identify trends among these memories. The research design was correlational, using online questionnaires and multiple correlations. Participants were 97 college students aged 18-24, who provided two of their most significant memories from the Pandemic, followed by responding to questionnaires including prompts that assessed affective qualities of the memories, the Centrality of Events Scale, a Self-Defining Memory Prompt, some questions that assessed lifestyle alterations during the pandemic, and the Covid Transitional Impact Scale. Results showed significant relationships among memory importance, positive affect, and negative affect. Memories rated as more positive were overall rated as more important, and memories that were rated more negatively were generally rated as less important. There was also a significant correlation between event centrality and the self-defining nature of the pandemic memories. These data suggest the resilience of students in this age group in that they seemed to employ redemptive strategies to draw positive meaning from negative events. Also, the most frequent category of pandemic memory for these students was related to relationships, highlighting the importance of alterations to normal social rhythms during the pandemic. Future research should look at longitudinal data to assess the persistent effects of living through the pandemic. Memories should be explored in greater detail to be able to code for recurring patterns and trends.

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Enduring Memories From The Covid Pandemic

The Covid pandemic brought profound changes that are certain to leave a lasting impact on society. The time period of its most acute impact in the United States from March, 2020 to May, 2022 is marked by global distress and uncertainty in the face of an unknown novel coronavirus. Comparisons with past epidemics like SARS highlight the lasting cultural impact that such events can have. The global increase in anxiety and depression during the pandemic underscores its profound emotional toll. One way that these distressing experiences are transmitted is through the enduring memories and stories that individuals retain from their encounters during the pandemic period. Humans are natural storytellers who construct personal life stories that provide a cohesive foundation for their identity. The stories we tell are a comprehensive collection of events that in some way highlight an element of our lives that we see as important or central to our identity or character. How the Covid pandemic has been internalized in narrative forms for college-aged young adults is the focus of this investigation.

Life in post-pandemic society has been deeply influenced by the pandemic, and we are left wondering what meaning we may have gathered from this shared experience. This study seeks to investigate how the pandemic endures in memory, as an aspect of our daily lives, and as a mark on society moving forward, as well as the nature of and the factors that influence the persistence of these memories. Students currently attending college in the United States have had significant cultural milestones removed or altered, and the psychological effect of missing these events and instead having them replaced by pandemic-related events is yet to be seen. We hope to contribute to the overall understanding of memory and identity, as well as how the pandemic stands as a mark on contemporary history that may continue to have great influence on those who were alive during that time.

Covid

The CDC reported that on December 12, 2019, a group of patients from Hubei province in China began experiencing flu-like symptoms that did not respond well to conventional treatments. This unknown illness increased in prevalence and began to spread to other countries. The first confirmed case of Covid-19 in the US occurred on January 20, 2020. The first confirmed case of person to person spread in the US was reported on January 30, where two infected persons had no recent history of travel. President Trump issued a travel ban and declared the pandemic a national emergency on March 13. After only two days, lockdown measures were implemented on a national scale on March 15, 2020. New York City public schools, which include over 1.1 million students, were shut down. *Inside Higher Ed* reported that the college first affected by Covid in the United States was Lake Washington Institute of Technology (Burke, 2021). After March 2020, this institution moved to complete virtual learning for the rest of the semester. Nationally, students were sent home; subsequent enrollment fell more than 20% after the switch to online learning. The Coronavirus Aid, Relief, and Economic Security (CARES) act was passed on March 27, 2020, securing \$13.2 billion in emergency funds for schools to prevent the spread of Covid. Educational and parent groups pressured schools to open as early as May 2020, at which point the CDC was prompted to release guidelines on how to reopen schools in some capacity.

The 2020-2021 school year, beginning in August 2020 was marked for many districts by hybrid learning, where districts chose the level of in-person instruction they would have. Teachers were among the first US populations to receive vaccines as part of President Biden's plan to reopen schools. Amidst CDC relaxing social distancing policy in school, as well as increased vaccine availability, the American Federation of Teachers recommended that schools

reopen five-days a week in the academic year, 2021-2022. A gradual lessening of social distancing policies and masking guidelines saw that year mark a return to normal schooling for many districts. Nevertheless, students continued to feel the impact of Covid's drastic changes to life in and out of school, manifesting as academic, emotional, and mental distress (Baker, 2022).

The Covid-19 pandemic's global impact spans every aspect of our lives. Six million and eight hundred thousand people world-wide have died from Covid complications; over 1.1 million of those deaths occurred in the United States (cdc.gov, accessed April 3, 2024). Unemployment rates peaked at 13.0% in 2020, which placed a huge economic toll on individuals and businesses alike (Smith et al., 2021). In May 2023, the World Health Organization declared Covid-19 was no longer a global health emergency. Our world in data reports that 70.6% of the world's population has received at least one dose of the vaccine for Covid-19 (ourworldindata.org). However, even though the bulk of the pandemic has faded into the background, a spectrum of challenges persists related to the economic, societal, lifestyle, and public health factors that have been impacted by Covid.

For young adults of high school and beginning college age during these key years of 2020 and 2021, the disruption was profound and on multiple levels. First and foremost, some of the students directly lost family members, watched grandparents, relatives, and their own parents suffer from the illness, face hospitalization, and in some cases, not recover. The young people themselves may have become sick, but generally did not suffer the gravity of symptoms experienced by older individuals. Still, the threat of illness was omnipresent. In addition to these health concerns, the impact on many families' economic stability was severe, causing unemployment, housing insecurity, and the challenge of spiraling inflation. Family structures were also affected with adult children moving back home; parents working remotely and

students attending remote classes in their bedrooms, living rooms, and kitchens. Rituals that provide a sense of continuity and demarcation of life passages were also thrown into disarray. High school graduation ceremonies were canceled or conducted remotely. Proms, banquets, school trips, athletic contests, theater performances, campus visits, and holiday gatherings were often shut down. In a sense, many of the touchstones and identity-defining events of late adolescence and young adulthood were significantly impacted, causing this cohort of young people to occupy a unique position in recent history. This generational event leads to the critical question of how this period has been retained in the narrative identity of these young adults.

Remote Learning and its Impact on Young Adults

Disruptions to daily life, especially related to school, are a distinguishing factor of the pandemic. These disruptions can have negative outcomes for students who are often at greater mental health risk than other populations (Rogers et al., 2021). Evidence suggests that mental health disorders tend to develop during adolescence rather than early childhood, which makes teenagers and young adults particularly vulnerable to the effects of the pandemic (Steinberg & Morris, 2001). Students rely on the regularity and consistency of the school environment for normal development, which can become even more important during times of turmoil or stress (Nandlall et al., 2022). The social benefits of in-person school for adolescent and young adult development is key to developing an identity, and the psychological impact of online school combined by the stress of the pandemic can be detrimental to normal development (Nandlall et al., 2022). Because it is still a relatively novel phenomenon, there are only a few studies that look qualitatively at the experience of students during remote learning. Data suggest that the transition to remote learning was marked by heightened anxiety, social dysfunction, and decreased academic performance (Godoy et al., 2021). Students reported that the pandemic affected their

ability to develop peer relationships and perform well in a normal academic setting, and that the schools should make a greater effort to assist students with these challenges during the ongoing pandemic (Scott et al., 2022). This combined with the critical social support that a regular school environment provides underscores the profound need to investigate the effects of a disturbed school environment on the mental health and performance of students (Godoy et al., 2021).

School and Campus Life

The final months of high school for those in the class of 2020 involved the shutdown and subsequent suspension of in person classes. A frequent theme across the memories gathered in this study was a mix of excitement and anxiety at the prospect of a prolonged school closure. This was followed by the gradual realization that the pandemic will last longer than the two or three weeks initially proposed. Indeed, the rest of the 2019-2020 school year was held online through services like Zoom, Google Classroom, and Microsoft Teams (Dash et al., 2022). This included the cancellation of athletic seasons, as well as milestone events like prom and graduation.

For Connecticut College, classes in the 2020-2021 school year began in hybrid or fully online modality, as was the case for many colleges and universities. Students often had the option to attend class in person while masked and socially distanced, or online through Zoom. For in-person classes, class sizes were limited, and in some cases, rooms were changed to accommodate social distancing requirements. Usual assignment frequency and deadlines were often altered to be less onerous during this time. Students who were at risk were made to self-isolate, especially in the case of close contact with a positively diagnosed student. Connecticut College required Covid testing twice per week in order to stay on campus. Students had to reserve an appointment time on the CoVerified app, which also provided a daily symptom

checklist for students to be allowed into public spaces like the dining hall, classrooms, or library. The testing area was located at the athletic center.

At this time, many students were sent home. Students made attempts to meet new people and reconnect with friends, but gatherings were limited due to social distancing guidelines. Groups of three or more students found together were written up by campus security; the same goes for students found without masks or students who missed their testing dates. These write-ups often led to dismissal, where they would be sent home for the remainder of the semester to attend classes online. This along with increased campuswide presence led to escalated tensions between campus security and the student population which, according to students, constituted one of the most major conflicts of the 2020-2021 school year. The duration of breaks was also altered; in order to reduce transmission from travel, the school ran through the usual duration of spring break and instead took a longer winter break, which gave students about a 3-month break from classes in which finals were to be taken at home. In order to return to campus, students were provided with Covid tests and needed to send confirmation of a negative test result.

Significant Events and Cultural Memories

The persistence of memories in individuals who have faced drastic change is indicative of the great emotional weight these memories hold. Bluck et al. (2005) found that individuals who experienced a significant life event, such as the September 11 terrorist attacks, formed self-defining memories that were central to their identity. The pandemic is likely to be remembered as a significant life event for most people. These events have a multifactorial influence on the behavior and memory of those affected by them. These influences can include neural and hormonal changes that occur after experiencing such an event, physically altering the neural

pathways that influence decision making and response patterns (Shors et al., 2006). Because of the transitional impact that Covid has exerted on the lives of many people, it is important to study these changes and their outcomes. This has implications for mental health and overall wellbeing, especially for people living through uncertain times. As this study examined, there can be long-term effects for people who live through events that will persist in memory, like pandemics, wars, or tragedies. The Covid pandemic brought the motions of daily life to a grinding halt, disturbing the normalcy that people desperately need in times of tragedy.

Pandemics from before Covid present opportunities for learning about the societal and systematic responses to a pandemic. The SARS epidemic in 2001 devastated mainland China, as well as other countries in East Asia. SARS has had a lasting cultural impact on China, creating a cultural trauma that was experienced by those who lived through the epidemic. There is evidence to suggest that the decrease in students pursuing medical degrees in China is related to early-childhood SARS impact (Chen et al., 2023). SARS survivors suffered a 25.6% prevalence rate of PTSD symptoms in 2009 (Bo et al., 2020).

Along with the temporal and cultural context of these findings, the idea of a long-term impact on memory is supported. Invoking the cultural memory of SARS in China, Licheng Qian argued, was an effective tactic in promoting a positive response to Covid-19 by public officials and citizens (Qian, 2021). The lasting impression that SARS has made in mainland China serves as a microcosm of the world-wide Covid pandemic. According to a report by the World Health Organization, there was a 25% increase in global rates of anxiety and depression during the first year of the Covid-19 pandemic. This statistic underscores the profound emotional toll and long lasting impact that people have experienced during this time. Another study reported that 96.2% of people that had a positive Covid-19 diagnosis showcased Post-Traumatic Stress symptoms

among Covid patients in China (Bo et al., 2020). The cultural and psychological impact of pandemics is an area that warrants further investigation.

Covid-19 could be described as an “ontological crisis” (Qian, 2021). This is defined by three criteria: first, the crisis poses an existential threat. Second, it entails liminality and uncertainty, meaning that it disrupts the normal patterns of life. Third, the crisis engenders questions about meaning and begs for interpretations of its psychological and cultural impact; people are left wondering, what was the meaning of the crisis they just experienced? There are a staggering number of threats that were produced by Covid. Physical safety, economic security, education, and so on. When lockdowns and mandates were implemented, people felt as though their lives were turned upside down. As the Coronavirus that dominated the public consciousness for years fades into the background, we are left trying to find meaning and to search for ways we can learn from this tumultuous period.

The pandemic exists as a collection of experiences that span about 2-3 years, in which for many of us there have been significant memories that we consider central to our identity. There really is no single moment of sudden impact in which everyone can remember where they were, unlike 9/11 and other similar events. The lockdowns that were implemented on March 15, 2020, seemed to be more of a culmination of escalating danger in the face of a novel disease. Because of the temporal nature of the events of the pandemic, combined with the geographic, cultural, and socioeconomic inequalities it only exacerbated, it was a highly individual experience for each person and within different cultural groups. This means that for each person, their unique status and demographic could greatly influence their experience of living during the pandemic. For instance, residents of cities with higher SES were generally safer from Covid with a lower mortality rate than cities with low overall SES (Clouston et al., 2021). This experience also

crossed into educational deficits. Young students with lower SES were more likely to display deficits in math and writing skills during the pandemic (Bem-Haja et al., 2022). Some people had more positive experiences from this time than others, and being able to gain something valuable from the pandemic has helped people recover from the hardships of that time (Patterson & Park, 2023). However, other people have reported a negative psychological outcome overall, with weakened self-esteem and self-worth (Chiam et al., 2021). People who lived through previous significant global events are not resistant to these effects. In a study on 9/11 veterans, females and veterans of color experienced greater overall life stress across the board related to Covid-19 than white male 9/11 veterans (Aronson et al., 2023). If the pandemic is to be viewed as an ontological crisis, it warrants further investigation into its meaning in order to make sense of our collective experiences. Sociocultural and demographic factors seem to play an important role in the individual experience of Covid-19 and its outcomes in post-pandemic society.

Autobiographical Memory

Given the cultural disruption caused by the Covid-19 pandemic and its likelihood to be embedded in our society's collective memory, we might also ask how individuals' personal memories have been affected. "Autobiographical memory" pertains to personal experiences and events recalled by individuals from their own lives. The ability to form long-term autobiographical memories is multifactorial and complex, but there are some factors that have been identified in the literature that are strongly associated with persistence of memories. Emotion is one of the most influential factors on the encoding and retention of memories (Burke et al., 1992). The recall of emotional memories is often more vivid and detailed, and these memories tend to persist longer than non-emotionally charged memories. The most positive and important events are often recalled from ages 20-29, while remote negative events are often

suppressed and not recalled as readily due to a combination of sociocultural and psychological factors (Berntsen & Rubin, 2002).

Cognitive processes also play a role in autobiographical memory. The attention which a specific memory receives, or the frequency with which it is recalled, can strengthen the retention of the memory (Kemp et al., 2023). Similar to the process of rehearsal, this pattern of thought promotes the consolidation of long-term memory by strengthening pre-existing neural pathways (Parle et al., 2006). Frequently revisited conversations or interactions are often more accessible in autobiographical memory, which shapes the personal narrative based on the interactions that are the most readily recalled. Cultural life scripts vary; the events that may be deemed significant in one culture, and therefore be more memorable, could be insignificant in another and not be remembered as important (Berntsen & Bohn, 2009). These life scripts are the collective cultural norms that assign value to shared experiences. In the United States, people aged 18-24 experience many significant cultural milestones. High school graduation, senior prom, and moving away to college are prominent examples of these milestones. All of which, from March 2020 to May 2022 may have been affected or in some way altered by the pandemic. Missing these milestones that others look upon as some of their most positive and vivid memories could have significant psychological effects which warrant deeper investigation.

It is also important to consider the presence of memory recall biases when generating questionnaires. Response-order biases may play a role in the way in which participants respond to the memory prompt. It was important when designing the memory prompt used in this research not to suggest temporality in the memory responses, so the language used to request the memories did not include anything regarding the order of these memories.

“Event centrality” refers to how significant or prominent one perceives a particular event to be in relation to their identity (Berntsen & Rubin, 2004). Event centrality refers to the quality of a moment in time or event being a focal point around which one’s identity is constructed. Event centrality may be influenced by sociocultural factors, similar to cultural life scripts which suggest that events are deemed important if they are associated with cultural values (Berntsen & Bohn, 2009). A study of 565 adults determined that across cultures, people that regarded positive events as more central than negative ones tended to have higher life satisfaction (Zaragoza et al., 2015).

Narrative Identity

In the last two decades, there has been a convergence of research on autobiographical memory in cognitive psychology with the study of identity in personality and clinical psychology through the concept of narrative identity (McAdams, 2011; Singer, Blagov, Berry, and Oost, 2013). Humans are storytellers by nature. Narrative identity theory makes use of this tradition and argues that identity is based in the stories we tell to understand ourselves and to discern and convey meaning from events we experience (McAdams, 2011). Much of the literature on narrative identity focuses on common themes among personal narratives. In Western societies, some of these typical themes are redemption, contamination, communion, and agency. Meaning-making narratives are powerful and contribute to personal growth. For example, redemption narratives (the transformation of a negative experience into a more positive outcome or uplifting lesson), is an example of human resilience by turning bad circumstances into a more constructive enduring result (Singer, 2004). People tend to navigate personal struggles by finding a positive perspective on previous hardship. People with this ability are often more resilient than those who do not (McAdams & McLean, 2013).

The tools to create these narratives and form these memories tend to develop in late adolescence (Habermas & Bluck, 2000). Adolescents who had these critical years in the life story marked by the disruption of the Covid pandemic are a particularly vulnerable group for this reason. Evidence suggests that there are more positive transitional events between ages 15-30 than outside of that range (Berntsen & Rubin, 2004). This is a developmental period where major events occur, some that hold great emotional value and others that are highly culturally significant. The restrictions brought about by the pandemic caused many to miss these events, or otherwise have them altered in some sense. As mentioned earlier, cancellation of prom, drive-through graduations, online learning particularly in the senior year of high school or the first year of college, can all be examples of the way in which the pandemic disrupted cultural milestones for many. In combination with the other effects of the pandemic, this could cause psychological difficulties that may not have been experienced by other generations/age groups around this time. That is why the crucial age period of 18-24 (i.e., a span that covers current college students), was chosen as the age range for data collection.

“Self-defining memories” are typically highly consequential and emotionally charged autobiographical memories that are intricately connected to a person's core values and sense of narrative identity (Blagov & Singer, 2004; Singer et al., 2013). These enduring memories include lessons that the person can gather from past experiences that provide touchstones for core aspects of their identity. Because of how eventful, emotionally charged, and significant the pandemic was, we feel it is important to determine if some pandemic-based memories will endure as self-defining memories and contribute to individuals’ ongoing construction of their narrative identity. This was one of the central questions of the study to be described.

The Present Study

The present study sought to investigate the links among event centrality, memory affect, self-defining memories, and the content and persistence of pandemic memories. The crucial ages of 18-24 have been deeply affected by the pandemic across all domains. As the bulk of the pandemic fades into the background, we examined how it might have influenced the autobiographical memories of college students who lived through it. We collected two autobiographical memories from college students that they located within the period of March 2020 to May 2022. We also examined how the pandemic may have caused significant transitions and/or transformations in our lives by administering the Covid-TIS (Heanoy et al., 2021). Drawing on this information, we sought to explore what were the persisting memories for current college students who went through the pandemic. What were the categories of memory they retained from the pandemic and to what extent are these memories central to their identity? We also examined how the degree of Covid exposure and demographic factors may have played a role in the categories of memories they retained and in the emotional resonance and centrality that these memories possess. This study sought to contribute to the overall understanding of how significant global events like the pandemic influence our understanding of ourselves and the world.

Method

This study is correlational, investigating the persisting memories from the Covid pandemic. Participants were asked to describe two of their most significant memories from the pandemic followed by a series of questionnaires that examine their experience of the pandemic, its transitional impact, and specific qualities of the provided memories.

Participants

Participants were 97 college students ($M_{age} = 21.37$, $SD = 1.61$, range: 18-24). Demographic factors were investigated as possibly contributing to the qualities of persisting memories. The majority of participants were aged 20-21 (48 participants, 49.5% of the total sample), with a general skew towards higher ages. There were only 9 participants that were 18-19, while 40 participants were aged 22-24. There were 48 female participants, 47 male participants, while 2 participants identified as agender or nonbinary. About 64% of the total sample was white (62 participants), other races identified were 18 Asian participants, 8 Black participants, 3 Hispanic participants, while 6 participants identified as mixed or other. Eighty-four of the participants were in the college class years of 2024-2026 (86.6%). All participants attended college in the United States. Eighty-five participants received a Covid-19 vaccination, while only 57 participants ever received a positive Covid diagnosis.

Procedure

Participants were recruited through Prolific (<https://www.prolific.com/>) and directed to Qualtrics (<https://www.qualtrics.com/>) via a link in order to fill out the survey. Using a dusseldorf G-power estimate (0.95 power), it was determined that 100 participants would be a sufficient sample size for the purpose of this study. Participants were determined to be United States college students aged 18-24. The reasoning behind using these ages in the study is that students during their freshman year are generally 18-19 years old. Due to the pandemic, many students may have chosen to take gap years in college or transfer around different institutions, which is why the limit age for the study is 24 years old, as opposed to a younger age.

In order to be included in the study, participants needed to be within the age range, attend college in the United States, and answer both memory prompts. Participants must have taken

longer than five minutes and thirty seconds to complete the survey in order to be included in the study. This seemed to be the shortest amount of time in which a participant was able to provide detailed and thoughtful answers. Two participants did not provide sufficient information in the memory prompt and were excluded from the study, while another participant used the same answer for all questionnaire responses and was excluded from data analysis. Participants that completed the study were compensated \$5 for their time, as it was estimated that the study would take approximately 30 minutes to complete. All participants were given and signed informed consent in accordance with IRB approval, and at the end of the study all participants read a debriefing statement that included important resources and how they would be compensated for their time. Participants may have chosen to share sensitive information during this study. In order to maintain anonymity, names were not collected, and any personal information was destroyed at the end of the data collection period. Some participants may have chosen to share information or memories that could be triggering. In order to resolve this, resources for contacting mental health services were provided in the debriefing statement.

After participants acknowledged consent on the informed consent document and understood the content of the study, participants then filled out basic demographic information. The first prompt asked participants to describe two significant memories that took place during the acute period of March 2020 to May 2022, about 50 words per memory. After describing these two memories and rating them, participants were given the 7-item centrality of events scale, the self-defining memory task, the Covid experience form, then the Covid Transitional Impact form. After filling out these questionnaires, participants were provided with the debriefing statement that included mental health resources, information on compensation, contact information, and further reading on the discussed topics.

Materials

Memory Prompt

After filling out the basic demographic questions, the memory prompt asks participants to briefly describe two of their most potent memories from the pandemic, (labeled memory A and memory B). This response was followed by prompts that rate how positively and negatively they feel about each memory in recalling it, and how frequently they think about these memories.

Centrality of Events Scale

The centrality of both memories was assessed using the Centrality of Events Scale, also known as the CES (Berntsen et al., 2006). It is a 20-item Likert scale where answers are written from 1, totally disagree, to 5, totally agree. This study used the 7-item version of the scale which was deemed sufficient for the scope of the study. Participants evaluate statements such as “This event has become a reference point for the way I understand myself and the world,” and “This event has permanently changed my life,” for both provided memories. The Cronbach’s alpha value of internal consistency was .94 for this version of the scale.

Self-Defining Memory Task

In order for participants to determine whether the memories they provided are self-defining, they received a description of the self-defining memory (SDM), based on the instructions from the Self-Defining Memory Task (Blagov & Singer, 2004). Participants reviewed this description as well as view an example of a SDM. They were asked whether they consider the memories that they described to be SDMs on a Likert-type scale from 1 (not an SDM) to 5 (absolutely an SDM).

Covid Experience Questionnaire

A list of questions was generated based on the general experience of living during Covid. These questions arose from things that we felt were missing from the Covid Transitional Impact Scale (Heanoy et al., 2021). These prompts gathered information such as the mode of classes during the pandemic (online/offline), as well as their level of restlessness during lockdown.

Covid-19 Transitional Impact Survey (COVID-TIS)

The extent of life changes brought about by the pandemic was assessed using the Covid-19 Transitional Impact Survey, also known as the Covid-TIS (Heanoy et al., 2021). The 10-item Likert scale prompts respondents to answer questions with a rating from 1, totally disagree, to 5, totally agree. The survey features statements such as “My material circumstances are now different than they were before the Covid-19 Pandemic” and “My sense of self now is different than it was before the Covid-19 Pandemic.” Cronbach’s alpha value for reliability was calculated to be 0.81 in this study.

Statistical analysis

Multiple regression and correlation analysis were performed for these data.

Results

Of the 97 participants that were included in the study, 97% completed every question in the study. The participants that did not answer every question were included in data analyses because they had only missed at most two responses, neither of which were required for completion. Preliminary analysis began with finding the period from which the memories were recalled. Table 1 shows the number of responses and percentages organized temporally. For memory A (the first memory that participants recalled and wrote down), the highest number of

memories came from Spring 2020 (38; 40%). Whereas for memory B (the second memory participants recalled and wrote down), the dates of responses were more spread out. A chi-square analysis that compared memories generated for Spring/Summer 2020 versus all other memories for memory A versus memory B was significant, $\chi^2(1, N = 97) = 33.16, p < .0001$.

Table 1*Seasons and Dates of Memory Prompt Responses*

	N		%	
	Memory A	Memory B	Memory A	Memory B
Spring 2020	38	5	40.4%	5.2%
Summer 2020	14	9	14.9%	9.3%
Fall 2020	5	12	5.3%	12.4%
Winter 2020	11	7	11.7%	7.2%
Spring 2021	5	13	5.3%	13.4%
Summer 2021	7	12	7.4%	12.4%
Fall 2021	7	4	7.4%	4.3%
Winter 2021	3	11	3.2%	11.3%
Spring 2022	4	12	4.3%	12.4%
Summer 2022	1	1	1.0%	1.1%
Fall 2022	-	2	-	2.1%
Winter 2022	2	9	2.1%	9.3%

Categories of Pandemic Memories

In order to identify the kinds of memories that came from the pandemic, we conducted a thematic analysis (Braun & Clarke, 2006). Two members of the Personality and Clinical Psychology research group at Connecticut College and I began by reading all the memories and

applied codes for repetitive statements and salient themes. Once the codes were generated and agreement was reached among the three coders, these codes were presented to the larger research group, who assisted in identifying core themes for the memories. The final themes that the group generated were based upon the major domains of life for participants in the selected age range (18-24). This resulted in 8 categories of memory and 2 memory types. Memory types were “marked by Covid” or “not marked by Covid.” A memory that is marked by Covid has a distinct mention of Covid or its effects on daily life. For example, a memory that mentions wiping down groceries or life during lockdown would be a memory that is marked by Covid. A memory that is not marked by Covid contains no distinct mention of Covid or its effects on daily life. Furthermore, a memory that is not marked by Covid can also contain a mention of no longer being bound by Covid restrictions.

Table 2*Mentions of Covid - Memory Types*

Type	Memory A		Memory B		Total	
	N	%	N	%	N	%
Marked By Covid (MC)	71	73.2%	52	53.6%	123	63.4%
Not Marked By Covid (NMC)	26	26.8%	45	46.4%	71	36.6%

Memory A was more likely to be marked by Covid than memory B, $\chi^2(1, N = 97) = 8.02$, $p < .01$. Memories marked by Covid remained across both memories as the majority type of memory (123; 63%). There are 8 categories of memory: milestones, education, social global

awareness, mental and physical health, work/job, relationships, recreation, and living situation.

These memories are described in Table 3a with examples. The largest number of memories fell into the relationships category (47; 25%). This category is also one of the most significant because it includes the loss of a family member or friends, which many people experienced during the pandemic. Relationship memories appeared particularly striking for some participants, the effects of which are explored in the main analysis.

Table 3a

Categories of Memories, Descriptions and Examples

Category	Description	Example
Milestones	Personal achievement, cultural milestones, significant developmental events.	High school graduation, winning a tournament.
Education	Relating to school or academic achievement.	Getting a good grade on a final exam, getting into college.
Social Global Awareness	Awareness of global events, politics, popular culture, or developments in the news.	Watching the protests on the news, hearing about a conflict.
Mental & Physical Health	Relating to mental or physical health, both negative and positive. Includes threats to safety/wellbeing.	Finishing chemotherapy, receiving a vaccination, being threatened physically.
Work/job	Career or occupational memories.	Losing a job, getting hired at a new firm.
Relationships	Memories relating to people or personal relationships. Includes loss/death.	Losing a relative to Covid, meeting a new romantic partner, spending time outside with friends.
Recreation	Extracurricular activities, hobbies and pastimes.	Playing video games, watching movies, and participating in clubs.
Living Situation	Related to housing, lifestyle, or alterations to lifestyle.	Wiping down groceries during the pandemic, moving out of the city, struggling to pay rent.

Table 3b

Categories of Memories, Frequencies

	Memory A		Memory B	
	N	%	N	%
Milestones	13	13.4%	12	12.4%
Education	18	18.6%	12	12.4%
Social Global Awareness	9	9.3%	7	7.2%
Mental and Physical Health	12	12.4%	17	17.5%
Work/Job	8	8.2%	1	1.0%
Relationships	22	22.7%	25	25.8%
Recreation	11	11.3%	11	11.3%
Living Situation	4	4.1%	12	12.4%

Affective Responses to the Memories

To detect differences between the scores of memory A and memory B, multiple independent sample t-tests were used. For positive affect, no significant difference was found between memory A and memory B, $t(41) = 0.16$, $p = 0.68$. For importance, which appears to be highly significant in correlations with other variables, no significant difference was found, $t(14) = 0.05$, $p = 0.83$. These tests were conducted with all other variables being used in correlations with the same result. Due to these results, average scores will be used for analysis that include both memories.

Participants rated each of their memories based on how positively and negatively they felt about them, as well as their perceived importance and frequency with which they thought about the memories. Table 4 provides data for the average memories ratings across memories A

and B. Participants overall rated the memories as very important ($M = 3.79$, $SD = 0.98$) Participants rated positive feelings ($M = 2.99$, $SD = 1.44$) and negative feelings ($M = 2.93$, $SD = 1.39$) about equally across both memories. It should be noted that the average event centrality of these Covid memories is 3.16 on the 5-point scale ($SD = 1.04$), and they were overall moderately self-defining ($M = 2.91$, $SD = 1.09$).

Table 4

Descriptives of Memory Ratings

Memory Rating Averages	N	Mean	Standard Deviation
Positive	97	2.99	1.44
Negative	96	2.93	1.39
Importance	97	3.79	0.98
Frequency	97	2.77	0.95
Event Centrality	95	3.16	1.04
Self-Defining Criteria	97	2.91	1.09

Note: Scores represent the average responses across both memories. All items are on a Likert type scale (range: 1-5). For positive, negative, importance, and frequency, 1 signifies “not at all” and 5 signifies “very.” For event centrality and self-defining, a 1 represents “strongly disagree” and 5 represents “strongly agree.”

Intercorrelations of Memory Ratings

We wanted to investigate if affective memory had any relationship to the importance and frequency of recall for memories from the pandemic. We also wanted to investigate the centrality of these memories, whether they were self-defining, thereby investigating how they might have a lasting impact and be incorporated into our identity. When examining the scores for memories by themselves, the effects in the previous analysis weakened somewhat. These analyses began

before averaging the ratings for the memories to detect any preliminary significant differences. For memory A there is a strong correlation between positive feeling and importance, $r(95) = 0.29, p < 0.01$. There is also a significant negative correlation between negative feelings and importance, $r(94), -0.25, p = 0.013$. The high correlation with SDM rating carries across the board for importance, frequency, and event centrality ($p < 0.001$). These effects remained consistent for memory B as well. The correlation between importance and positivity was statistically significant, $r(95) = 0.33, p < 0.001$, as well as the negative correlation between importance and negativity, $r(94) = -0.26, p = 0.011$. Event centrality and SDM rating remained consistently significant; both variables had significant correlation with importance ratings and frequency of memory recall, $p < 0.001$.

When comparing average ratings for both memories, significant differences were detected across several domains, Table 6 shows the data output for the correlational analysis. One figure that suggests reliability in the data is the high correlation between average positive rating and average negative rating, $r(95) = -0.89, p < 0.01$. One of the most interesting findings is that participants generally rated positive memories as more important, and negative memories as less important $r(95) = 0.39, p < 0.01$; $r(95) = -0.30, p < 0.01$. Furthermore, positive memories were significantly rated as more self-defining and with higher event centrality ratings, $r(95) = 0.22, p < 0.01$; $r(95) = 0.28, p < 0.01$. These effects were not discovered for memories that were rated negatively. Indeed, Table 6 shows that event centrality and self-defining rating (SDM) had significant correlation with every other variable besides negative rating. It is also important to point out that event centrality and SDM rating both had very high correlations with importance ($r(95) = 0.69, r(95) = 0.69, p < 0.01$), and with each other ($r(95) = 0.79, p < 0.01$). This finding indicates a similar consistency in the data across participant responses as these items are deeply

connected thematically, suggesting reliability across participant interpretations of the prompts. It should also be noted that memories that were characterized as more central and more self-defining were also more frequently recalled. This suggests that memories characterized as more important from the Covid period have endured in participants' ongoing narratives.

Table 5

Correlations and Intercorrelations for Average Memory Ratings, Event Centrality, and SDM Score

Variable	1	2	3	4	5	6
1. Average Positive Memory Rating	-	-0.89**	0.39**	0.57**	0.28**	0.22*
2. Average Negative Memory Rating	-0.89**	-	-0.30**	0.03	-0.19	-0.11
3. Average Importance Memory Rating	0.39**	-0.30**	-	0.37**	0.69**	0.69**
4. Average Frequency Memory Rating	0.06	0.03	0.37**	-	0.42**	0.35**
5. Event Centrality	0.28**	-0.19	0.69**	0.42**	-	0.79**
6. SDM Average	0.22*	-0.11	0.69**	0.35**	0.79**	-

Note: N = 97; **. Signifies that a correlation is significant at the 0.01 level (2-tailed). *. Signifies that a correlation is significant at the 0.05 level (2-tailed).

Transitional Impact Scale

In order to further investigate the transitional impact of the pandemic on participants, an exploratory principal components factor analysis with a varimax rotation was conducted for the Covid-Transitional Impact Scale. Each of these items on the scale represents a change in outlook

or actions after experiencing the pandemic. Based on evaluation of the scree plot and eigenvalues greater than 1, three factors emerged from the ten items. The time usage factor corresponds to where and with whom participants spend their time, and how it has changed since pandemic. The cognitive emotional responses factor consists of changes in feelings and behaviors, and the material circumstances factor consists of how materials possessions and financial security have changed since the pandemic. Factor 1 (Time Usage) and factor 3 (Material Circumstances) were comprised of 2 items each, accounting for 18% and 16% of the variance in the data respectively. All loadings for these factors were greater than 0.7. Factor 2 (Cognitive Emotional Responses) was comprised of 5 items which explained 28% of the variance, with loadings between 0.67 and 0.79. The Cronbach's alpha value was 0.53 for factor 1, 0.80 for factor 2, and 0.67 for factor 3. Recognizing that factors 1 and 3 consist of only two items each, their reliabilities were adequate to proceed.

Table 6

Rotated Component Matrix for Factor Analysis of Transitional Impact Scale (COVID-TIS)

Item	Factor 1: Time Usage	Factor 2: Cognitive Emotional Responses	Factor 3: Material Circumstances
Time spent in places	0.77		
Time spent with people	0.75		
Material circumstances			0.73
Own different things			0.83
Activities engaged in			
Current attitudes		0.71	
Think about things		0.72	

differently			
Emotional responses		0.71	
Sense of self		0.79	
Understanding of right and wrong		0.67	
Variance Explained	18.28%	28.03%	16.31%
Cronbach's α	0.53	0.80	0.67

Correlations of these three factors with the memory variables yielded some significant results. Significant differences were detected between the importance of the memories and Time Use, $r(95) = 0.27, p < 0.01$, indicating that participants who experienced greater transitional impact on where and with whom they spend their time had high ratings of importance across both of their memories. The same effect was found between the importance rating and Cognitive Emotional Responses, $r(95) = 0.23, p < 0.05$, indicating that people who experienced changes in these responses were also more likely to rate their memories as more important.

Table 7

Correlations Between Transitional Impact Scale Factors and Memory Ratings

	Average Positive Memory Rating	Average Negative Memory Rating	Average Importance Memory Rating	Average Frequency Memory Rating	Event Centrality Average	SDM Rating
Time Use	0.07	-0.07	0.27**	0.05	0.25*	0.27**
Material Circumstances	-0.05	0.03	0.17	0.12	0.19	0.21*
Cognitive Emotional Responses	-0.01	0.003	0.23*	0.01	0.29**	0.23*

Note: N = 25; **. Signifies that a correlation is significant at the 0.01 level (2-tailed). *. Signifies that a correlation is significant at the 0.05 level (2-tailed).

Relationship Memories

Because relationship memories were the largest category of memory, we decided to run analysis on these cases alone. Since we could not assume that there are no significant differences between memory A and memory B in relationship memories, analyses were first conducted on the two memories separately. The analysis of memory A yielded few significant figures. There was one positive correlation between negative affect and frequency of recall, $r(22) = 0.43$, $p < 0.05$. Event centrality continued to have high positive correlation with importance, frequency, and SDM rating, $r(22) = 0.75$, $p < 0.01$; $r(22) = 0.55$, $p < 0.01$; $r(22) = 0.84$, $p < 0.05$.

The analysis of memory B yielded interesting figures. For importance, there was a positive correlation with positive affect, $r(25) = 0.50$, $p < 0.05$, and a negative correlation with negative affect, $r(25) = -0.50$, $p < 0.05$. Though these figures were significant at the 0.05 level, the p values were very close to 0.01, at 0.010 and 0.011 respectively. SDM rating continued to have significant correlations with importance and event centrality, $r(25) = 0.70$, $p < 0.01$; $r(25) = 0.82$, $p < 0.01$.

Table 8

Correlations and Intercorrelations for Relationship Memory B: Memory Ratings, Event Centrality, and SDM Rating

Variable	1	2	3	4	5	6
1. Positive Memory						
Rating	-	-0.95**	0.50*	0.03	0.40	0.23
2. Negative Memory	-0.95**	-	-0.50**	-0.07	-0.40	-0.21

Rating						
3. Average Importance						
Memory Rating	0.50*	-0.50*	-	0.38	0.75**	0.70**
4. Frequency Memory						
Rating	0.03	-0.07	0.38	-	0.31	0.13
5. Event Centrality	0.40	-0.40	0.75**	0.31	-	0.82**
6. SDM Rating	0.23	-0.21	0.70**	0.13	0.82**	-

Note: N = 25; **. Signifies that a correlation is significant at the 0.01 level (2-tailed). *. Signifies that a correlation is significant at the 0.05 level (2-tailed).

Discussion

The Covid pandemic existed as both a life-altering event and a social media phenomenon. The experience of lockdown, the stress of its effects, combined with the flooding of information from media outlets generated a socially constructed image of the pandemic that may have blunted some of our awareness of the personal impact on individuals in our communities. This is why it is important to study the human side of the pandemic, to highlight the experiences of people and ask how it has been incorporated into our self-concept going forward. This study explored the enduring memories of 18–24-year-old students during the pandemic investigating the event centrality, affective intensity and self-defining nature of these memories, as well as their content and their relationship to the pandemic’s lifestyle impacts. Participants filled out self-report measures that assessed these variables after providing two of their most significant memories from the pandemic (March 2020 - May 2022.) The relationships among these variables were explored in several correlational analyses.

When participants answered the memory prompt, there appeared to be a tendency to draw their first memory from the beginning of the pandemic. The seasons and dates of the second

memory were more scattered temporally. This could be because one of the most significant moments of the pandemic was when it began, as this marked the first day of the drastic shift in lifestyle that would occur in the coming years. It seems to be the moment of impact in which people realized that Covid was going to be a much more serious issue than initially believed. This could also be a contributing factor to the finding that first memories were more likely than second memories to mention Covid's influence explicitly.

In considering the content of the pandemic memories, the largest number contained a relationship-oriented theme. The majority of these memories were the types of memories where a social experience was modified in some way by the experience of the pandemic, like seeing friends and loved ones exclusively outside, or going on walks with family just to be outside of the house. The altered style of interaction and social isolation that occurred during lockdown indicates a significant disturbance in lifestyle for most people, which appeared to create enduring memories.

Memory ratings for affect, importance, frequency of recall, and event centrality were all above the midpoint on the five-point scale (see Table 4.) This appears to affirm that participants understood the prompt, as their most significant memories are by definition likely to be important and score high in event centrality. For affective memory, participants generally rated positive memories as more important and negative memories as less important; this relationship was highly significant. This finding underscores the resilience of students, and it may display a tendency to use redemptive retrospection to cope with the enduring legacy of the pandemic. It may be the case that to gain something positive from the cascade of negative events during this period, these techniques were employed so that the experience of the pandemic shaped into a healthier outcome. This finding is reinforced by the fact that average positive affect was

significantly correlated with high event centrality scores and high SDM ratings; these relationships were not discovered for average negative affect. Generally, relationship memories were more negative in the first memory recalled than in the second. The temporal order with which participants responded to the memory prompt led the first memory to be more negative in its content, while it was also more likely to be from earlier in the pandemic period. During the pandemic, early alterations in communication and lifestyle likely contributed to stress within relationships.

In the analysis of the Transitional Impact Scale (Heanoy et al., 2021), three factors were identified, these are time use, material circumstances, and cognitive emotional factors. The time use factor indicated the difference in where and with whom participants have spent their time since the pandemic. The material circumstances factor represents the impact of the pandemic on living situation, material possessions, and income. The cognitive emotional factor includes the changes in patterns of thought, or responsive behaviors since the pandemic. The factors that appeared to have the most significant interactions were time use and cognitive emotional factors. It seems that the social and emotional components of being impacted by the pandemic are the most connected to participant's memories, particularly importance, event centrality, and SDM rating. This effect was not seen for material circumstances. Indeed, this factor appeared to have no significant interactions apart from SDM rating (see Table 7). It is interesting that transitional impacts in material circumstances did not have significant interactions with the qualities of the memories. SES and material circumstances have complex psychological implications in individuals, as it can generally lead to increased allostatic load, which can logically create more negative and stressful memories (Robertson et al., 2015).

Research suggests that high event centrality is a significant risk factor for the development of Post Traumatic Stress Symptoms (Yang et al., 2022). In the current study, event centrality had significant interactions with SDM rating and memory importance across several analyses. Since self-defining memories and event centrality are thematically connected, their high correlation in multiple correlation analysis suggests reliability in the data. However, there are few studies that directly study the correlation between self-defining scores and event centrality, so these data present an opportunity to present this relationship statistically.

The most frequent theme of memory was relationships, which highlights the social significance of the pandemic, and how the effects of lockdown drastically altered styles of communication leaving a lasting impact on the way we communicate. There appears to be some gaps in the literature regarding how much of our memory is devoted to other people. The emotional intensity of memories can affect how well they are remembered or recalled (Kensinger, 2009). Because of the inherently emotional nature of altered social dynamics, it is possible that this is related to the high frequency of social memories presented by participants. There appears to be a recent bias in the literature of social memory in the past two decades, focusing on short-term memory, whereas this study deals with long-term memory storage/recall (Cum et al., 2024). This area of long-term social memory should be explored more, especially giving the natural experimental conditions presented by Covid that altered social rhythms.

In autobiographical memory research, there is very little literature on the link between perceived importance of a memory and positive affect around that memory. Autobiographical memory has a general bias towards positivity (Gehrt et al., 2018). This bias towards positivity continues for affective intensity fall off, where positive affect intensity endures longer than negative affect intensity (Walker et al., 2003). It follows that in recalling a specific memory, the

more positive it is the more important it may be perceived as, but there are few studies that investigate this link directly. In autobiographical memory, the studies that correlate positive affect with memory generally focus on the frequency of positive memories recalled. The statement coined in Walker et al., (2003) is that life is pleasant, with some exceptions based on status and demographic factors. The literature also connects positive affect and the endurance of positive affective intensity with self-defining nature in autobiographical events (Ritchie et al., 2014). So these positive biases stem from the endurance of positivity in memory compared to negativity. The current study proposes some novel data that demonstrate a positive correlation between perceived importance of a memory and positive affect.

Limitations and Future Research

One of the major limitations of this study is the detail provided in the memories. It might have been more effective to require a minimum number of 100 words in order to gather enough detail for coding these memories. One of the major takeaways from this study is the tendency for students to rate positive memories as more important and negative memories as less important. With greater detail in the memory prompt, it may have been possible to code the memories for key themes that allow for a more in depth analysis of the memories. This problem could also be addressed by conducting in-person interviews and allowing participants to discuss their feelings about the memories in depth before filling out the questionnaire. Another limitation was the lack of in depth demographic information. Covid was a highly individualized experience, depending on familial history, socioeconomic status, and several other factors, one's experience of the pandemic could be completely different than those with different demographics/background. A greater look at the effects of SES, health history, and other demographic factors would build a more comprehensive look at the personal experience of the pandemic for participants. Another

interesting direction would be the greater utilization of the Transitional Impact Scale. Results demonstrated few significant correlations in the three factors created by the factor analysis. Though they explained a significant amount of variance, they were not able to provide much more information than the two most important factors being social and cognitive-emotional.

Future research should look at more detailed memories from the pandemic and code for common themes, especially redemption and meaning-making techniques. This is because the current study was able to highlight the resilience of students during the pandemic, and the possible coping techniques that allows students to learn from the pandemic and make something positive out of this negative experience. Another direction for future research ought to be longitudinal studies. The long-term effects of the pandemic on the lives of individuals is yet to be seen. A longitudinal study would be essential to understand how the impacts of the pandemic evolve through time. A cross-sectional analysis across age ranges would also be an interesting comparison. As students were a particularly vulnerable age group, the effects of the pandemic on older adults, seniors, and younger children may provide different outcomes in data analysis. Given the diverse sociocultural contexts in which individuals experience significant life events, future research should make cross-cultural comparisons of the experience of the pandemic. This could lead to a more nuanced understanding of how cultural norms and social structures shape individuals' experiences during times of crisis, and how this can influence resilience and cognitive-emotional development. Other studies should use objective/concrete data to examine the effects of the pandemic. Some of these measures would be graduation and transfer rate in higher education institutions, student loan debt, and student burnout in the 18-24 current college student cohort compared to groups of students who were not as deeply impacted by the pandemic.

It is possible that this cohort of students may refer to themselves as ‘the Covid generation’ as we become further removed from the immediate effects of the pandemic. Just as the youth and young adults of the 1960’s were marked by the anti-war movement, Covid may be the event that defines this generation. Longitudinal studies that examine the long-term impacts will help identify the way in which our experience of the pandemic will be incorporated into our self-concept and identity. The milestones from 18-24 that many adults look back on as their most positive and vivid memories will forever be marked by a global pandemic for this group. The data presented in this study underscore the profound impacts of Covid, as well as how resilient students can be in the face of adversity. This is suggested by the positivity bias found in participants’ affective memory ratings. These data also inform us how impactful the disruption to normal social rhythms was, and it warrants deeper investigation of how these disruptions can lead to further social impacts post-pandemic. Though the memories of the pandemic are often central and important for our narrative identity, it will be interesting to see how these memories influence the way we behave and make decisions in the future.

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Appendix A

Consent to be Part of a Research Study

Title of the Project: Persistence and Content of Memories from the COVID Pandemic
Principal Investigator: Matthew Fajfert, Connecticut College
Co-investigator: None
Faculty Advisor: Jefferson Singer, Faulk Foundation Professor of Psychology, Connecticut College
Study Sponsor: None

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be at least 18 years of age and a current college student. Taking part in this research project is voluntary.

Important Information about the Research Study

Things you should know:

- The purpose of the study is to investigate the factors that contribute to the enduring memories from the pandemic. If you choose to participate, you will be asked to write two potent memories, rate them, then fill out three surveys that include Centrality of Events Scale, The COVID Transitional Impact Scale, and the COVID experience questionnaire. This will take approximately 30 minutes.
- **Risks or discomforts from this research include possible discomfort or triggering due to the sensitive content of thinking about stressful life events.**
- Taking part in this research project is voluntary. You don't have to participate and you can stop at any time.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to investigate what factors contribute to the persistence of memory from the acute period of March 2020 - May of 2022, the times when COVID was most dramatically making changes to pandemic-related guidelines and restrictions.

What will happen if you take part in this study?

If you agree to take part in this study, you will be asked to fill out several scales that relate to significant memories from the pandemic, as well as your personal experience during the pandemic. Some may find these topics to be distressing. If so, you may want to take a break, or stop all together. Your responses are completely anonymous and cannot be traced back to you by any means.

How could you benefit from this study?

If you complete the study you are eligible to receive \$5 through Prolific. Others might also benefit because it will contribute to the knowledge of event centrality and how reliably it can predict certain outcomes of traumatic experiences.

What risks might result from being in this study?

There are some risks you might experience from being in this study. They are possible discomfort or triggering due to the discussion of stressful life events. Know that this study is completely voluntary; you may stop at any time. After the study you will be provided resources for mental health discussion that you may reach out to at any time, what is most important is your health and safety.

If you find that you are upset by answering the questions in this study, please Substance Abuse and Mental Health Services Administration. Feel free to call 1-800-662-HELP (4357), they are available 24/7 year-round.

How will we protect your information?

I plan to publish the results of this study. To protect your privacy, we will not include any information that could directly identify you.

What will happen to the information we collect about you after the study is over?

I will not keep your research data to use for any purposes outside of this particular study. Your name and other information that can directly identify you will be kept secure and stored separately from the research data collected as part of the project.

How will we compensate you for being part of the study?

Participants who complete the assigned materials will be awarded \$5 through Prolific.

What are the costs to you to be part of the study?

There are no costs to you for participating in this study.

Your Participation in this Study is Voluntary

It is totally up to you to decide to be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer. If you decide to withdraw before this study is completed, your data will be completely erased and not used in the study whatsoever.

Contact Information for the Study Team and Questions about the Research

If you have questions about this research, you may contact me: **Matthew Fajfer**,
mfajfer@conncoll.edu, +1-516-497-1200

You may also contact: **Dr. Jefferson Singer**, Faulk Foundation Professor of Psychology
jasin@conncoll.edu

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

Lili Lan Visgilio, IRB Administrator
Jason Nier, IRB Chairperson
Connecticut College Institutional Review Board
270 Mohegan Avenue
New London, Ct 06320
Phone: (860) 439-2330
Email: irb@conncoll.edu

Your Consent

If you have read the above information, consent to take part in this study, and are at least 18 years of age, please click the submit button below to confirm your consent. This research is considered exempt from further Connecticut College IRB review under Exemption 2 of the Code of Federal Regulations 45 CFR 46.104(d)(2).

To access a copy of the informed consent, please download the following file: **[informed consent]**

Appendix B

Debriefing Statement

First of all, thank you for participating in this research dealing with memories from the pandemic. In this study, we investigated the categories of memory that persisted from the pandemic in relation to demographic factors. Data will be collected from college students at several higher-education institutions. The factors that contribute to the persistence of certain memories from the pandemic are important for the study of memory as well as the psychosocial effects of world events like the pandemic.

If you have any questions or concerns about the manner in which this study was conducted, please contact the Institutional Review Board Chairperson at Connecticut College:

Jason Nier, Professor of Psychology
Connecticut College, New London, Connecticut
janie@conncoll.edu

During the study, you may have chosen to describe particularly sensitive memories. Some may find the reliving of such memories to be triggering. If you have experienced any discomfort during this time or after, you may want to reach out to these resources:

Substance Abuse and Mental Health Services Administration

Available 24/7, 365 days a year

1-800-662-HELP (4357)

If you are interested in this topic and want to read the literature in this area, the self-defining memory website has several resources with all the current research on the topic. You can access it at:

www.self-definingmemories.com

You may also contact me, Matthew Fajfer, at mfajfer@conncoll.edu for additional resources.

Appendix C

Demographic Questions

What is your age?

How would you describe your gender?

How would you describe your race?

How would you describe your ethnicity?

What was your high school class year?

What type of high school did you attend? (Public/Private)

What is your current college class year?

What kind of institution do you currently attend? (4-year, 2-year, public, private)

What would you estimate your family's income to be?

Have you ever tested positive for COVID-19?

If so, when? (If multiple times, please provide each date)

Have you ever been vaccinated for COVID-19?

Appendix D

Please write two of your most significant memories from the time period of March 2020 - May 2022. (*limit - 50 words per memory*)

[A] (*month, year*)

[B] (*month, year*)

Rate how positively you feel about this memory in recalling it:

Memory A	not positive	1	2	3	4	5	very positive
Memory B	not positive	1	2	3	4	5	very positive

Rate how negatively you feel about this memory in recalling it:

Memory A	not negative	1	2	3	4	5	very negative
Memory B	not negative	1	2	3	4	5	very negative

How important is this memory to you?

Memory A	not important	1	2	3	4	5	very important
Memory B	not important	1	2	3	4	5	very important

How frequently do you think about these memories?

Memory A	less than once/year	1	2	3	4	5	at least once/week
Memory B	less than once/year	1	2	3	4	5	at least once/week

Appendix F

Singer & Blagov: Self-Defining Memories 35

Self-Defining Memory Task

This part of the experiment concerns the recall of a special kind of personal memory called a self-defining memory. A self-defining memory has the following attributes:

1. It is at least one year old.
2. It is a memory from your life that you remembered very clearly and that still feels important to you even as you think about it.
3. It is a memory about an important enduring theme, issue, or conflict from your life. It is a memory that helps explain who you are as an individual and might be the memory you would tell someone else if you wanted that person to understand you in a profound way.
4. It is a memory linked to other similar memories that share the same theme or concern.
5. It may be a memory that is positive or negative, or both, in how it makes you feel. The only important aspect is that it leads to strong feelings.
6. It is a memory that you have thought about many times. It should be familiar to you like a picture you have studied or a song (happy or sad) you have learned by heart.

To understand best what a self-defining memory is, imagine you have just met someone you like very much and are going for a walk together. Each of you is very committed to helping the other get to know the “Real You”. You are not trying to play a role or to strike a pose. While, inevitably, we say things that present a picture of ourselves that might not be completely accurate, imagine that you are making every effort to be honest. In the course of the conversation, you describe a memory that you feel conveys powerfully how you have come to be the person you currently are. It is precisely this memory, which you tell the other person and simultaneously repeat to yourself, that constitutes a self-defining memory.

From 1 to 5, please rate the extent to which you believe that each memory is a self-defining memory:

Memory A

not a self-defining memory **1** **2** **3** **4** **5** *absolutely a self-defining memory*

Memory B

not a self-defining memory **1** **2** **3** **4** **5** *absolutely a self-defining memory*

Appendix G

COVID Experience Questionnaire

In March 2020 were you in high school or college?

If you were in high school, was the school shut down?

If you were in college and lived on campus, were you sent home?

Did your school switch to online classes for any amount of time from March 2020 to May 2022?

If so, for how long?

Have you or anyone you know been hospitalized for COVID?

Have you had anyone close to you pass away due to complications related to COVID?

On a scale of 1-5, how would you rate your restlessness during lockdown? (*please circle one*)

not restless 1 2 3 4 5 unbearably restless

Appendix H

Please respond to each of the following statements by circling a number from 1 (strongly disagree) to 5 (strongly agree).

I spend my time in different places now than I did before the COVID-19 Pandemic.

strongly agree 1 2 3 4 5 strongly disagree

I own different things now than I did before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

My material circumstances are now different than they were before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

The activities I engage in are now different from the ones I engaged in before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

The people I spend time with now are different from the people I spent time with before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

My current attitudes are different than the attitudes I held before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

I think about things differently now than I did before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

My emotional responses are now different than they were before the pandemic.

strongly agree 1 2 3 4 5 strongly disagree

My sense of self is now different than it was before the pandemic.

strongly agree **1** **2** **3** **4** **5** **strongly disagree**

My understanding of right and wrong is now different than it was before the pandemic.

strongly agree **1** **2** **3** **4** **5** **strongly disagree**