Article

Living in history and by the cultural life script: What events modulate autobiographical memory organization in a sample of older adults from Romania?

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Abstract

In the current study, we investigated the organization of autobiographical memory in view of the Living-in-History effect, which is visible when personal memory and historical memory become intertwined. We investigated how often participants dated their own personal recollections with reference to important historical events (such as the Fall of Communism). Furthermore, we also examined whether cultural life script events served as a prominent strategy to date personal memories in our sample of 35 participants ($M_{age} = 69.76$ years, $SD = 8.26$). This study failed to document the Living-in-History effect, as participants mentioned only few historical events of interest to this study when dating their personal memories. In addition, supporting the *Cultural Life Script theory*, participants employed culturally transmitted knowledge to navigate through their autobiographical memories. We conclude that for our sample, historically defined autobiographical memories mainly develop when the specific public events affect in a dramatic manner the individuals' lives.

Keywords

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Introduction

The year 1989 saw the end of Communism in Central and Eastern Europe, and in 1991, the Soviet Union dissolved. These events had a major impact on the countries involved and the world at large (Beissinger, 2009). Given their historical significance, it is natural to suppose that they would also have made a strong and lasting impression on the people who lived through them. It turns out, however, that evidence for this intuition is equivocal. Of most relevance are studies by Nourkova and Brown (2015) and Camia et al. (2019). Nourkova and Brown collected data from three countries that had been part of the Soviet Union (Azerbaijan, Russia, and Uzbekistan). Camia et al. (2019) tested Germans from East Germany (Dresden) and West Germany (Kiel) and investigated whether they dated their autobiographical memory in reference to the fall of the Berlin wall in 1989. In both studies, participants, who were young adults in the late 1980s, first generated mundane personal memories in response to a set of neutral cue words; then, they thought aloud as they generated date estimates.

Prior research has demonstrated that dating protocols of this sort sometimes include references to public events (e.g. "that was after the Revolution") or historical periods (e.g. "that was during Ceauşescu Era"). We have used the prevalence of such references to index the degree to which historically significant public events have affected people's lives and organized their autobiographical memories (see Brown et al., 2016 for detailed justification of this method). Therefore, in the current study, we investigated how autobiographical memory and historical events become intertwined. Our goal was to find evidence regarding the formation of historically defined autobiographical periods (H-DAPs) and show that the occurrence of H-DAPs is related to how intense and impactful a public event was to a certain population.

According to *Transition Theory* (Brown, 2016; Brown et al., 2009), a historical event can shape the organization of autobiographical memory and lead to the formation of H-DAPs. These high-level memory structures are formed when a public event has an enduring and dramatic impact on the lives of a population—in *what* activities people engage in, *where*, and with *whom* (e.g. natural disaster, war). Therefore, H-DAPs are spawned by a collective event that leads to a marked life transition (Brown et al., 2012), putting an end to one way of living and initiating a new beginning (Brown et al., 2012). The repeated use of H-DAP references as temporal landmarks when dating personal events has been referred to as the *Living-in-History* (LiH) Effect (Zebian and Brown, 2014). In the current study, we were interested into whether the end of the communist regime in Romania represented a collective transition, one spawning a new lifetime period in the lives of Romanians that experienced this event.

We also examined the extent to which the event-dating protocols produced by our participants reflected highly individualized, idiosyncratic transitions or represented more normative events—the type of transitional events expected by an individual in a certain culture (e.g. high-school graduation, marriage). Such normative events that people use when dating their personal memories are typical events from an idealized life course, generally following a chronological order (e.g. going to college before getting married). When attempting to date their personal memories, individuals tend to refer to such normative events that are seen as landmark life experiences (e.g. beginning school, having children; Berntsen and Rubin, 2004). These prototypical events represent what is referred to as the *cultural life script* (Berntsen and Rubin, 2002, 2004). These life scripts are semantic knowledge of important transitional events, shared in a certain culture that tend to be predominantly positive events, mostly occurring in early adulthood (Berntsen and Rubin, 2004). From a Romanian perspective, this is an interesting question because life in Romania, particularly during the Ceauşescu Era, was both hard and unpredictable (Ban, 2012), particularly in comparison to life in the other more stable European countries (e.g. Germany; Berghoff and Balbier, 2013).

Assuming that the life script was often an unobtainable ideal for many Romanians in the late twentieth and early twenty-first centuries, it follows that life script events should have been experienced less often in Romania than in other less volatile European countries and hence that they should be mentioned less often in the dating protocols. In the same line, Bohn (2010) found that older participants included more negative events in their life scripts as well as displayed lower typicality in their life scripts compared with younger participants. In both groups, having lived negative experiences was negatively linked with the typicality of their life story as well as their life satisfaction (Bohn, 2010).

Returning to the issue of H-DAPs, when public-event references are common in a population that population is said to display a Lih Effect (Brown et al., 2009). Robust LiH Effects were presented in data collected from Bosnians who lived through the Siege of Sarajevo (across five samples, the LiH Effect ranged from 17% to 24%; Brown et al., 2009, 2016; Brown and Lee, 2010), Lebanese who were living in Beirut during the Lebanese Civil War (27%; Zebian and Brown, 2014), Germans who were living in Berlin at the end of World War II (WWII) (26%; Bohn and Habermas, 2016) and Chinese who were rusticated during the Cultural Revolution (26%; Gu et al., 2017).

Smaller LiH Effects have been observed in Turks who lived through the Izmit earthquake of 1999 (14%; Brown et al., 2009), Lebanese who were living in the Bekaa Valley during the Civil War (14%; Zebian and Brown, 2014), non-rusticated Chinese who had lived through the Maoist Cultural Revolution (1%; Gu et al., 2017), and WWII-generation Dutch (13%), Danes (11%) and northern Germans (16%; Bohn and Habermas, 2016). These findings and along with some two dozen samples that have failed to yield a LiH Effect have led to the conclusion that "the LiH Effect appears only when a population has undergone a major *collective transition*, a transition that imposed far-reaching, irreversible changes on the lives of people affected by it" (Brown, 2016: 130). Hence, besides very important epoch defining events, the recall of public events will be gradually less salient as time goes by. Therefore, the collective memory of such historical events will stem less from personal experience (even if such events were experienced directly) and more from formal sources that shape the public's understanding of a public event such as educational or cultural institutions. When a public event was experienced directly, the memory of that event is personalized and detailed. Hence, this information is transmitted from generation to generation shaping a more informal memory of such historical events (Svob and Brown, 2012). However, if a certain public event is not sufficiently impactful, knowledge about it is not usually transmitted intergenerationally but is more often a product of the information received from society's cultural institutions (Nourkova and Brown, 2015).

Interestingly, the collapse of the Soviet Union failed to produce a LiH Effect in three post-Soviet countries: Azerbaijan, Russia, and Uzbekistan (Nourkova and Brown, 2015). In contrast, a LiH Effect was observed in an East Germany sample, albeit a modest one (7%, Camia et al., 2019). This difference suggests that people living in the Warsaw Pact countries may have experienced the end of the Cold War differently than those living in the Soviet Union. Alternatively, it could be that East Germany was a special case; after all, the fall of the Wall paved the way for the reunification of Germany, was generally considered to be a change for the better, and did, in fact, eventually lead to a marked improvement in the standard of living for Germans living in the east (Camia et al., 2019). In line with this, Bohn and Habermas (2016) argued that positive events are generally seen as a return to a default normal, whereas negative events are perceived as diverging from that norm.

One strategy for adjudicating between these two interpretations is to collect data from other former Warsaw Pact countries. On one hand, it could be that the LiH Effect is absent from samples collected from other Warsaw Pact countries. This would be consistent with the view that the experience in East Germany was in some ways unique and with the observation that the end of

Communism did not dramatically change the fabric of daily life for most people living in the former Soviet bloc (Nourkova and Brown, 2015). On the other, it could be that the LiH Effect is commonly observed across Eastern Europe; this would suggest that in addition to resulting in a change of government, the fall of Communism brought about a fundamental change in the lives of most Eastern Europeans. Of course if we do observe a LiH Effect in this sample, we would still have to be cautious about generalizing to other Eastern Bloc countries. This is because, in Romania, and in contrast to several other countries in the region (e.g. Czechoslovakia, Hungary, and Albania), the end of Communism was accompanied by a violent uprising which lasted 10 days, cost 1116 lives (Gabanyi, 2017), and culminated in the execution of the last President of the Socialist Republic of Romania, Nicolae Ceauşescu, and his wife Elena.

The central empirical question was whether people in this Romanian sample will display a LiH Effect. If they do, we would also expect that they would also score high on the material subscale of the *Transitional Impact Scale* (*TIS-12*, Svob et al., 2014); if they do not, the Material TIS score should be relatively low. The TIS identifies those aspects of a person's life that have changed following the occurrence of a potentially important event—in this case the end of the Ceauşescu regime—and indexes the magnitude of those changes. The scale itself consists of 12 items; 6 items measure the magnitude of material change engendered by a specified event (e.g. "The Romanian Revolution has changed the places where I spend time," "The Romanian Revolution has changed the people I spend time with"), and the other 6 items measure the magnitude of psychological change engendered by the same event (e.g. "The Romanian Revolution has changed the way I think about things," "The Romanian Revolution has changed my sense of self").

The notion that the degree of material change caused by a public event determines its role in organizing autobiographical memory is derived from *Transition Theory* (Brown, 2016, 2021; Brown et al., 2012, 2016). In brief, among other things, (1) the theory holds that transitions are events that cause or signal a fundamental and enduring change in the fabric of daily life—in what people do, where they do it, and with whom and (2) the theory recognizes that major transitions often serve as temporal landmarks. It follows that if the fall of Communism had a profound effect on the way that people lived in Romania, we should observe a robust LiH Effect in the dating protocols and the Material TIS ratings should be high (Gu et al., 2017; Shi and Brown, 2016). Conversely, if the end of the Ceauşescu regime did not produce a fundamental change in the fabric of daily life for most Romanians, then we should not observe a LiH Effect and the Material TIS ratings should be moderate to low (Nourkova and Brown, 2015). We also entertained a third outcome. It seemed, at least, logically possible that individuals in this sample might produce a LiH Effect but still indicate that they had experienced relatively little material change. This pattern would imply that the violence associated with the regime change is a factor in establishing this public event as a personal landmark. That being said, prior research has demonstrated that violence in the absence of substantial material changes does not produce a LiH Effect (Brown et al., 2009; Brown and Lee, 2010). In addition to serving as important temporal landmarks, major life transitions tend to spawn a large number of memorable personal events. As a result, it is common to find that in word-cued experiments like this one, people recall more events from transitional periods than from the stable periods that precede or follow them and this is true regardless of whether the transitions are personal or collective in nature (Brown et al., 2016; Shi and Brown, 2016). Thus, an examination of the temporal distribution of word-cued memories provides a source of converging evidence for claims concerning the transitional impact of a given event. In this case, if the fall of Ceauşescu served as a collective transition in Romania, we should find participants recalling more events from the late 1980s and early 1990s than from the mid-1980s or the mid-1990s. Conversely, the absence of an "upheaval bump" around the turn of the decade in conjunction with the absence of a LiH Effect and relatively low ratings on the Material TIS

would, provide grounds for concluding that the end of Communism, despite its political historical importance, did not produce a dramatic change in the lives of our participants.

Although the focus of this study was on the LiH Effect, the dating protocols are of interest in their own right. This is because important *personal* transitions (i.e. events that delineate major lifetime periods) often serve as temporal landmarks and hence are often mentioned as people date personal memories (Brown et al., 2016; Friedman, 1993; Shum, 1998). Previous studies have found that a fair percentage of these temporal landmarks correspond to events included in the *cultural life script* (i.e. common, age normative transitions such as high-school graduation and marriage, Berntsen and Rubin, 2004). Specifically, 40% of events mentioned in the dating protocols collected from WWII-generation Germans were drawn from the cultural life script (Bohn and Habermas, 2016). Similarly, almost 40% of the memories recalled by German participants made reference to cultural life script events when dating their recollections (Camia et al., 2019) and 22% of the events mentioned by participants in the Chinese study (Gu et al., 2017). At present, there are no theoretical accounts of this variation because few samples have been assessed in this manner. Thus, the protocol analysis presented below not only serves as a way to investigate the LiH effect, but also provides additional information concerning the relative prevalence and prominence of life script transitions across different populations.

Finally, participants completed verbal and pictorial forms of the identity-fusion scale (Swann and Buhrmester, 2015). These measures are designed to assess the degree to which a person's sense of self is defined by (or is blended in with) his or her membership in a larger social unit, in this case, a family, an ethnic group or a nation. The inclusion of these measures was exploratory. We speculated that we might observe high levels of national fusion in this sample, but only if we also obtained a LiH Effect and high scores on the Material TIS scale. These speculations were grounded in prior research demonstrating that conflict produces high levels of ethnic/national fusion (Buhrmester et al., 2020). We also know that conflict can bring major changes in a group's material circumstances (e.g. Levy and Sidel, 1997) and that this in turn leads to the formation of H-DAPs and the appearance of robust LiH Effects (Bohn and Habermas, 2016; Brown et al., 2009, 2016; Zebian and Brown, 2014). Given this prior research, we figured that a transition that is robust enough to engender a LiH Effect might also produce heightened levels of ethnic/national fusion. Of course, at the outset, we did not know whether the fall of the Regime would be experienced as a major collective transition, and hence whether we would be able to document a relation between the transitional impact of this political event and its effect on levels of Romanian fusion. Nonetheless, we were still interested in determining the level of fusion present in this sample and whether there might be a correlation between the TIS and the fusion scales.

In brief, the main goal of this study was to determine whether the end of Ceaușescu's Communist regime was experienced by Romanians as a period delineating transitional event. Again the predictions were that (1) the event-dating protocols would display a LiH Effect, (2) ratings on material subscale of the TIS would be high, and (3) there should be an upheaval bump with a relatively large number of events being recalled from the late 1980s and early 1990s. In addition, we were interested in (4) assessing the possibility that important collective transitions lead to high levels of ethnic/national identify fusion and in (5) obtaining information concerning use of cultural life script events as temporal landmarks.

We note that the Living-in-History project is an inductive program of research (Brown, 2016, 2021; Brown et al., 2009, 2012). As such, it is important to collect data from theoretically interesting samples in order to assess the generality of existing claims and to provide an opening for new findings to add to the knowledge-base. Given this general research strategy, we were interested in a Romanian sample in part because the economic situation in Romania prior to the Revolution was very poor due to the austerity policy imposed on the population from the 1980s in order to pay the

foreign debt (Ban, 2012) and also because the Ceaușescu's fall was accompanied by a brief period of political violence (Gabanyi, 2017). The uniqueness of this situation raised the possibility that we might find evidence for a LiH Effect in Romania. Of course, if we did find a Romanian LiH Effect, we would need to revise our understanding of the phenomenon and consider how external factors other than an event's personal transitional impact may come to structure autobiographical memory. And if the LiH Effect was absent in this sample, we would have additional evidence for the claim that political change per se, even when accompanied by localized violence, does not suffice in producing such an effect.

Method

Participants

A total of 35 Romanian older adults took part in this study (10 males, 25 females), ranging in age from 59 to 90 years ($M = 69.76$, $SD = 8.26$), residents in a city from the northwestern part of Romania. They were recruited from two adult daycare centers and were rewarded with a pocket notebook for their participation. All participants gave their informed written consent to participate in the study. Out of the 35 participants, 74.35% had at least pursued a vocational school following high-school graduation or had a bachelor's degree. All were at least 29 years old in 1989. We included this age restriction because we were interested in determining whether the end of the regime would produce an "upheaval bump," that is, a relative increase in the number of memories recalled from the late 1980s and early 1990s. We excluded young individuals so that we could clearly distinguish an upheaval bump (should it occur) from the standard reminiscence bump, which is an increase in recalled memories from late adolescence and early adulthood (Brown et al., 2016; Koppel and Berntsen, 2015; Rubin et al., 1986; Shi and Brown, 2016).

Materials and procedure

Participants were tested in the daycare center during an individual testing session lasting for approximately 60–90 minutes. First, they were evaluated with the *Mini-Mental State Examination 2* (*MMSE-2*), then the LIH- word cue procedure was administered, followed by the completion of the TIS-12 scale and the Identity fusion measures. In the end participants were debriefed and thanked for their participation.

The *MMSE-2* (Folstein et al., 2010; Munteanu et al., 2013, for the Romanian adaptation) was administered in order to evaluate general cognitive functioning. We used the standard version of the test including several items measuring time orientation, registration, space orientation, and memory recall. The total maximum score was 30 points, with a lower score indicating a higher cognitive impairment. Internal consistency for the standard version of the task translated in Romanian is .80.

Next, participants performed the standard two-phase LiH task (word-cued event generation followed by verbalized event dating), and then completed the TIS-12 (Svob et al., 2014) and the two fusion scales. Following the procedure described by Brown et al. (2009), in Phase 1 we presented each participant with 20 cards that had a cue word printed on them (*automobile, bag, ball, book, box, bread, chair, coat, dog, pencil, piano, pill, radio, river, snow, spoon, stone, street, tree, window*). The words *automobile* and *chair* were used as practice trials and were always presented first and second; the remaining 18 cue words were randomly presented. Participants wrote down a personal and specific memory related to each particular cue written on every card. During Phase 2, they were randomly presented with each written card memory and were asked to think out loud

Table 1. Descriptive statistics.

	N	M	SD
Material change (*TIS*)	33	3.21	1.12
Psychological change (*TIS*)	33	2.92	1.30
Mean *TIS inventory*	33	3.07	1.14
Verbal fusion scale–family	34	4.90	1.66
Verbal fusion scale–country	33	4.67	1.67
Verbal fusion scale–ethnicity	34	4.50	1.66
Pictorial fusion scale–family	34	−.11	1.00
Pictorial fusion scale–country	33	−.03	1.01
Pictorial fusion scale–ethnicity	34	−.23	.98
Percentage of accepted cards (after listening to verbal protocol)	35	84.00	22.00

SD: standard deviation; TIS: Transitional Impact Scale. Pictorial fusion scale—dichotomous scoring, Verbal fusion scale—we calculated the mean for the seven items on each of the subscales—family, country, ethnicity. Transitional impact scale (TIS)—mean per participant for the material change, psychological change and a mean calculated between the two means/participant.

when each written event happened and to write down on the card a month and a year representing an approximate date when that particular event took place. The dating protocols were recorded using an audio recorder.

Following the LiH tasks, the participants completed the TIS (Svob et al., 2014). This scale consists of 12 items that refer to how participants were affected by a specific transitional moment, entailing two subscales: the material and the psychological change subscales. In our particular study, participants were asked to rate (from 1—*disagree* to 5—*completely agree*) their level of agreement with each question, by thinking of the fall of the communist regime in Romania in 1989 as the transitional event. We calculated a mean for each participant on the material change and psychological change subscales. The internal consistency score for the questionnaire is .76 for the material change subscale and .86 for the psychological change subscale (Svob et al., 2014).

Finally, participants completed two sets of identity fusion measures (Swann and Buhrmester, 2015): the *Pictorial measure of fusion* (Swann et al., 2009) and the *Verbal measure of fusion* (Gómez et al., 2011). On the *pictorial* measure, participants were asked to choose the extent to which they identified with their family, country, or ethnic group by choosing from five depictions of two circles gradually superimposing (from A to E). We used a dichotomous coding (see Swann et al., 2009) by recoding with 1 those participants that chose the last figure E (identifying completely with the group of reference) and with −1 those that chose either of the A–D figures. On the *verbal* scale, they had to rate from 1 to 6 how much they identified with their family, country of ethnic group on a 7-item questionnaire. Out of the 35 participants, two failed to complete the TIS scale and the Verbal/Pictorial fusion scale (country) and one also failed to complete the Verbal/Pictorial fusion scale (family/ethnicity). Please see Table 1 for descriptive statistics.

Coding[1]

Prior to coding the full set of events and dating responses, two coders scored 26% of the verbal protocols and reached a high level of consistency, agreeing on 87% of the items (Cohen's k = .81). Disagreements were discussed by the two initial coders together with a third coder and then were resolved by the third independent coder. Each of the two initial coders analyzed half of the remaining protocols separately.

Table 2. Examples of the different response categories.

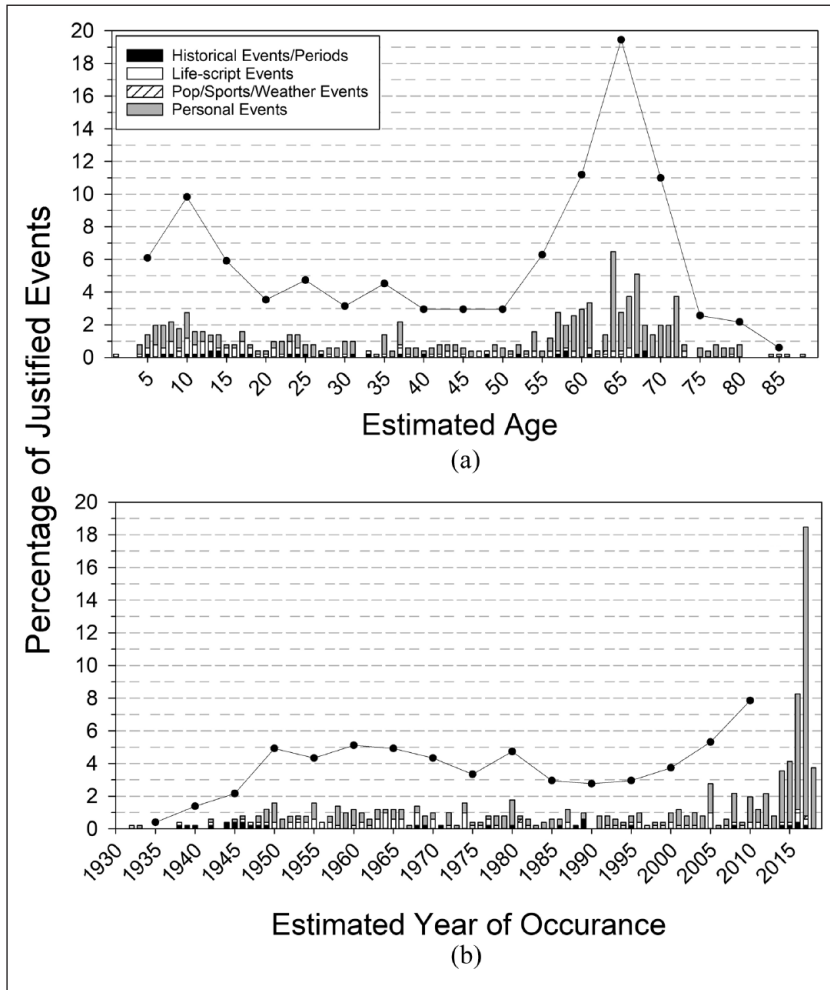| Cue	Reported memory	Verbalized date estimate	Response category
Radio	I used to listen to the same radio channel. One day the channel was not broadcasted due to a technical revision.	In 2016—I just know.	Unjustified
Car	At an intersection, I saw one car almost causing an accident.	In 1989, before the Revolution, because there was a military vehicle parked on one side of the road.	Fall of communism
Spoon	Once I refused the food that my mother gave me. She took away my spoon and I was not allowed to eat that day.	In 1946, after the war.	World War II
Bread	I remember one time when grandma baked bread in the oven and a few delicious pies with jam.	I was 5 years old, so it must have been in 1958. It was during the summer holidays.	Personal/Generic
Bag	My bag was stolen from my car	In 1981 at an important football game in Bucharest.	Sports/Pop/Weather
Chair	I repainted all the chairs from my home.	A year after my mother died. She passed away in 2011, so it was 2012.	Cultural life script

Results

Phase 1 produced 692 event memories. Of these, 588 referred to specific events; 104 did not. When we examined the contents of these event memories, we found that seven that made explicit reference to historical events: three events referred to the 1989 Revolution, two referred to the end of the WWII, one mentioned the date when the Russian troops took over Czechoslovakia in 1968, and there was one reference to a presidential visit from Ceauşescu in Cluj-Napoca in 1953.

The protocols elicited by each specific event were assigned to one of the following four categories: *unjustified, personal/generic, historical, and pop/sports/weather* (see Table 2 for examples). A protocol was considered unjustified when participants gave a date estimate but did not provide any additional information; protocols were considered justified when they included date-relevant information. Personal/generic responses included information about events, periods, people, places, and activities specific to the participant's life and/or general temporally relevant information such as references to personal transitions included in the cultural life script. Protocols that included references to historical periods and unique news events of a political, military, and/or economic nature were classified as historical responses. The pop/sports/weather category was used when a response included a reference to a unique popular cultural event, a specific sports event, or an extreme or unusual weather occurrence.

Dating protocols and TIS scores

Of the 588 protocols produced in response to the specific event memories, 85 were unjustified leaving 503 justified responses. Figure 1 presents the temporal distribution of these justified event memories; these memories are sorted by estimated age at the time of the event in (a) and by estimated year of occurrence in (b). The data plotted in this figure make three points. First, this sample produced a large recency effect; specifically, 28.5% of these events happened during the most

Figure 1. Percentage of justified events binned as a function of the participant's (a) estimated age at the time of occurrence and (b) estimated year of occurrence.

recent 2 to 3 years (note, these data were collected between March 2017 and June 2018). Second, we obtained an early-life word-cued reminiscence bump of the sort reported by Koppel and Berntsen (2015); for example, memories from the 8- to 12-year range (9.8%) were almost three times as common as those from the 18- to 22-year range (3.5%). Finally, and of most relevance to the present study, the end of the Ceauşescu Era failed to generate an upheaval bump. As is apparent in Figure 1(b), the distribution of event memories from the early 1980s through the late 1990s is essentially flat; 3.0% of all justified event memories occurred between 1983 and 1987, 2.8% between 1988 and 1992, and another 3.0% between 1993 and 1997.

Examining in closer detail the content of the justified responses, 23 dating protocols were classified as either historical only or historical and personal/generic (4.57% of the justified responses). Of these, only four (0.79% of the justified responses) referred to the fall of the communist regime (the Revolution) and two references were made to the "Ceauşescu period." Participants did

Table 3. Number of dating of memories by cultural life script event category.

Life script event	Frequency	Total justified datings (%)
Going to school	23	4.57
Other's death	10	1.98
Parent's death	10	1.98
Having children	8	1.59
College/secondary education	5	0.99
Own birth	4	0.79
Finish school	4	0.79
Serious disease	4	0.79
Religious ritual	4	0.79
Getting married	3	0.59
Puberty	3	0.59
Beginning school	2	0.39
First job	2	0.39
Divorce	1	0.19
Retirement	0	0
Siblings	0	0
Fall in love	0	0
Leave home	0	0
Decide one's career	0	0
Begin daycare	0	0
Own death	0	0
First intimate relationship	0	0
First friend	0	0

mention other historical events in their dating protocols, for example, there was one mention of the Chernobyl Disaster, six references to being a refugee during WWII (before or after WWII), another five mentions of the end of WWII, two references to the Bucharest earthquake from 1977, one mention of the first moon landing in 1969, one mention of the date when the Russian troops took over Czechoslovakia in 1968, and finally there was another reference to a political protest that took place in 2016 in Cluj-Napoca.

Cultural life script dating

Regarding participant's use of cultural life scripts in their dating protocol, we found 83 (16.50%) references out of the total 503 justified dating protocols (see Table 3). The life script event categories were 23 personal landmark events mentioned by at least 4% of participants in a German sample and were described in more detail by Bohn and Habermas (2016). In addition to the life script events, relocation was mentioned in six protocols (1.19%). The remaining 391 protocols (77.73%) referred to a wide variety of personal events and generic information including going on a trip, bathing in a river, almost drowning in a river or seeing someone almost drowning, taking medication, going to a concert, having a family dog, being in a car accident, driving, losing an object, receiving or offering a gift, being bitten by a dog or witnessing someone being bitten, going to work, practicing a sport (basketball, football, ping pong), gardening, having an object stolen or erroneously taken by someone else, singing at an instrument, and playing in the snow.

Table 4. Interrelations between variables of interest.

		2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Age (years)	−.22	.18	−.03	.07	.06	.28	.30	.04	−.09	−.03
2.	Total score (MMSE-2)	–	−.16	−.07	−.12	−.10	−.09	.11	.35*	.19	.10
3.	Material change (TIS)		–	.77**	.93**	.49**	.42*	.30	.26	−.03	.08
4.	Psychological change (TIS)			–	.94**	.35*	.21	.02	.25	.005	.02
5.	Mean TIS inventory				–	.44**	.33	.16	.27	−.01	.05
6.	Verbal fusion scale—family					–	.58**	.41*	.50**	.08	.23
7.	Verbal fusion scale—country						–	.80**	.45**	.54**	.41*
8.	Verbal fusion scale—ethnicity							–	.26	.39*	.47**
9.	Pictorial fusion scale—family								–	.33	.28
10.	Pictorial fusion scale—country									–	.46**
11.	Pictorial fusion scale—ethnicity										–

MMSE-2: Mini-Mental State Examination; TIS: Transitional Impact Scale. *$p < .05$. **$p < .01$.

Fusion scores

Participants reported high levels of identification on the pictorial fusion scale (theoretical range 1–5, when fusion was considered as a continuous variable), with a mean of 4.08 ($SD = 1.11$) for their family, 4.21 for their country ($SD = .92$), and 3.88 for their ethnicity ($SD = 1.09$). Moreover, 38% of the participants identified completely with their family (chose the E option), 41% identified completely with their country, and 33.3% identified completely with their ethnicity.

On the verbal fusion scale, participants had relatively high levels of identification (theoretical range 0–6), with a mean of 4.90 ($SD = 1.66$) for their family, 4.67 for their country ($SD = 1.67$), and 4.50 for their ethnicity ($SD = 1.66$).

Correlations

We were also interested in the inter-relations between the variables discussed above (see Table 4). Age did not correlate significantly with any of the questionnaire scores. The fusion scales correlated moderately with each other: family ($r = .50$, $p = .003$), country ($r = .54$, $p = .001$), and ethnicity ($r = .47$, $p = .005$). It also turned out that the correlation between material TIS score and the verbal country fusion scores was moderately strong ($r = .42$, $p = .05$). Thus it appears that people whose material circumstances were most affected by the end of the Ceauşescu era were also those who fused with their identities as Romanians. This claim, however, needs to be treated with caution. There are two reasons for this: first, the correlation between material TIS score and pictorial country scale was non-significant ($r = −.03$); second, psychological TIS scores were uncorrelated with both the verbal country fusion scores ($r = .21$, ns) and the pictorial country fusion scores ($r = .00$). Finally, we note that both the material TIS scores ($r = .49$, $p = .01$) and the psychological TIS scores ($r = .35$, $p = .05$) correlated with the verbal family fusion scale, suggesting that changes brought on by the end of Communism may have fostered family based solidarity.

Discussion

In the present study, we investigated the impact of the fall of Communism on the organization of autobiographical memory in a Romanian sample. Our primary objective was to determine whether this momentous event led to the formation of H-DAPs. Although intuition suggested that it might,

the existing evidence was equivocal. On one hand, samples collected in Azerbaijan, Russia, and Uzbekistan failed to produce a Living-in-History Effect (Nourkova and Brown, 2015); on the other hand, an East German sample (but not a West German sample) did yield a modest LiH Effect (Camia et al., 2019). The former implies that the collapse of the Soviet Union did not lead to the formation of H-DAPs and the latter indicates that the Fall of Berlin Wall did.

These results raised an interesting question. Did people in other Eastern Bloc countries experience the End of Communism as a major collective transition in the same way that the East Germans did? The present study provides three lines of evidence indicating that they did not. First, this Romanian sample failed to produce a LiH Effect in their dating protocols; second, the temporal distribution of recalled events did not display an upheaval bump (though we did find a reminiscence bump); and third, the TIS ratings indicating that the fall of Ceauşescu regime produced at most a modest change in the way that these people lived and the ways that they thought about themselves. This pattern of results is consistent with the general claims: (1) that public events serve as collective transitions only when they have a profound and lasting effect on the fabric of daily and (2) that this is true regardless of the historical significance of the event in question (Brown, 2016; Brown et al., 2009, 2012). For this sample of Romanians, as well as for the post-Soviet samples reported by Nourkova and Brown (2015), it appears that the end of Communism did not produce a marked change in their living circumstances (as measured by the material TIS scores), did not generate an unusually large number of memorable personal events and did not serve as an important temporal landmark. Yes, the end of Communism in the Eastern Europe and the collapse of the Soviet Union changed the world in radical ways (Tismaneanu, 2009), but did not appear to have changed most peoples' lives fundamentally. Hence, the absence of the LiH Effect and upheaval bump in these samples. In contrast, in a study with younger and older Bosnian participants (Brown et al., 2016), a LiH Effect was found in both groups as participants often dated their recollections in reference to the civil war or the Siege of Sarajevo (25% of memory datings). Also, an upheaval bump was evidenced as approximately 10% of the justified event memories collected were recalled from the 3-year period (1992 through 1995) that constituted the Siege of Sarajevo (Brown et al., 2016, Figure 2, Panels A and B).

In brief, the Romanian Revolution and the Ceauşescu era were mentioned in less than 1% of the justified dating protocols. For reasons discussed above, the absence of a LiH Effect in this sample implies that the end of Communism in Romania does not appear to have produced a dramatic change in peoples' daily lives. Consistent with this implication, participants indicated that the Revolution did not produce a major change in their lives; the TIS material subscale yielded a mean of 3.21 ($SD = 1.12$). By way of comparison, across the three post-Soviet samples, the average score on the material subscale was 3.33 (Nourkova and Brown, 2015). In addition, the moderate scores obtained from the psychological subscale ($M = 2.92$, $SD = 1.30$) indicate that the Revolution did not have a dramatic impact on people's beliefs and attitudes.

Although the main goal of this study was to investigate the LiH Effect, we were also interested in identifying which non-historical events would be used as temporal landmarks and in documenting the level of identity fusion extent in Romania. With respect to the latter issue, we found that fusion levels were quite high for family, nation, and ethnicity and that this was true regardless of format. Our analyses also tentatively suggested that there might have been a link between the material changes brought on by the end of Communism and national fusion. Future research will be required to determine the robustness of this link and whether it exists in populations that have experienced more impactful collective transitions.

As expected, we did find that life script events were used as temporal landmarks. However, events from the life script were mentioned in only 16% of justified dating protocols provided by our Romanian participants. By way of contrast, Camia et al. (2019) found that 39.3% of the total

dating protocols (43.1% for East Germans and 47.8% for West Germans) used cultural life script events as temporal reference. Also, Bohn and Habermas (2016) reported that 40% of the protocols provided by a sample of German participants made reference to life script events and Gu et al. (2017) found life script events were mentioned in 22% of the dating protocols collected in China. At this point, we do not have a theory that explains these differences. They might be related to the age of the participants because older individuals have had more opportunity to experience important script-divergent events (e.g. death of a spouse, unemployment) than younger individuals have (Shi and Brown, 2021). Or perhaps there are important historical/cultural differences—it could be that it is easier to live a conventional life (i.e. to follow the cultural life script) in stable countries than in unstable ones. Clearly, this is an interesting issue, but it is also one that will require additional research.

An advantage, but also a potential limitation of our study is that we used the same 23 categories of cultural life script events as in the study conducted by Bohn and Habermas (2016). It is possible that in our Romanian sample, other events might have been more biographically salient and considered normative to our participants, but they were not captured by this list. However, we did find some similarities in the cultural life script events mentioned by our participants in comparison to the Bohn and Habermas' (2016) study, as all 14 categories mentioned by our participants were also used by the German sample (out of a total of 19 categories) with several being the most frequently mentioned events in both studies (e.g. going to school, having children, other's death). Similarly, a study (Scherman, 2013) comparing the cultural life script events mentioned by participants in four different countries (Denmark, the United States, Turkey, and the Netherlands) found 12 common events mentioned by at least 4% of participants in each study (*having children, marriage, beginning school, falling in love, college, parents' death, first job, retirement, own death, beginning to walk, puberty, and beginning daycare*). In all, 7 out of the total 12 common event categories (Scherman, 2013) were also mentioned in our study. Hence, future studies should investigate further this direction and explore whether there are additional cultural life script categories that were not included in our current study but are relevant to the Romanian population.

Some final remarks: the first concerns our sample. Specifically, one might speculate that we did not observe a LIH Effect because these data were collected in Cluj-Napoca, Romania, a small city some 460 km from the capital Bucharest or because we collected data from a sample of "ordinary" Romanians rather than former apparatchiks. At this point, we cannot rule out these possibilities. Indeed, prior research has established that the LiH Effect does reflect regional differences (Bohn and Habermas, 2016; Brown et al., 2009; Zebian and Brown, 2014). Also, the fact that this event was not as impactful to the participant's life, it follows that the collective memory of this historical moment (although experienced) faded away as time progressed and knowledge of this event was shaped more by official sources (educational and cultural institutions). Nonetheless, given its brief duration (10 days) and the limited amount of destruction, it produced (cf. the Russian invasion on Germany in 1945, the 15-year long Lebanese Civil War), it seems unlikely that Romanian Revolution would have led to the formation of H-DAPs in the general population. In contrast, we believe it is possible that we may well have observed a LiH Effect if we had collected data from a sample of former Communists officials who supported and/or were employed by the Ceausescu regime. This is because regime change is known to have had a direct and negative effect on their occupations and social standing (Grosescu, 2004), and hence to have changed many of their lives in dramatic ways. Grosescu (2004) mentions two types of Nomenklatura members in Romania: an in-office Nomenklatura that supported the regime and a marginalized one that did not participate in the political life during Ceausescu's reign. The first type of Nomenklatura used violence against the population during the 1989 Revolution and lost its political and social status. The latter more passive Nomenklatura were more in support of a reform but did not reject the foundations of the

communist regime, having enough power to take charge in case the regime failed. This passive Nomenklatura grouped around the new leader after the 1989 Revolution and managed to secure key political positions in the following three governments until the democratic parties started to gain political power. Hence, more generally, we would expect to find a "special populations" LiH Effect in samples comprised of former government officials from across the Eastern Bloc, under the assumption that the end of Communism affected the lives of these individuals to a far greater degree than it affected the lives of the average citizen, especially the Nomenklatura members who played an active political role during the communist regime. Future research will be required to assess the accuracy of this prediction.

In conclusion, this study provides support to the notion that individuals use idiosyncratic personal events and to a certain extent cultural life script events to organize their autobiographical memories (Berntsen and Rubin, 2012). We did not find any evidence of the LiH effect in our sample with regard to the fall of the communist regime; this is in line with previous investigations in samples from Russia, Azerbaijan, and Uzbekistan (Nourkova and Brown, 2015), suggesting that the impact of historical events on autobiographical memory depends on how profoundly the public event impacted in the fabric of daily life.

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Note

1. In the preliminary analyses, we screened participants for cognitive decline using the MMSE-2. One participant had a low score on the MMSE-2 (22 out of 30 maximum score), which could be indicative of a slight cognitive decline (MMSE total score $\geqslant 21$). However, since the potential cognitive decline was not severe, we decided not to exclude any participant. There were no gender differences in participants' scores on the questionnaires, or in the MMSE-2 scores, $p < .13$.

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