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A positive Living-in-History effect: The case of the fall of the Berlin Wall

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Abstract

Research has shown that individuals use a combination of cultural life script events and historical events when dating personal memories, providing evidence for a cultural life script effect and Living-in-History (LiH) effect on the temporal organization of autobiographical memory. Yet, in contrast to life script events, the LiH effect has only been found for negative events such as war or natural disasters. Therefore, this study tested whether a positive historical event, here the fall of the Berlin Wall, also elicits a LiH effect and whether this effect would differ due to the subsequent changes in life. Comparing West and East Germans, we found a moderate LiH effect for the fall of the Berlin Wall in East Germans but not in West Germans. Yet, the LiH effect in East Germans did not relate to the perceived change in life or the valence of the historical event. Additionally, this study replicated the finding that life script events serve as temporal landmarks when navigating through one's autobiographical timeline.

Key words: Living-in-History effect, Transition theory, cultural life script, memory dating, reminiscence bump

Life events become temporal landmarks when they lead to transitions or change in life (Shum, 1998). Some transitional events affect the individual, but have no larger social significance. Other transitional events affect larger populations and are of public and historical significance. Two theories, cultural life script theory (Berntsen & Rubin, 2004) and transition theory (Brown et al., 2009) pointed out that both private and historical transitional events organize the temporal structure of autobiographical memory. Further, both theories complement each other such that people refer to life script events and historical events when dating their personal memories (Bohn & Habermas, 2016). The phenomenon of referring to historical events has been named the *Living-in-History* (LiH) effect (Brown et al., 2009). While the influence of life script events on autobiographical memory has been studied in regard to positive and negative valence (e.g., Bohn, 2010; Rubin & Berntsen, 2003), transition theory has claimed that the LiH effect occurs mainly for negative events such as war or natural disasters (Brown et al., 2009). Hypothesizing that also positive events can yield a LiH effect, the current study tested whether the fall of the Berlin Wall served as a temporal landmark to date personal memories in groups of East- and West Germans. Additionally, we tested the organizational effects of life script events, aiming to replicate the complementary influence of the cultural life script effect to the LiH effect.

The Living-in-History Effect

Autobiographical memory is assumed to be organized along lifetime periods (Conway & Pleydell-Pearce, 2000), which are stable timespans with only little change in life. Beginnings and endings of lifetime periods are marked by transitional events that alter the fabric of daily life and thus spawn new lifetime periods (Brown, 2016). Transitional events concerning only an individual or a small group are termed *personal transitions*, which happen in everybody's life. While small personal transitions like moving within the same city cause only minor change in life, major transitional events such as the loss of a loved one bear life-

changing consequences. Major transitional events instigating great change in daily life are thought to structure the temporal organization of autobiographical memory (Brown, 2016; Brown, Hansen, Lee, Vanderveen, & Conrad, 2012).

Collective transitions that concern larger populations, such as the beginning or ending of a war also spawn new lifetime periods, termed *Historically Defined Autobiographical Periods* (H-DAPs; Brown et al., 2009; Nourkova & Brown, 2015). In contrast to individual lifetime periods marked by personal transitions, H-DAPs are formed when a public event causes enduring change in the fabric of daily life of a population. When references to a specific public event or historical period are common in a population, H-DAPs have been formed and the LiH effect is evident (Brown, 2016). Studies found a LiH effect for wars (Bohn & Habermas, 2016; Brown et al., 2012, 2009; Brown, Schweickart, & Svob, 2016; Brown & Lee, 2010; Zebian & Brown, 2014), the Cultural Revolution in China (Gu, Tse, & Brown, 2017), and the Izmit earthquake in Turkey (Brown et al., 2009). Moreover, these studies showed that the LiH effect was graded; i.e., it was more pronounced in populations whose everyday lives had been more affected than in less affected populations.

To date, research on the LiH effect focused mostly on negative events. However, as transition theory does not emphasize the valence of public events but the intensity of subsequent change in life, we theorize that also historical events perceived as positive can yield a LiH effect. In support of this claim, Bohn and Habermas (2016) found older West Berlin residents to refer to the fall of the Berlin Wall when dating their memories. However, this LiH effect was extremely small (2.6% of West Berlin participants vs. 1.3 % of West Germans outside Berlin), compared to the LiH effect found for WWII in the same samples (26% vs. 16.2%). The authors attribute this to the overpowering effect of World War II on the organization of autobiographical memories and a lack of life-changing consequences of the fall of the Berlin Wall in this particular sample. However, they also speculate that positive

events might be less likely to lead to a LiH effect, because consequences of positive events are usually over time perceived as the normal state of things, whereas negative consequences are experienced as deviating from the norm (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Brickman, Coates, & Janoff-Bulman, 1978) and thus are more likely to change the fabric of daily life. Therefore, the current study investigated whether the fall of the Berlin Wall would yield a LiH effect in Germans who had not experienced World War II, who evaluate this event positively, and whose lives had been affected by this event. To that end, we compare middle-aged participants who had lived in East Germany at the time of the fall of the Wall to participants having lived in West Germany.

Despite the looming political upheaval in the nearby Eastern European countries, the fall of the Berlin Wall in 1989 was experienced as sudden, surprising, and consequential by many Germans (Bohn & Berntsen, 2007). It led to abrupt political, economical, and societal change in East Germany (Diewald, Goedicke, & Mayer, 2006; Westerhof & Keyes, 2006). Therefore, we expected the LiH effect in East German participants to be stronger than in West Germans. However, since the transformation of the society of the former East Germany brought also the transition from a centrally planned economy to a free but competitive economy, and thus the transition from a paternalistic welfare state with full employment to a society with a higher risk of unemployment and unequal life chances, some East Germans perceived the fall of the Berlin Wall as a negative event (Bohn & Berntsen, 2007). In these East Germans, the LiH effect might be stronger than in East Germans who evaluate the event and the subsequent change in life as positive.

The Cultural Life Script Effect

Many personal transitions individuals deem meaningful for their lives correspond to the cultural life script. The cultural life script defines which life events such as entering school, marriage, or retirement are culturally important, and when in life these events are

expected to happen (Berntsen & Rubin, 2004). As life script events usually lead to enduring changes in one's life, individuals consistently refer to these events to temporally structure their life stories (e.g., Bohn, 2011; Collins, Pillemer, Ivcevic, & Gooze, 2007; Hatiboğlu & Habermas, 2016; Köber & Habermas, 2017; Rubin, Berntsen, & Hutson, 2009). Most life script events are positive and expected to take place during adolescence and young adulthood (e.g., first love, graduation, having children), which overlaps with the so-called *reminiscence bump period*. The reminiscence bump designates the over-representation of memories from adolescence and young adulthood when people above the age of forty recall memories from their lives (Rubin, Wetzler, & Nebes, 1986). Bohn and Habermas (2016) found that about 40 % of memories of older Germans were dated with references to life script events. We here aim to replicate this cultural life script effect in middle-aged Germans and investigate a possible LiH effect for the fall of the Berlin Wall.

In sum, we tested three hypotheses: first, we expected a LiH effect such that Germans date their personal memories with references to the fall of the Berlin Wall (hypothesis 1a) and the LiH effect to be stronger in East Germans than in West Germans (hypothesis 1b). Second, we expected a stronger LiH effect in East Germans who experienced more enduring change in life (hypothesis 2a) or whose lives changed negatively (hypothesis 2b) with the fall of the Berlin Wall. Third, in addition to the LiH effect, we expected all participants to date a large number of their memories with references to life script events (hypothesis 3a), which would mostly fall in the reminiscence bump period (hypothesis 3b).

Methods

Participants

Two groups of middle-aged and older participants were recruited in West and East Germany, which we here call the *West German group* and the *East German group*. To avoid a confounding of the LiH effect for World War II with a possible effect for the fall of the

Berlin Wall, we only included Germans who had experienced the fall of Wall in middle adulthood and had not lived through World War II. Meeting the criteria of being born after 1941, we tested 29 West Germans (13 male) ranging in age from 49 to 69 years ($M = 60.10$, $SD = 6.29$) and 51 East Germans (22 male) ranging in age from 47 to 70 years ($M = 58.51$, $SD = 5.35$) at the time of measurement. At the time of the fall of the Berlin Wall, West Germans were on average 39 years old (range 27 to 48 years) and East German participants were on average 36.71 years old (range 25 to 48 years). There were no age differences between the groups ($t(78) = -1.20$, $p > .05$, $d = -0.28$). The East German group was larger than the West German group, because East Germans filled in questionnaires measuring the change in life and valence of change due to the fall of the Wall, and a larger sample size was needed to run analyses on these questionnaires (see below).

The West German group was recruited using the *snowball* principle. Older members of a sports club were contacted, and the first participants informed friends and acquaintances about the study and thus recruited more participants. West German participants received no compensation. The East German group was recruited via e-mailing to local associations, word-of-mouth advertising, and flyers in public places. Participants were compensated with a personalized Big Five traits profile, 10 Euro shopping vouchers, and had the possibility to win book tokens of 15 Euro at the end of the study.

Data of the West German group were collected in the fall of 2009 in the region around Kiel in North Germany. Data of the East German group were collected in the fall of 2011 in the region of Dresden. Data collection took this long because it was very difficult to recruit East German participants, and data collection could eventually be realized thanks to the second author stemming from East Germany and the possibility to provide compensation.

Material

Memories elicited by the cue-word-method. The cue-word-method consists of two phases in which participants first generate autobiographical memories and then date these memories. To elicit memories, individual cards with the same 22 cue words used by Brown et al. (2009) (*bag, ball, book, box, bread, car, chair, coat, dog, house, pencil, piano, pill, radio, river, snow, spoon, stone, street, sweater, tree, and window*) were presented in random order to each participant. As in earlier studies (Bohn & Habermas, 2016; Brown et al., 2009) the words car and chair were used as practice and always presented first. None of the participants had difficulties following instructions to the practice cue words, and therefore, these memories were kept in the data.

Questionnaires. Following Brown et al. (2012), we constructed a questionnaire to measure how much in East Germans' daily lives had changed after the fall of the Wall, how they evaluated this change, and how they evaluated the fall of the Wall in general in 1989 and today. East German participants rated on 7-point Likert scales whether they had experienced change (1 = no change, 7 = very much change) regarding persons, objects, places and activities they used to have in their life before the Wall came down and to evaluate these changes from extremely negative (1) to extremely positive (7). East German participants were additionally asked to rate and evaluate, if relevant, the change of their financial situation. Also, participants evaluated the general valence of the fall of the Wall from their past (*valence then*) and their current perspective (*valence now*) on 7-point Likert scales from extremely negative (1) to extremely positive (7). Internal consistencies were good for both scales, extent of change (Cronbach's alpha $\alpha = .56$) and valence of change (Cronbach's alpha $\alpha = .70$).

Moreover, East German participants filled out the 12-item Transitional Impact Scale (the TIS-12; Svob, Brown, Reddon, Uzer, & Lee, 2013) measuring the degree and nature (psychological and material) of the change caused by potentially important personal or public

events. Participants rated on 5-point Likert scales their agreement (1 = strongly disagree, 5 = strongly agree) to six items loading on the material-change subscale and six items loading on the psychological-change subscale. Lacking a validated German Version of the TIS-12, the second author employed the Back-Translation-Method (Brislin, 1970) by translating all items into German, which were then translated back into English by another independent translator. Internal consistencies were good for the material-change subscale (Cronbach's $\alpha = .67$) and the psychological-change subscale (Cronbach's $\alpha = .87$).

Procedure

Participants of the East German group and the West German group were tested with the cue-word-method individually by the second and third author, respectively. Testing sessions took place in participants' homes or in a quiet office at the University in Dresden. Following the 2-phase procedure of the cue-word method, participants were shown the cards with the cue words in random order, and were then asked to write down a specific memory that was at least one week (for the West Germans at least one year) old in association to each cue word. During phase two, each memory was read back to participants, and they were asked to estimate the date of the remembered event, i.e., the year when the event had happened. Participants were asked to think aloud while trying to date their memories. If participants fell silent during the date estimation task, they were reminded by the experimenter to verbalize their thoughts, even if they perceived them as unimportant. Participants' answers were tape recorded, and notes were taken. When participants had decided on a date estimate, this date was written down on the appropriate cue card. After phase two, participants were debriefed, and the interview ended.

In the East German group, participants additionally filled out the questionnaires measuring the change in life and valence of change due to the fall of the Wall (see above). Providing questionnaires to the West German group was not possible because the West

German data were collected in 2009, the same year when first results on the LiH effect had just appeared (Brown et al., 2009). The idea to measure consequent impact of historical events on daily life was developed only later (Brown et al., 2012).

Scoring

Based on the finding that people reconstruct memory dates by referring to landmark events (Bohn & Habermas, 2016; Brown, 1990; Brown & Lee, 2010; Friedman, 2004; Zebian & Brown, 2014), dating responses were scored based on the categories introduced by Brown et al. (2009). Acknowledging that individuals use also other strategies such as immediate remembering of dates or distance based dating (Friedman & Huttenlocher, 1997; Janssen, Chessa, & Murre, 2006; Thompson, Skowronski, & Betz, 1993), we here investigated the kind of landmark events people use to date their autobiographical memories.

First, each estimated response was assigned to one of six categories (Table 1). The category (1) *unjustified* was assigned if participants gave a memory date without any further information on why the date was chosen. The two categories referring to historical events were assigned if the dating of an event was done in relation to the (2) fall of the Wall or in relation to (3) the Second World War. We decided to include the Second World War as second historical landmark, because a few of the older participants unexpectedly referred to it when dating their autobiographical memories. The category (4) *Pop/ sports/ weather* was assigned to responses that contained references to specific cultural or sports events (e.g. FIFA World Cup Games) or to a specific extreme or unusual weather situation (e.g. the high-water of the Elbe river in 2002). A (5) *personal/ generic* response was assigned if participants included specific information relevant to their personal lives and/or general temporally relevant information. Like Bohn and Habermas (2016), we included a (6) *cultural life script* category that was assigned when participants dated their memories in relation to cultural life script events, such as beginning school or getting married.

The German cultural life script was taken from Habermas (2007) and Habermas' unpublished life script data of 41 older participants (12 male, $M_{\text{age}} = 61.85$ years, $SD = 5.19$, age range: 51–75 years) to cover life script events of the entire life span (cf. Bohn & Habermas, 2016; Köber & Habermas, 2017). This life script consists of the following 23 events, which each had been mentioned by at least 4% of the participants (in order of frequency of mention): begin school, getting married, having children, college/university, begin daycare, fall in love, first job, retirement, go to school, other's death, finish school, puberty, own death, parent's death, serious disease, leave home, having siblings, first friend, divorce, decide one's career, first sex, religious ritual (confirmation/ communion) and own birth. Like life scripts in other cultures (e.g., Berntsen & Rubin, 2004; Erdoğan, Baran, Avlar, Taş, & Tekcan, 2008; Janssen & Rubin, 2011; Rubin et al., 2009), also the German life script consists mainly of positive transitional events expected to happen in adolescence and young adulthood.

Following prior studies (Bohn & Habermas, 2016; Brown et al., 2009), if date estimates contained references to the historical categories the Second World War or the fall of the Berlin Wall as well as to other categories, these dating estimates were always scored as historical. The same procedure was used if memories were dated in reference to the sports/pop/weather category. If date estimates contained cultural life script references as well as personal/generic references, the most dominant category was chosen. For example, the memory dating to the cue word "box" in Table 1 was scored as a cultural life script reference, because the birth of the son is used as the anchor to find the date of the memory via the age of the child. Two independent raters naïve to the hypotheses of the study scored 75 % of all memory datings from both samples. They agreed on 94.42% of all datings (Cohen's Kappa = .91). Disagreements were decided by an independent judge. The remaining memory datings were scored by one rater.

Results

In total, 1,540 memories were dated: 973 by East Germans and 567 by West Germans. Some memories were missing because 29 participants failed to provide the full number of 22 memories. Unjustified memories (see example in Table 1) were excluded from the analyses, resulting in 1,411 memories that had justified dating protocols (Table 2). On average, East Germans dated 19.2 ($SD = 3.37$, range 6 - 22) memories per person and West Germans 19.7 ($SD = 1.69$, range 16 - 22) memories per person, yielding thus no significant differences between groups ($t(78) = -0.75$, $p > .05$, $d = -0.17$). There were no gender differences in the type of dating responses used.

Due to our small sample size and the different sizes of subsamples, we ran power analyses assuming a medium effect size of $w = 0.5$ (Cohen, 1988) and a significance level of $p = 0.05$. Factoring in our total sample size, all significant Chi square tests, which compare the East with the West Germans and are reported hereafter, yield a statistical power of 0.98 when being significant at a significance level of at least $p = 0.05$.

The Living-in-History Effect

Table 2 shows that participants of both groups dated memories in relation to the fall of the Berlin Wall, confirming the Living-in-History effect (hypothesis 1a). East Germans referred significantly more often (7.1%, $\chi^2(1) = 24.76$, $p < .05$, $d = 1.48$) to the fall of the Berlin Wall than West Germans (1.0%, Table 2).¹ While 37 out of 51 East Germans dated their memories with reference to the fall of the Wall, only 4 out of 29 West Germans did so. This confirmation of hypothesis 1b is especially noteworthy as the mean number of provided memories was equally distributed across decades (Figure 1). More specifically, the

¹ Acknowledging the possibly problematic different sizes of subsamples, we re-ran analyses without the 22 East Germans that were tested last, resulting in $N = 29$ for both groups. Still, East Germans (5.9%) referred significantly more often to the fall of the Berlin fall than West Germans (1.0%, $\chi^2(1) = 17.00$, $p < .05$, $d = 1.29$).

percentage of memories provided by East Germans (13.6%) falling in the decade of the fall of the Wall (1984 – 1993) did not differ from the percentage provided by West Germans (13.4%). However, the experiences that happened in this decade were much more often related to the fall of the Wall (27.4 % across groups), and more so by East Germans (37.9%) than by West Germans (6.2%; Figure 2, $\chi^2(3) = 23.75, p < .05, d = 1.43$). Surprisingly, West Germans referred more to World War II (2.1%, $\chi^2(1) = 12.86, p < .05, d = 0.95$) than the East Germans (0.2%, Table 2).

Focusing on the East Germans and the change that the fall of the Berlin Wall had caused in their daily lives, our results revealed that East Germans had experienced considerable change regarding persons ($M = 4.39, SD = 1.94$), objects ($M = 5.14, SD = 1.68$), places ($M = 4.90, SD = 1.97$) and activities ($M = 5.53, SD = 1.57$). The majority (72.5%) also experienced change in occupation after the fall of the Berlin Wall, and substantial financial change ($M = 5.33, SD = 1.48$). To test for a connection between the experienced change and the LiH effect, we aggregated the subscales of experienced change and calculated a correlation with the number of memories with references to the fall of the Wall. Yet, the LiH-effect appears to be unrelated to the experienced change in life ($r = -.090, p > .05$). To further investigate whether those East Germans who were more affected by change would show a stronger LiH effect, we used the median of experienced change ($Mdn = 5.40$) to split the East German subsample in a group with low change ($N = 27$) and a group with high change ($N = 24$). Comparing the frequencies of LiH references, however, revealed no significant difference between these two groups regarding their dating references to the fall of the Berlin Wall ($\chi^2(1) = 0.08, p > .05, d = 0.08$), thus contradicting hypothesis 2a.

Looking at the transitional impact of the event, results showed that East Germans also experienced considerable material ($M = 3.35, SD = 0.92$) but less psychological ($M = 2.84, SD = 1.07; t(50) = 3.29, p < .05, d = 0.92$) change. Correlations showed that that the number

of references to the fall of Wall were unrelated to both material change ($r = -.007, p > .05$) and psychological change ($r = -.001, p > .05$), again contradicting hypothesis 2a. Using the medians of material ($Mdn = 3.50$) and psychological ($Mdn = 2.83$) change, we split the East German subsample in two groups of low material ($N = 30$) and high material ($N = 21$) change and in two groups of low psychological ($N = 25$) and high psychological change ($N = 26$). Unpaired t -tests, however, yielded the same null results such that East Germans' references to the fall of Wall did not differ with their experienced material ($t(49) = -1.52, p > .05, d = -0.43$) or psychological ($t(49) = 0.36, p > .05, d = 0.10$) change.

Considering the valence of changes, East Germans evaluated the change that the fall of the Wall had caused in their lives mainly as positive ($M = 4.71, SD = 1.21$). Also the valence of the event was rated as highly positive – both at the time of the event ($M = 5.59, SD = 1.80$) and now ($M = 5.69, SD = 1.58, t(50) = -.41, p > .05, d = -0.06$). Contradicting hypothesis 2b, correlations showed that the number of memories with references to the fall of the Wall were unrelated to the evaluation of the change in life ($r = .21, p > .05$), the valence of the event at the time of the event ($r = .04, p > .05$) and the valence of the event now ($r = .25, p > .05$). Splitting the group again by the median ($Mdn = 5.00$) resulted in a group evaluating the change in life negatively ($N = 29$) and in a group evaluating the change in life positively ($N = 21, 1$ missing case). However, both groups dated their memories equally often with references to the Fall of the Wall ($t(48) = -1.99, p > .05, d = -0.57$), thus contradicting hypothesis 2b).

Cultural life script event and personal / generic events

In addition to the LiH effect, we found that participants in both groups referred to cultural life script events to date almost half of their personal memories (Table 2), as predicted by our hypothesis 3a. There were no gender differences for the cultural life script events used for dating memories. The most frequently used life script events were going to

school, having children, and beginning school (Table 3), confirming prior research that these events are deemed among the most important life story memories (Bohn, 2010; Thomsen & Berntsen, 2008) and serve as temporal structure in one's life story (Bohn & Habermas, 2016; Köber & Habermas, 2017).

Supporting hypothesis 3b, memories dated with reference to the cultural life script were more frequently located in the reminiscence bump period of adolescence and young adulthood (from age 10 to 30 years, across groups 54.1%) than memories dated with reference to personal/generic events (across groups 26.0%). Comparing only the percentages of memories located in the reminiscence bump with references to the life script to the memories dated with reference to personal/generic events revealed that life scripts events occurred more frequently in this period of life than other personal/generic events ($\chi^2(1) = 97.82, p < .05, d = 0.58$). East Germans referred significantly more often (39 %) to life script events falling in the reminiscence bump period than West Germans (32.3 %, $\chi^2(1) = 5.35, p < .05, d = 0.58$, Figure 3).² Memories that happened after the reminiscence bump were mostly dated with references to personal/generic events (Figure 3). The frequencies with which memories were dated in reference to cultural life script events, personal/generic events, and pop/sports/weather events did not differ significantly between East and West Germans (Table 2, all $p > .05$).

Discussion

This study is the first study to find a LiH effect for a positive historical event. East Germans dated 7.1% of their memories with references to the fall of the Berlin Wall. Studies on negative public events reported LiH effects ranging from 11% to 27% (e.g., Bohn &

² When tested without the 22 East Germans tested last, this effect held true ($\chi^2(1) = 16.09, p > .05, d = 1.24$) such that East Germans referred more often (59.7 %) to life script events falling in the reminiscence bump period than West Germans (40.1%).

Habermas, 2016; Brown et al., 2012; Zebian & Brown, 2014). Thus, the effect found here is relatively small – but still much higher than earlier findings which failed to find the effect for the end of The Cold War (Nourkova & Brown, 2015) and the fall of the Wall (Bohn & Habermas, 2016). This difference might be due to Bohn and Habermas testing older Germans, whose history-related dating of personal memories was dominated by World War II, and who stemmed mainly from West Germany, where the fall of the Wall only had minor consequences (Bohn & Berntsen, 2007; Bohn & Habermas, 2016). Accordingly, we found a LiH effect in middle-aged East Germans, who had not experienced World War II, but not in middle-aged West Germans (Table 2).

Indeed, West Germans dated only 1 % of their memories in relation to the fall of the Wall, which we deem much too low to evidence a LiH effect, but which supports the notion of the intensity grading of the LiH effect. Although we did not have data available on the degree to which the fall of the Berlin Wall changed life for the West Germans participants, it seems reasonable to assume that East Germans were more affected by this event than West Germans. Research has shown that the fabric of daily life in East Germany was markedly altered in terms of social organization, housing, economy, work, and the life style in general (Achberger, Linden, & Benkert, 1999; Trommsdorff, 1994). Accordingly, the East German group reported considerable change regarding persons, objects, places, activities, occupation status, and finances. Also, they experienced more material than psychological change after the Berlin Wall came down. However, we found no association between the reported degree of change and the strength of the LiH effect, contradicting hypothesis 2a. To corroborate the LiH effect found in the present study, and to clarify its variability along the perceived levels of change, future research may compare the LiH effect in German populations from East and West Germany that differ more clearly in terms of subsequent change of life.

Contradicting hypothesis 2b, we did not find a relation between the LiH effect and the evaluation of change in life or the rated valence of the event. These analyses may have failed due to a ceiling effect, because East Germans rated the change in their lives and the event itself as very positive. This supports our notion of a LiH effect for a positive historical event (hypothesis 1). Still, compared with LiH effects for negative events, the effect found here is relatively weak, especially considering that the fall of the Berlin Wall is perceived as one of the most important historical events in the 20th century worldwide (de Regt, van der Lippe, & Jaspers, 2018; Pennebaker, Paez, & Deschamps, 2006). One reason for this discrepancy might be that the positivity of the changes after the fall of the Wall led to a diminished LiH effect (Bohn & Habermas, 2016). Another possibility might be that, even though the fall of the Wall was a change to the better for participants, most participants' situation before was not life threatening or chaotic. Finally, earlier studies did not take into account whether participants dated their memories in relation to the beginning (negative) or ending (positive) of a war (e.g., Bohn & Habermas, 2016; Zebian & Brown, 2014), and thus might have overestimated the impact of negative events. For this reason, comparing the effect found here with earlier studies seems of limited use and needs clarification by future research. Currently, it is unclear what frequency of references to a historical event yields a vested LiH effect, and whether positive or rather negative change of life contributes to this effect.

Further, we found a clear effect of the cultural life script on the organization of individuals' autobiographical time line. Replicating earlier research (Bohn & Habermas, 2016; Gu et al., 2017), cultural life script events served as temporal landmarks to date almost 40% of all personal memories. Because life script events are major normative transitions in life that begin or conclude life phases and inform identity (Köber & Habermas, 2017), they are crucial in structuring an individual's autobiographical time line. When people are asked to tell their life stories, they frequently recall cultural life script events (Bohn, 2010; Hatiboğlu

& Habermas, 2016; Ottsen & Berntsen, 2014; Tekcan, Kaya-Kizilöz, & Odaman, 2012; Thomsen & Berntsen, 2008; Zaragoza Scherman, Salgado, Shao, , & Berntsen, 2017).

Furthermore, memories dated with reference to the cultural life script were more frequently located in the reminiscence bump than memories dated with reference to personal/generic events. Interestingly, East Germans referred significantly more often to life script events falling into the reminiscence bump period than West Germans. This may reflect that East Germans share more the cognitive structure of a common life script and thus also a more common view of how life in the communist times was supposed to be lived, because the East German society was more homogenous and East Germans were less individualized than West Germans (Vester, Von Oertzen, Geiling, Hermann, & Müller, 2001).

In summary, we replicated in this study that individuals refer to a combination of public transitional and personal transitional events to date autobiographical memories. Moreover, this is the first study to find a LiH effect for a positive public event. However, comparing East with West Germans, and in line with transition theory and cultural life script theory, it seems not so much the valence but the subsequent change in everyday life that determines whether an event becomes an anchor in the temporal organization of autobiographical memory.

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Table 1

Examples of the different response categories.

Cue	Reported Memory	Verbalized date estimate	Response Category
Box	"He-Man" for my son was in a box under the Christmas tree	My son was 7 years old, in 2 nd grade, 8 years old. He was born in '87. So it must have been 1995.	Cultural Life Script
Snow	Snow, we built an igloo on the terrace in the Berliner street, an igloo for Teddy.	Moved to Berliner Street in 2002. This was during the first very cold winter, in 2004.	Personal / generic
Ball	Opera ball 1989 in the Semper Opera, second visit, not really legal, but it was so beautiful. We had to dance one more time.	Summer '89, still in GDR times, before the wall came down.	Fall of the Berlin Wall
Car	Already in 1948, our vet came to us by car to examine our sick animals.	Was in 1948, in the postwar period, there were only very few cars.	World War II
River	The flood of the Elbe	In 2002, the fire fighters came, Monday morning at 10. Only Tuesday evening at 6pm we could go back to our house.	Pop / sports / weather
Tree	Two years ago, a big tree fell into our garden.	February or March 2009.	Unjustified

Table 2.

Frequencies and percentages of justified responses by dating category separated by group and in total.

Dating category	East Germans (n = 926)		West Germans (n = 485)		Total (n = 1411)		Pearson's Chi-Square
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Fall of the Wall	66	7.1	5	1.0	71	5.0	24.76*
Cultural life script	399	43.1	232	47.8	631	39.3	2.90
Personal/generic	435	47.0	228	47.0	663	41.3	.00
Second World War	2	0.2	10	2.1	12	0.9	12.86*
Pop/sports/weather	24	2.6	10	2.1	34	2.4	.38

Note. * $p < .05$.

Table 3.

Number of dating of memories by type of cultural life script event (frequency and percent of total justified datings).

Life Script Event	Frequency	% of total
Go to school	109	6.8
Having children	106	6.6
Begin school	83	5.2
Own birth	50	3.1
College/secondary education	48	3.0
Getting married	35	2.2
Other's death	25	1.6
Finish school	24	1.5
Confirmation (protestant and catholic)	22	1.4
Siblings	20	1.2
Fall in love	16	1.0
Parent's death	9	0.6
Serious disease	9	0.6
Divorce	8	0.5
First job	7	0.4
Retirement	5	0.3
Leave home	5	0.3
Puberty	5	0.3
Begin daycare	4	0.2
Settle on career	3	0.2
Have peers	1	0.1

Figure 1. *Mean number of provided memories separated by decade of event and group.*

Figure 2. *Percentage of memories related to the fall of the Wall separated by decade of event and group.*

Figure 3. Mean percentages of dating response categories by age decade separated by group.