AARHUS UNIVERSITY

Coversheet

This is the accepted manuscript (post-print version) of the article.
Contentwise, the accepted manuscript version is identical to the final published version, but there may be differences in typography and layout.

Publication metadata

Some personal life events are more prominent than others: Younger and older adults agree on which life events matter most

Sharda Umanath[1] & Dorthe Berntsen[2]
[1]*Department of Psychology, Claremont McKenna College;* [2]*Center on Autobiographical Memory Research, Aarhus University*

Please send correspondence to:

Sharda Umanath
Department of Psychology
Claremont McKenna College
850 Columbia Ave
Claremont, CA 91711
e-mail: sumanath@cmc.edu

Abstract

Some important life events are part of the cultural life script as expected transitional events with culturally-sanctioned timing. However, not all personally important events align with the cultural life script, including some events that are widely experienced. Here, we ask whether there are specific characteristics that define the events that become part of a culture's life script and what role life experience plays. In Experiment 1, younger adults rated life events on different measures tapping central event dimensions in autobiographical memory theories. Cross-culturally extremely frequent cultural life script events consistently received higher ratings than other commonly experienced life story events. Experiment 2 demonstrated that these findings did not interact with age. Both younger and older adults rated the extreme cultural life script events most highly. In addition, older adults rated all types of life events more highly than younger adults, suggesting a greater appreciation of life events overall. (148 words)

Keywords: aging, autobiographical memory, cultural life script, life stories, positivity effect

Some personal life events are more prominent than others: Younger and older adults agree on which life events matter most

The culture in which we live has strong influences on our lives, from what we deem acceptable behavior to how we retell the stories of our experiences (Clarke, 1995; Rubin & Berntsen, 2003; Settersten & Hagestad, 1996). Even memories of personal life events—the stories of our lives—are molded by the norms and expectations of our culture. One way in which these memories can be studied is through the lens of the cultural life script, defined as culturally shared representations of the timing of major transitional life events (Berntsen & Rubin, 2004). Operationally, the cultural life script is defined as the most important events expected to take place in a prototypical newborn's life, generated by a sample within that culture.

Interestingly, culture's influence on our expectations for what events are important, likely, expected, and even hoped for begins long before we have experienced such events. Children as young as 8-12 years old begin to know their culture's life script (Bohn & Berntsen, 2008, 2013; Habermas, 2007), with this understanding reaching normativity in adolescence (Bohn & Berntsen, 2008, 2013; Conway, 2005; Habermas & de Silveira, 2008). Thus, personal life experiences and cultural expectations of the life course are, to some extent, independent sources of knowledge that an individual acquires. However, simply because the expectations of a culture for an individual's life are learned unattached to that individual's own life experiences does not mean that personal experience has no role to play in how these events are perceived.

3

As such, the influence of personal life experience on the perception of common life events is unclear.

One question of interest then is how does a culture's life script come into existence in the minds of a group? A starting point is first understanding why some commonly experienced events are considered part of a standard cultural life script (often even across cultures), whereas others are not. The present work aims to begin to answering these questions. In Experiment 1, we examine whether some measures may differentiate cultural life script events from other common important life events. In Experiment 2, we examine whether such differentiation interacts with personal life experience, by comparing the assessments of younger versus older adults.

Theoretically Derived Measures of Event Salience

Theoretically, commonly experienced events would be the most accessible, often retrieved, and frequently retold events, making them highly salient in a group's memories (Collins, Pillemer, Ivcevic, & Gooze, 2007; Roediger, Zaromb, & Butler, 2009). However, Berntsen and Rubin (2004) found no correlations between ratings of general prevalence and how often events were nominated as part of the life script. Additionally, using American data from Rubin, Berntsen, and Hutson (2009), Umanath and Berntsen (2013) documented many commonly experienced and personally important life events—events people nominated as among the most important events in their *own* lives—that do not overlap with the standard American cultural life script (e.g., moving, playing an instrument). Thus, while the prevalence of

experience of an event likely contributes to identifying it as part of a culture's life script, it is not the defining characteristic.

What then are the characteristics that an event must have to be deemed culturally important and not just important in people's personal lives? To create a set of ratings that would allow us to qualitatively distinguish between commonly experienced life story events that are and are not part of the cultural life script, we drew on three conceptual dimensions identified in autobiographical memory research: (a) the criteria of a cultural life script (e.g., Berntsen & Rubin, 2004), (b) the coherences that define the way people tell their life stories (e.g., Habermas & Bluck, 2000), and (c) the defining characteristics of transitional life events (Brown et al., 2012). These dimensions should be viewed as complementary rather than mutually exclusive; in other words, our intention is not to pit these concepts against one another. Rather, we aim to integrate them in a coding scheme of theoretically-motivated qualities of commonly experienced and personally important life events with the aim of clarifying what might separate cultural life script events from other life experiences.

Attributes of The Cultural Life Script

The cultural life script is culturally shared representations of major transitional life events and their expected timing in the individual life course (Berntsen & Rubin, 2004). As pointed out by Neugarten, Moore and Lowe (1965): "There exists what may be called a prescriptive timetable for the ordering of major life events: a time in the life span when men and woman are expected to marry, a time to raise children, a time to retire" (p. 711). Accordingly, the temporal ordering—such as specific timing and sequence of the events—is

critical component (see also Bluck & Habermas, 2000; Haque & Hasking, 2010; Plath & Ikeda, 1975). The cultural life script is used to organize and make sense of life experiences (e.g., Habermas & Bluck, 2000; Berntsen & Rubin, 2004; Bohn & Berntsen, 2013; Thomsen & Berntsen, 2008). One need not have personally lived an event in order to know whether it is part of the cultural life script; that is, this knowledge is culturally transmitted (e.g., Bohn & Berntsen, 2013; Tomasello, 2001). Operationally, a cultural life script event has been defined as any event nominated by more than 4% of a sample in response to the question, "what are the seven most important events that are likely to occur in an ordinary newborn's life in your culture?" (Berntsen & Rubin, 2004; Bohn & Berntsen, 2008; Erdoğan, Baran, Avlar, Taş, & Tekcan, 2008; Ottsen & Berntsen, 2014; Rubin & Berntsen, 2003; Rubin et al., 2009). This low cut off allows also smaller cross-cultural differences to be identified between events included in the life scripts of different cultures. This is of relevance, because highly frequent life script events (e.g., marriage) tend to be shared across cultures (Ottsen & Berntsen, 2014; Zaragoza Scherman, Salgado, Shao & Berntsen, 2017). As mentioned by Berntsen and Rubin (2004) the cultural life script represents an ideal life, and therefore includes a disproportionate number of positive events with a specific timing, whereas negative events are fewer and less temporally scripted. The cultural life script also favors events in young adulthood and therefore includes a disproportionate number of events from the time period of the reminiscence bump.

The attributes provide insight as to the function and general form of the cultural life script, but they do not identify individual events as belonging versus not belonging to the CLS and the reasons for these inclusions or exclusions. In addition, though much research has been

done to document the cultural life script for many cultures (e.g., Erdoğan et al. 2008; Ottsen & Berntsen, 2014; Zaragoza Scherman, Salgado, Shao & Berntsen, 2017), there has been little empirical work on why particular events are included. In order to operationalize the most relevant attributes of the CLS, we developed a series of rating scales to probe the CLS/biographical coherence of personal life events (see Table 2 under "CLS/biographical coherence").

Coherences that Make for Good Life Stories

Most people are able to weave a general life story, recounting its trajectory and important events from different periods of life (McAdams, 2001; McAdams, Bauer, Sakaeda, Anyidoho, Machado, Magrino-Failla, White, & Pals, 2006). Are there such things as "good life stories" and what makes them so? In addition to attributes of the cultural life script, we considered that elements that make life storytelling particularly "good" may increase the likelihood of particular life events being part of the cultural life script.

Habermas and Bluck (2000) propose four types of coherence that define a "good" life story: temporal, causal, thematic, and biographical. Temporal coherence provides a narrative with a sense of linear ordering for the timing of events. In a life story, this would be demonstrated by linking events with particular times in life and the importance of that timing. Causal coherence provides the underlying rationale for behaviors and changes across the story. In a life story, this would include explanations of one's choices and possible changes in one's personality or values across life experience. Thus, experiences which are particularly formative or teach one life lessons would be likely to add to the causal coherence of the overall life story

being told. Thematic coherence provides the story with meaning-making across the whole life story as well as an evaluative component through identifying key and plausible transitions within life experiences (Habermas & de Silveira, 2008; see also, Conway & Pleydell-Pearce, 2000). The first three types of coherence can be attributed to any form of narrative, whereas biographical coherence has to do with cultural norms for autobiographies and is derived from one's cultural concept of biography. Many aspects of biographical coherence overlap with the attributes of the cultural life script. Thus, an event's fit with the culturally expected life is related to that event's contribution to the biographical coherence and "goodness" of the life story being told. We formulated rating scales based on Habermas and de Silveira's (2008) coding of the coherence content of participant narratives (see Table 2).

Characteristics of Life Transitions and Turning Points

How much and in what ways a life story event changes one's life is likely to play a part in whether that event is included in the cultural life script. Such events can be delineated into transitions, turning points, or transition-linked turning points. Turning points involve personal changes that often require time and experience to recognize as leading to long-term change whereas transitions involve external changes and usually do not need such perspective to be seen as creating life change (Enz & Talarico, 2015). People may feel that some or all cultural life script events are turning points and/or transitions in their lives and thereby organize the way that they tell their life stories around such key events. This idea fits well with that of thematic coherence (Habermas & Bluck, 2000). Brown and colleagues put forth a theory regarding the autobiographical periods that people experience in life specifically related to transitions. This

Transition theory (Brown et al., 2012) notes that only events that change "the fabric of daily life" (p. 167) are likely to affect the organization of autobiographical memory. Thus, even historical or big public events may not shape the way that the people who witnessed them tell the stories of the lives, if the events in question did not cause fundamental changes in daily life. Similarly, not all cultural life script events may mold autobiographical memory. Brown and colleagues (2012) lay out the parts of life that a transition may or may not influence. People (e.g., acquaintances, colleagues), things (e.g., topography, local produce), places (e.g., living space, schools), and activities (e.g., typical routines of exercise or leisure) could change. We developed rating scales addressing each one of these components as well as a rating scale regarding turning points (see Table 2). As our aim was not to distinguish between transitions and turning points but rather to capture relevance of both, we use the term "transition" to refer to life events that create change, personal or external.

The Present Studies

Using the criteria that define the cultural life script, make a good life story, and characterize transitional events, we created a survey to probe people's ratings of commonly experienced and important personal life events (see Table 2). Note that these event conceptions range greatly in their duration of occurrence from within a day to over the course of years and do not necessarily adhere to the strict definition of what a memory researcher might label as an "event" (see Rubin & Umanath, 2015; Tulving, 1972). However, these are event categories that participants generated in response to questions regarding the most important events in life (Rubin et al., 2009), and such a range in responses is common in prior

work (Enz & Talarico, 2015; Erdoğan et al. 2008; Ottsen & Berntsen, 2014; Zaragoza Scherman et al., 2017). In Experiment 1, American undergraduates rated 14 different important and commonly experienced events using this survey. These life events were drawn from previous work (Rubin et al., 2009; Umanath & Berntsen, 2013) in which American undergraduates had nominated events that they would include among the most important in their personal life story and events that should be included in the CLS of their culture. For a detailed analysis on these life events and their relation to life script events drawn from the same culture, see (Umanath & Berntsen, 2013). One way to select and categorize these events would be to simply dichotomize inclusion in the cultural life script: CLS events versus Non-CLS events. However, we decided against such a simple dichotomy because it would obscure the natural variation within those two overarching categories. For example, some events in the cultural life script are nominated more frequently and across more cultures than others (e.g., Zaragoza Scherman et al., 2017). Similarly, amongst the commonly experienced and important personal life events not included in the CLS are events that are *occasionally* nominated by participants in the CLS task too and ones that are *never* suggested. In order to capture this variability, we asked participants to rate events that represent a range of overlap between the American cultural life script (see Table 1; Rubin et al., 2009) and the most important events in people's own lives. See Umanath and Berntsen (2013, Table 2) for an overview of these life events and how frequently they were nominated by the participants. We describe the exact categories that emerged below. Our main aim was to use participants' ratings of these events to pinpoint what qualities are particularly poignant for a life story event to be even considered as part of a culture's prescribed ideal life.

10

A second aim was to understand and disentangle how having actually experienced some of these events and not others might influence participants' perceptions, regardless of whether these events overlap with the cultural life script. We addressed this question in Experiment 2, wherein ratings by American undergraduates were contrasted with those of community-dwelling older adults in order to examine differences based on life experience.

Experiment 1

Methods

Participants

100 undergraduates (ages 18-23, 59 females, 89 Native speakers of English) from the Claremont Colleges participated in this study for course credit.

Procedure

Participants were asked to rate fourteen important and commonly experienced personal life events described below on twenty rating scales (see Table 2) through an online survey using Qualtrics software. They were told that the events were commonly experienced events in the standard American culture. They rated each event on all the rating scales before moving on to the next event. The order in which participants rated the events was randomized across participants, as was the order of the rating scales for each event to reduce potential response biases. Participants also stated whether or not they had experienced each event. After completing the questionnaire, participants were debriefed. The study took 30 to 60 minutes to complete.

Materials

Participants rated fourteen events on a number of characteristics (derived from the theories reviewed in the Introduction); these events fall into four separate categories (see Table 1). All 14 events have been considered important and commonly experienced in American life (Rubin et al., 2009; Umanath & Berntsen, 2013). The events selected were meant to capture a range of commonly experienced important life events, and the event categories were empirically defined based on prior analyses of American life stories and the American cultural life script conducted in Umanath and Berntsen (2013). Extreme Cultural Life Script events consisted of the two events (marriage and having children) that are most extremely frequently nominated in the cultural life script across cultures (e.g., Ottsen & Berntsen, 2014; Zaragoza Scherman et al., 2017), mostly frequently included as transition-linked turning points (Enz & Talarico, 2015), and were in the standard American cultural life script[1] according to Rubin et al., 2009. However, of note is that these two events were never nominated as among individuals' most important memories from their own lives (life story task) in that study, namely because college-aged participants are unlikely to have experienced them yet. The remaining three categories of events emerged from "common" important life story events, which many people have experienced by the age of undergraduates (e.g., moving to a new city) according to Rubin et al. (2009). Here, the commonness of life stories across people was defined in the same way that a cultural life script is operationalized: for a life story event to be "common," four or more individuals (out of 100) from Rubin et al. (2009) must have nominated it as among the seven most important events they have personally experienced. However, most of the included life events were mentioned by considerably more (see Table 2 in Umanath & Berntsen, 2013, for

details). The advantage of a low cut-off was that it allowed us to include a variety of different events, ranging from "college" to "loss of a loved one" and to "playing an instrument." These events then fell into three groups (see Table 1) based on the degree of overlap between the life story and life script nominations from Rubin et al. (2009), documented in Umanath and Berntsen (2013). The first category of common life story events consisted of those events that *are* in the standard American cultural life script (Standard Culture Life Script events). The second category consisted of those events that were just below the cutoff for being considered part of the cultural life script (Borderline Cultural Life Script events). That is, *fewer* than 4% nominated these events in the life script task, but participants did occasionally nominate them as life script events (i.e. life story events that were listed as life script events by 1-3%). The third category consisted exclusively of the commonly experienced important life story events that no one *ever* nominated as part of the cultural life script (Non CLS events)[2]. Based on our questions of interest, it did not make sense to include any events which are nominated in neither task.

Participants rated each of these events on twenty rating scales (see Table 2). These rating scales were developed from the attributes of the cultural life script, coherences that make for good life storytelling, and characteristics of transitional life events, as reviewed in the Introduction. Some qualities across these three theoretical bases do overlap. Simply for reference, from these theoretical bases we distilled six major concepts related to the qualitative nature of the events: temporal coherence, CLS/biographical coherence, causal coherence, thematic coherence, transitional nature, and episodic nature. However, the pattern across event categories is considered separately for each rating.

Results

Do the four event categories we have defined differ significantly from one another on

the qualitative aspects of the life events we assessed? The ANOVAs comparing the four event

types on ratings for each scale were significant, and we followed these analyses with the

relevant paired sample t-tests to explore specific differences in ratings of each scale among the

event types. All the data and ANOVA statistics are presented in Table 3; means for the

individual events within event categories are provided in Appendix A. Note that to ensure

against alpha error due to multiple comparisons, an initial MANOVA was conducted including

comparisons across the four event types for all 16 (dependent variable) rating scales discussed

below and was significant, Hotelling's Trace = 18.85, $F(48, 52)$ = 20.42, η_p^2 = .95, p < .001. Again,

each univariate ANOVA within the MANOVA was significant, p < .01. Because this greatly

reduces the concern of alpha error due to multiple comparisons, we proceed with presenting

and interpreting each one-way ANOVA and the follow-up t-tests conducted.

Overall, the analyses indicated that events that are included in the cultural life script,

especially those that are Extreme, were rated more highly on all measures compared to those

that are not part of the cultural life script (Borderline CLS and Non CLS events), see Table 3. For

example, though all of the events included were actually commonly occurring, according to

prior research (Rubin et al., 2009), participants' ratings suggested a biased perception to view

Extreme and Standard CLS events, as being more common in people's lives than events that are

not in the cultural life script, with those that are unique to people's life stories (Non CLS events)

perceived as the least commonly occurring. Yet, participants seemed to be quite in tune with

their culture's life script and what is important to an ordinary person in the standard American culture, rating both Extreme and Standard CLS events as having the highest likelihood of being included among the most important life events, with Extreme CLS events the greatest likelihood.

This tendency to rate Extreme and Standard CLS events quite highly was repeated throughout most of the rating scales, with one noteworthy exception being emotional valence where Standard CLS events were rated lowest. In fact, the Extreme CLS events were rated numerically highest (based on means) on all but one measure, and on 11 of our 16 measures, Extreme CLS events were rated significantly higher than Standard CLS events. For likelihood of occurring only once in life, Standard CLS events were actually rated the highest, followed by Extreme ones which were rated no differently than Borderline CLS events, and Non CLS events were rated the least likely to occur only once. Given the specific events included in the Extreme CLS events group versus those included in the Standard CLS events category, this result does not seem all that surprising. Because virtually none of our participants had experienced the Extreme CLS events, whereas they generally had experienced the other three event categories, these results raised the question of what role participants' actual experience of the events played in their ratings. For more details and the data patterns for each rating, see Table 3.

Finally, two unique patterns must be considered. First, as mentioned above, while Extreme CLS events were rated as the most highly positive on emotional valence, Standard CLS events were rated as the most highly negative. In fact, the Non CLS events were considered the second most positive, and even Borderline CLS events were thought to be significantly more

positive than Standard CLS events. This is of note because one defining characteristic of the life events in the CLS is that the events are highly positive in nature (Berntsen & Rubin, 2004). Second, in terms of how valued or celebrated a given event is in the standard American Culture, despite Extreme CLS events being rated as highest, Non CLS events were rated as the next most valued and celebrated, numerically greater but not significantly differently than Standard CLS events (based on means). This pattern hints at one reason why Non CLS events may be nominated when people consider the most important events in their own lives.

Discussion

Cultural life script events, both ones that participants had likely experienced already (e.g., leaving home, loss of a loved one) and ones that they had not yet experienced (Extreme CLS events, e.g., getting married), were rated most highly on the majority of our measures, compared to the two categories of events that do not fall within the cultural life script (Borderline CLS events and Non CLS events). In addition, Extreme CLS events were often rated even more highly than Standard CLS events. This finding could partially be explained by the specific Extreme CLS events we included—marriage and having children. These two events were selected because they tend to be highly frequently nominated in the cultural life script task across various cultures (e.g., Ottsen & Berntsen, 2014; Zaragoza-Scherman et al., 2017). However, (as expected) hardly any of the participants had experienced these two events (less than 1%). In contrast, a much higher rate of experience was for found for the other three event types; participants endorsed an average of 87% of the Standard CLS events, 73% of the Borderline CLS events, and 74% of the Non CLS events. This difference in level of experience

16

complicates the findings concerning the Extreme CLS events. Given that the cultural life script is thought to organize the memories of our life events, it seems logical that the cultural life script may have even more influence over the organization of future life events, where personal experience cannot be drawn upon. That is, Standard CLS events may have been tempered by our participants having actually experienced them while Extreme CLS events may maintain with an illusion of "goodness" (Berntsen & Bohn, 2010; Grysman, Prabhakar, Anglin & Hudson, 2015; Lachman, Rocke, Rosnick, & Ryff, 2008; Rasmussen & Berntsen, 2013; Shanahan & Busseri, 2016). Experiment 2 was conducted to clarify the role of experience by involving both younger and older participants.

Experiment 2

When examining differences among our four event types, we noted that because virtually none of the young participants in Experiment 1 had experienced the Extreme CLS events (but had generally experienced the other three event types), the results included a possible confound between lack of experience and the involvement of the cultural life script. Because Extreme CLS events were so highly rated, we considered whether having personally experienced an event was a relevant factor in how participants rated the different event types. Is what distinguishes events in the cultural life script largely due to an effect of personal experience (or lack thereof)? Or is there something essentially special about the Extreme CLS events?

In Experiment 2, we aimed to replicate and extend the findings from Experiment 1. Given the extremely high ratings of Extreme CLS events, which were also events that the

younger adult participants had not personally experienced, we hoped to examine the influence of life experience. As such, in Experiment 2, we included a new sample of younger adults and also added a sample of community-dwelling older adults as a comparison group to more directly study how life experience does and does not shape people's perceptions of common life events. The logic here is that older adults are likely to have experienced the Extreme CLS events, providing some insight into whether it is a lack of experience that leads younger adults to rate marriage and having children so highly in terms of CLS criteria/biographical coherence, "good" life stories coherences, and transitional nature. Furthermore, older adults have more life experience and context for all the events by virtue of simply having lived much longer. Hence, it is also of interest whether their perceptions of these common life events are different than those of younger adults, who have neither experienced many life events nor have the life perspective of age. Note that participants were asked to think about the general perceptions of the events, consistent with Study 1; they were not asked to think of their own personal experiences, since this would defeat one important purpose of the study. The assumption is that having personally experienced an event might color how participants think of and rate the event more generally. Therefore, it was important to include older in addition to younger participants.

Methods

Participants

Forty-nine undergraduates (ages 18-23, M_{age} = 20 years old, 26 females, 43 native speakers of English) from the Claremont Colleges participated in this study for course credit. 40

community-dwelling older adults (ages 66-90, M_{age} = 75, 25 females, all native speakers of English) participated in this study for monetary compensation ($20). Older adults reported significantly more years of education (*M* = 16.96, *SD* = 3.15) than did younger adults [*M* = 13.32, *SD* = 1.15; *t*(87) = -7.49, *SED* = .49, *p* < .001], as is typical. Older adult participants were also characterized using the Shipley Vocabulary test (*M* = .90, *SD* = .07) and the Mini-Mental State Exam (*M* = 26.48, *SD* =2.31) and were all deemed of adequate cognitive status.

Materials

The materials used were identical to those used in Experiment 1.

Procedure

The procedure for younger adult participants was identical to that of Experiment 1. The older adult participants came to the laboratory to complete the study as well as the Shipley Vocabulary Test and the Mini-Mental State Exam. The study took 30 to 60 minutes for younger adult participants to complete and 60 to 90 minutes for older adult participants.

Results

We first conducted a 2(Age: Younger Adult, Older Adult) X 4(Event Category: Extreme CLS, Standard CLS, Borderline CLS, Non CLS) MANOVA on all the ratings (see Table 4). Means for the individual events within event categories are provided in Appendix B. The overall MANOVA was significant, and all main effects of event category were significant at the *p* < .001 level. Two of these main effects were qualified by significant age X event category interactions; two more were qualified by marginal interactions. As for the effect of age, all main effects were

significant except that of being surprised by an event's inclusion in someone's telling of their life story.

First, we will discuss the main effects of event category that were not qualified by an interaction with age. These 12 main effects generally replicated the overall patterns seen in Experiment 1 including timing importance, commonness, how valued/celebrated, having been imagined as a child, how formative the event might be, how expected and how surprising the event might be in a life storytelling, how much of a turning point in life the event is, changes to daily activities and spatial environment, and how likely the event is to occur only once in life. That is, as in Experiment 1, Extreme CLS events were rated numerically the highest on all measures except singular occurrence (based on means) and significantly highest on all measures other than timing importance, imagined as a child, and changes to spatial environment. Standard CLS events were also rated more highly than either Borderline or Non CLS events for all measures other than emotional valence, and Non CLS and Borderline CLS events were often rated significantly differently from one another. All data are presented in Table 4. Of note is that participants' consideration of the emotional valence replicated Experiment 1. While Extreme CLS events were rated as the most highly positive, Standard CLS events were rated as the least positive. In fact, the Non CLS events were considered the most positive after the Extreme CLS events, and even Borderline CLS events were thought to be significantly more positive than Standard CLS events. For all of these measures, age–the proxy for life experience—did not impact the patterns of results. That is, despite having already

experienced Extreme CLS events, older adults rated them and the other common life events in a very similar way to younger adults.

Effects of Life Experience

Age had a major influence on participants' ratings of common life events. In terms of how many of the events participants endorsed as having been experienced in the course of their lives already, we ran a two (Age) X 4 (Event Category) ANOVA. Older adults endorsed having experienced more events across all event types (M = .90) compared to younger adults [M = .60, F (1, 87) = 274.11, MSE = .03, η_p^2 = .76]. There was also a main effect of event category such that regardless of age, Standard CLS events were most often endorsed as having been experienced (M =.93), followed by Borderline CLS events (M = .85), followed by Non CLS events [M = .75, F (1, 87) = 387.34, MSE = .02, η_p^2 = .82]. These main effects are qualified by an interaction such that for Extreme CLS events, unsurprisingly, older adults have a much greater proportion of experience than younger adults (.95 versus .01). The full data are presented in Table 5. Note that for the younger adults, the proportions of experienced events replicate that seen in Experiment 1.

In terms of the main effects of age, we again discuss only those that were not qualified by a significant interaction. As mentioned above, other than the rating of surprise of inclusion in a life storytelling, all main effects of age were significant (all Fs > 3.00, all ps < .01); the mean ratings are presented as a function of age and event type in Table 4. In almost every case, older adults rated events, regardless of type, more highly than younger adults did. However, there were two exceptions to this pattern: Younger adults rated events as being more often imagined

as children and more likely to occur only once compared to older adults. Here, we can potentially see the influence of time and experience. For older adults, thinking back to being a child and what they might have imagined may be more difficult to do than for younger adults who are not so far in time from childhood. In contrast, with greater life experience, older adults are likely to realize that in general many experiences that they might have thought would be singular in their lives are truly not, whereas younger adults still seem to have this perception.

Finally, two characteristics showed significant interactions between age group and event type (see Table 4 for mean ratings). Participants rated how likely they would be to include a given event among the most important events in their *own* lives. Though older adults rated all events more highly than did younger adults and regardless of age, Extreme CLS events were rated more highly than Standard CLS events followed by Borderline and finally Non CLS events, age significantly interacted with event category, $F(3,261) = 4.33$, $MSE = .54$, $\eta_p^2 = .05$, $p = .005$. Both age groups rated Extreme and Standard CLS events higher than Borderline and Non CLS events which were no different from one another. The key difference seems to be in the relationship between Extreme CLS events and Standard CLS events. Younger adults rated these two types of events as equally likely to be included among their most important life events ($t < 1$) whereas older adults rated the Extreme events significantly higher than Standard ones, $t(39) = 5.16$, $SEM = .13$, $p < .001$.

Participants also rated how much they thought that a given event might change their social relationships. Again, these ratings differed as a function of both age and event type, $F(3,261) = 2.94$, $MSE = .18$, $\eta_p^2 = .03$, $p = .03$. Critically, whereas younger adults rated Non CLS

events as significantly more likely to change their social relationships compared to Borderline CLS events [t(48) = 3.52, *SEM* = .09, *p* <.001], older adults did not; these two event types were rated equivalently lowest by older adults (t < 1). This age difference manifests specifically as older adults rating Borderline CLS events as significantly more likely to change social relationships than younger adults, t (87) = 3.93, *SED* = .13, *p* < .001; in contrast, there was no age difference for Non CLS events, t(87) = 1.71, *SED* = .12, *p* = .09.

General Discussion

An accumulating number of studies have examined the cultural life scripts in different populations (e.g., see Zaragoza Scherman et al., 2017) for a recent review. In contrast, little work has investigated the included events themselves, empirically addressing what characteristics make personal life story events likely (or unlikely) to be part of a culture's life script and how personal experience may influence perceptions of these events. The present studies were undertaken to address this gap. We introduced a set of theoretically derived self-report measures, tapping important dimensions of autobiographical events according to often cited autobiographical memory theories. Using this measurement, we examined participants' ratings of commonly experienced important life events that encompassed a range of overlap with the cultural life script. Overall, the findings indicated that the events in the cultural life script better embody all the measured qualities, with a caveat for emotional valence. However, several other noteworthy results emerged and are discussed below.

Participants in Study 1 rated Extreme CLS events more highly than all other common life events on the majority of measures. Since college undergraduates have not experienced many

of cultural life script events yet, they may have a more schematized notion of those events, expecting them to be especially important, causally coherent, thematically coherent, and transitional in nature (Berntsen & Bohn, 2010). In particular, the Extreme CLS life story events are highly likely to be events that most of the participants in Study 1 would envision should happen in the future. This was supported by the finding that participants in Study 1 rated these events (and Standard CLS life story events) as the most likely to have been imagined as children. The fact that here Extreme CLS events were rated as so highly positive and impactful across so many characteristics in this college-aged population lends support to the idea that such future life script events are quite idealized among young adults (see also, Bohn, 2010; Lachman et al., 2008; Shanahan & Busseri, 2016).

Critically, and challenging this interpretation, older adults echoed the same perceptions regarding Extreme CLS events despite having already experienced these as well as the Standard CLS events. In fact, they often rated these events even more highly than younger adults did. The two specific events in this event category (marriage and having children) are among the most universally present events in the CLS across cultures; even among CLS events cross-culturally, they tend to be nominated highly frequently (Ottsen & Berntsen, 2014; Zaragoza Scherman et al., 2017). The present data provide some explanation of why: People perceive the Extreme CLS events to best embody the criteria of the CLS, coherences of good life stories, and characteristics of transitional events, and these perceptions are independent of actual personal experience.

Interestingly, older adults rated *all* events as more highly positive than did younger adults, in line with prior work (Rubin & Berntsen, 2009; for specifically negative events, see Comblain, D'Argembeau, & van der Linden, 2005). Older adults seem to favor positive memories and remember events more positively, known as the positivity effect in aging (Kennedy, Mather, & Carstensen, 2004; Mather & Carstensen, 2005; Schlagman, Schulz, & Kvavilashvili, 2006; Singer, Rexhaj, & Baddeley, 2007). However, this pattern was general to almost all characteristics measured here: Older adults rated events more highly than did younger adults. Such results have been found previously, but have not been fully explained or understood (Kingo, Berntsen & Krøjgaard, 2013; Rubin & Berntsen, 2009), as Rubin and Schulkind (1997) stated, "Not much can be made of it except that it warrants further study (p. 532)." The context of this study provides some hint of why older adults may provide higher ratings of autobiographical events across characteristics. The present data suggest that older adults may have perceived that all the included events were more impactful across various qualities on their life experiences as a whole than did younger adults, suggesting a broader sense of the previously demonstrated positivity effect.

Prior work has examined older adults' privileging of positive over negative stimuli across a variety of tasks and stimuli types in both attention and memory (for a review, see Reed & Carstensen, 2012), but the focus has been on the emotionality of the material. The generality of the higher ratings alongside the more positive ratings of emotion here (and in prior work; e.g., Rubin & Berntsen, 2009; Rubin & Schulkind, 1997) suggests that the positivity effect as it has been studied thus far cannot fully account for the pattern. One possibility is that older adults'

remembering can be a rather diffuse sense of a rosy past, including finding events overall more meaningful, rather than simply emotionally positive. Older adults do tend to recall and retell narratives with a deep interpretive style, focusing on the meaning of a story rather than the literal surface level information (Adams, Smith, Nyquist, & Perlmutter, 1997). Note that this is not inconsistent with the socioemotional selectivity theory which postulates that motivations and goals for remembering change as we age, shifting to a prioritization of emotional meaning and well-being (Carstensen, Isaacowitz, & Charles, 1999; Carstensen & Mikels, 2005; Reed & Carstensen, 2012). But these data do highlight the need to better characterize older adults' positive perceptions of the past beyond emotional valence and intensity.

An assumption in the literature has been that cultural life script events would be thought of as especially positive among all commonly experienced life events (Rubin & Berntsen, 2003), yet this was only true for Extreme CLS events in our selection of events, whereas Standard CLS events actually were rated as less positive than other common important life events. Such positivity could be driven by those cultural life script events that people have not experienced yet (e.g., Newby-Clark & Ross, 2003) with younger adults imagining an especially rosy future (Rasmussen & Berntsen, 2013). Yet, the same pattern held for older adults who had already experienced the Extreme CLS events. One possibility is that this effect is an artifact of the specific events selected to be in each category. Specifically, it is possible that the inclusion of "loss of a loved one" as a Standard CLS event lowered the mean rating of Standard CLS events more than the negative events in either Borderline or Non CLS events did for those mean emotional valence values. To examine this possibility, we conducted the

analyses using the emotional valence mean of the Standard CLS events without the loss of a loved one event. Across the two experiments, we still found that Standard CLS events were rated significantly lower than the Extreme CLS events and not significantly higher than the other two event categories[3]. Thus, it was not the inclusion of "loss of a loved one" that resulted in the low positivity perception of Standard CLS events. However, these findings should be evaluated with the caution that the selection of these events still formed only a subset of events included in cultural life scripts.

Note that Non CLS events, though commonly experienced and considered important in people's personal life stories, did not strongly embody the tapped characteristics. What is it then that makes these events special even in individual lives if the CLS events seem to most strongly bear all the characteristics measured here? Only for emotional valence were Non CLS events rated more highly (positive) than Standard CLS events. If the pattern found here in two studies in both younger and older adults for emotional valence holds, then, perhaps it is the positive perception of these events in people's minds that compensates for the lack of other characteristics and results in their inclusion as among important personal life events.

The present studies have a number of limitations. First, the selection of events may limit the generalizability of the results. Although the events selected represented a range of life script and non-life script events, future work should replicate the present findings with an even greater diversity of included life events. Second, specifically for Study 2, we cannot distinguish between cohort effects and effects of having experienced the specific events considered. This is obviously a common problem in aging research that needs to be acknowledged in relation to

the present findings on age effects. Third, prior work also indicates that the orientation one has when thinking about past transitional events, focusing on broader life significance versus the concrete details, can influence how impactful and self-relevant people perceive the events to be (Boucher & Scoboria, 2015); here, we cannot claim to know the perspective with which people thought about the common life events included. Despite these limitations, the present findings indicate that overall, regardless of age, people perceived the Extreme CLS events to best embody the criteria of the CLS, coherences of good life stories, and characteristics of transitional events, making them considered the most impactful events in life. Moreover, older and younger adults demonstrated a strong consensus in how they rated the events across event types. Finally, older adults rated events more highly on almost every characteristic, across all events. Thus, beyond a list of important commonly experienced personal life events, we now have a better sense of the general knowledge people have of common important life events, the influence of personal experience on perceptions of those events, and hints as to why they are considered so important.

The present findings open multiple avenues for further research. Similar studies conducted with participants from different cultures would provide important insight into whether the present results are culturally robust. The pattern of high ratings from older adults also warrants future research into how older adults perceive the past. Although we identified several possible characteristics that distinguish life story events that overlap with the cultural life script events from those that do not, none of these particular characteristics seem to be the most decisive in making an event part of a culture's life script. For example, we were surprised

to find that the timing of events was not a distinguishing feature of CLS events. Further work

systematically varying other theoretically-motivated qualities of events measured here and

conducted with a diverse sample of participants might help to clarify how, over time, ordinary

life events become part of a culture's life script, and the kinds of societal and cultural changes

that may facilitate such development.

Author Note

Sharda Umanath, Department of Psychology, Claremont McKenna College and Dorthe Berntsen, Center on Autobiographical Memory Research, Aarhus University.

References

Adams, C., Smith, M. C., Nyquist, L., & Perlmutter, M. (1997). Adult age-group differences in

recall for the literal and interpretive meanings of narrative text. *The Journals of*

Gerontology Series B: Psychological Sciences and Social Sciences, 52, 187-195.

Berntsen, D., & Bohn, A., (2010). Remembering and forecasting: The relation between

autobiographical memory and episodic future thinking. *Memory & Cognition, 38,* 265-

278.

Berntsen, D., & Rubin, D. C. (2004). Cultural life scripts structure recall from autobiographical

memory. *Memory & Cognition, 32*, 427-442.

Bohn, A. (2010). Generational differences in cultural life scripts and life story memories of

younger and older adults. *Applied Cognitive Psychology*, *24*, 1324-1345.

Bohn, A., & Berntsen, D. (2008). Life story development in childhood: The development of life

story abilities and the acquisition of cultural life scripts from late middle childhood to

adolescence. *Developmental Psychology, 44*, 1135-1147.

Bohn, A., & Berntsen, D. (2013). The future is bright and predictable: The development of

prospective life stories across childhood and adolescence. *Developmental Psychology,*

49, 1232-1241.

Bluck, S., & Habermas, T. (2000). The life story schema. *Motivation and Emotion, 24,* 121-147.

Boucher, C. M., & Scoboria, A. (2015). Reappraising past and future transitional events: The

effects of mental focus on present perceptions of personal impact and self-relevance.

Journal of Personality, 83, 361-375.

Brown, N. R., Hansen, T. G. B., Lee, P. F., Vanderveen, S. A., & Conrad, F. G. (2012). Historically

defined autobiographical periods: Their origins and implications. In D. Berntsen and D. C.

Rubin (Eds.), *Understanding Autobiographical Memory: Theories and Approaches.* (pp.

160-180). Cambridge: Cambridge University Press.

Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of

socioemotional selectivity. *American psychologist*, *54*, 165-181.

Carstensen, L. L., & Mikels, J. A. (2005). At the intersection of emotion and cognition aging and

the positivity effect. *Current Directions in Psychological Science, 14*, 117-121.

Clarke, D. D. (1995). Life scripts: Implicit representations of life-course patterns. *Journal of

Social Behavior and Personality*, 10, 871-884.

Collins, K. A., Pillemer, D. B., Ivcevic, Z., & Gooze, R. A. (2007). Cultural scripts guide recall of

intensely positive life events. *Memory & Cognition*, 35, 651-659.

Comblain, C., D'Argembeau, A., & Van der Linden, M. (2005). Phenomenal characteristics of

autobiographical memories for emotional and neutral events in older and younger

adults. *Experimental Aging Research, 31,* 173-189.

Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language*, *53*, 594–628.

Conway, M. A. and Pleydell-Pearce, C. W. (2000). The construction of autobiographical

memories in the self-memory system. *Psychological Review*, *107*, 261–288.

Enz, K. F., & Talarico, J. M. (2015). Forks in the road: Memories of turning points and

transitions. *Applied Cognitive Psychology.*

Erdoğan, A., Baran, B., Avlar, B., Taş, A. C., & Tekcan, A. İ. (2008). On the persistence of

positive events in life scripts. *Applied Cognitive Psychology, 22,* 95-110.

Grysman, A., Prabhakar, J., Anglin, S. M., & Hudson, J. A. (in press). Self-enhancement and the life script in future thinking across the lifespan. *Memory*.

Habermas, T. (2007). How to tell a life: The development of the cultural concept of biography. *Journal of Cognition and Development, 8*, 1-31.

Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin, 126*, 748-769.

Habermas, T., & de Silveira, C. (2008). The development of global coherence in life narratives across adolescence. Temporal, causal, and thematic aspects. *Developmental Psychology, 44,* 707-721.

Haque, S. & Hasking, P. A. (2010). Life scripts for emotionally charged autobiographical memories: A cultural explanation of the reminiscence bump. *Memory, 18*, 712-729.

Kennedy, Q., Mather, M., & Carstensen, L. L. (2004). The role of motivation in the age-related positivity effect in autobiographical memory. *Psychological Science*, *15*, 208-214.

Kingo, O., Berntsen, D., & Krøjgaard, P. (2013). Adults' Earliest Memories as a Function of Age, Gender, and Education in a Large Stratified Sample. *Psychology and Aging, 28,* 646-653.

Lachman, M. E., Rocke, C., Rosnick, C., & Ryff, C. D. (2008). Realism and illusion in Americans' temporal views of their life satisfaction: Age differences in reconstructing the past and anticipating the future. *Psychological Science, 19,* 889-897.

Mather, M., & Carstensen, L. L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in cognitive sciences*, *9*, 496-502.

McAdams, D. P. (2001). The psychology of life stories. *Review of general psychology*, *5*, 100-122.

McAdams, D. P., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, K., White, K. W. & Pals, J. L. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of personality*, *74*, 1371-1400.

Neugarten, B. L., Moore, J. W., & Lowe, J. C. (1965). Age norms, age constraints, and adult socialization. *American Journal of Sociology, 70*, 710-717.

Ottsen, C. L., & Berntsen, D. (2014). The cultural life script of Qatar and across cultures: Effects of gender and religion. *Memory*, *22*, 390-407.

Plath, D. W., & Ikeda, K. (1975). After coming of age: Adult awareness of age norms. *Socialization and Communication in Primary Groups.*

Rasmussen, A. S., & Berntsen, D. (2013). The reality of the past versus the ideality of the future: emotional valence and functional differences between past and future mental time travel. *Memory & cognition*, *41*, 187-200.

Reed, A. E., & Carstensen, L. L. (2012). The theory behind the age-related positivity effect. *Frontiers in Psychology, 3,* 1-9*.*

Roediger, H. L., III, Zaromb, F., & Butler, A. C. (2009). The role of repeated retrieval in shaping collective memory. In P. Boyer and J. V. Wertsch (Eds.), *Memory in Mind and Culture* (pp. 29-58). Cambridge: Cambridge University Press.

Rubin, D. C., & Berntsen, D. (2003). Life scripts help to maintain autobiographical memories of

highly positive, but not highly negative, events. *Memory & Cognition, 31*, 1-14.

Rubin, D. C., & Berntsen, D. (2009). The frequency of voluntary and involuntary autobiographical memories across the life span. *Memory & Cognition*, *37*, 679-688.

Rubin, D. C., Berntsen, D., & Hutson, M. (2009). The normative and the personal life: Individual differences in life scripts and life story events among USA and Danish undergraduates. *Memory*, *17,* 54-68.

Rubin, D. C., & Schulkind, M. D. (1997). Distribution of important and word-cued autobiographical memories in 20-, 35-, and 70-year-old adults. *Psychology and Aging, 12,* 524-535.

Rubin, D. C., & Umanath, S. (2015). Event memory: A theory of memory for laboratory, autobiographical, and fictional events. *Psychological Review*, *122*, 1-23.

Schlagman, S., Schulz, J., & Kvavilashvili, L. (2006). A content analysis of involuntary autobiographical memories: Examining the positivity effect in old age. *Memory*, *14*, 161-175.

Settersten, R. A., Jr., & Hagestad, G. O. (1996). What's the latest? Cultural age deadlines for family transitions. *The Gerontologist, 36,* 178-188.

Shanahan, E. & Busseri, M. A. (2016). Life gets better and better: Cultural life script theory and subjective trajectories for life satisfaction. *European Journal of Personality, 30,* 564-579.

Singer, J., Rexhaj, B., & Baddeley, J. (2007). Older, wiser, and happier? Comparing older adults' and college students' self-defining memories. *Memory*, *15*, 886-898.

Thomsen, D. K., & Bernsten, D. (2008). The cultural script and life story chapters contribute to

the reminiscence bump. *Memory, 16*, 420-435.

Tomasello, M. (2001). Cultural transmission: A view from chimpanzees and human infants. *Journal of Cross-Cultural Psychology*, *32*, 135-146.

Tulving, E. Episodic and semantic memory. In: Tulving, E.; Donaldson, W., editors. Organization of Memory. New York, NY: Academic Press; 1972. p. 381-402.

Umanath, S. & Berntsen, D. (2013). Personal life stories: Common deviations from the cultural life script. *Nordic Psychology, 65*, 87-102.

Zaragoza Scherman, A., Salgado, S., Shao, Z., & Berntsen, D. (2017). Life script events and autobiographical memories of important life story events in Mexico, Greenland, China, and Denmark. *Journal of Applied Research in Memory and Cognition*.

Footnotes

[1] The cultural life script has been operationalized as events which four or more individuals (out of 100) nominate as among the seven most important events that are likely to occur in a typical newborn's life (e.g., Bohn & Berntsen, 2008, 2011; Berntsen & Rubin, 2004; Erdogan et al., 2008; Ottsen & Berntsen, 2014; Rubin et al., 2009).

[2] To improve the clarity of the event types, the event type labels used here differ from those used in Umanath & Berntsen (2013). What were labeled as "CLS events" in Umanath & Berntsen (2013) are now "Standard CLS events," "Non-CLS events" are now "Borderline CLS events," and "Unique Life Story events" are "Non CLS events."

[3] For Experiment 1, ratings of emotional valence for the remaining CLS events increased to 3.72. However, these ratings were still significantly lower than those of Extreme CLS events [$t(99)$ = -11.85, *SEM* = .06, p =.001] and Non CLS events [$t(99)$ = -2.09, *SEM* = .05, p = .04]. For Experiment 2, younger adults' ratings of emotional valence for the remaining Standard CLS events increased to 3.71, and older adults' ratings increased to 4.06. However, these ratings were still significantly lower than those of Extreme CLS events [$t(88)$ = -9.68, *SEM* = .07, p = .001] and showed no difference with Non CLS events, $t < 1$.

Author Biographies

Sharda Umanath is an assistant professor in the Department of Psychology at Claremont McKenna College, Claremont, California, USA.

Dorthe Berntsen is a professor of psychology at Aarhus University. She is the director of the Center on Autobiographical Memory Research, which is a Center of Excellence funded by the Danish National Research Foundation.

Table 1

Categories of common life events rated.

Event Type	Life Script Nomination	Life Story Nomination	Events Rated
Extreme Cultural Life Script Event (Extreme CLS event)	Present in the Life Script (nominated in the life script task by at least 4 percent)	Never nominated in the life story task	1. marriage 2. having children
Standard Cultural Life Script Event (Standard CLS event)	Present in the Life script (nominated in the life script task by at least 4 percent)	Nominated in the life story task by at least 4 percent	1. college 2. loss of a loved one 3. high school 4. leaving home
Borderline Cultural Life Script Event (Borderline CLS event)	Nominated in the life script task by more than 1, but less than 4 percent	Nominated in the life story task by at least 4 percent	1. long trip 2. having siblings 3. accident/injury 4. learning to read/write
Non Cultural Life Script Event (Non CLS event)	Never nominated in the life script task	Nominated in the life story task by at least 4 percent	1. moving 2. playing a sport 3. playing an instrument 4. having an epiphany/realization

Note: Life Script Nomination and Life Story Nomination are based on secondary data analyses conducted in Umanath and Berntsen (2013) on the American data set presented in Rubin et al., (2009).

Table 2

Rating scales rated for each event by concept; example for "college."

Scale	Answer Type	Concept
Have you experienced [college]?	Yes/No	N/A
At what age is [college] most likely to occur in a typical life?	Open-ended	Temporal Coherence
What is the ideal age for [college] to occur based on American cultural norms?	Open-ended	
How important is the timing of [college] in the life course?	5 point Scale: Not at all Important – Extremely Important	
How commonly occurring would you expect [college] to be in an ordinary person's life in the standard American culture?	5 point Scale: Not at all common – Extremely common	CLS/Biographical Coherence
If you were asked to list the most important events that have occurred in your own life, how likely is it that you would include [college]?	5 point Scale: Very Unlikely – Very Likely	
If you were asked to list the most important events that have occurred in the life of an ordinary person in the standard American culture, how likely would you be to include [college]?	5 point Scale: Very Unlikely – Very Likely	
How would you describe the emotions and feelings typically associated with [college]?	5 point Scale: Very Negative – Very Positive	
Is [college] valued or celebrated in the standard American culture?	5 point Scale: Definitely not – Definitely yes	
When you were a kid, did you imagine that [college] would occur in your life?	5 point Scale: Definitely not – Definitely yes	
Do you think [college] is typically a formative experience in the standard American culture?	5 point Scale: Definitely not – Definitely yes	Causal Coherence
Do you think an ordinary person who experienced [college] would learn key life lessons from this event?	5 point Scale: Definitely not – Definitely yes	
Would you expect to hear about [college] if someone else were telling their life story?	5 point Scale: Definitely not – Definitely yes	Thematic Coherence
Would you be surprised if someone included [college] when telling their life story?	5 point Scale: Definitely not – Definitely yes	
Do you think [college] would be a turning point in a typical life story? (i.e. Would an ordinary person's life fundamentally change after this event?)	5 point Scale: Definitely not – Definitely yes	Transitional Nature
Would [college] be likely to change a person's daily activities?	5 point Scale: Definitely not – Definitely yes	
Would [college] be likely to change a person's social relationships?	5 point Scale: Definitely not – Definitely yes	
Would [college] be likely to change one's spatial location for an extended period (weeks to years)?	5 point Scale: Definitely not – Definitely yes	

Over how long a period would [college] typically take place?	Open-ended	Episodic Nature
Would you expect [college] to be a unique event in life, happening only once?	5 point Scale: Definitely not – Definitely yes	

Table 3

Experiment 1 Ratings and ANOVA statistics for each scale by event category.

	Extreme CLS Events	Standard CLS Events	Borderline CLS Events	Non CLS Events	Univariate ANOVA $F(3,297)$	MSE	η_p^2
Time Importance$_c$	4.29 (.61)	4.29 (.45)	3.95 (.45)	3.62 (.60)	43.75***	.24	.31
Commonly Occurring$_a$	4.39 (.54)	4.21 (.50)	3.87 (.47)	3.57 (.47)	90.34***	.15	.48
Importance in Own Life$_e$	3.70 (1.33)	3.84 (.56)	2.94 (.72)	3.08 (.69)	31.91***	.62	.24
Importance in Ordinary Life Story$_b$	4.50 (.54)	3.87 (.56)	3.02 (.63)	3.02 (.68)	185.40***	.28	.65
Emotion$_f$	4.42 (.56)	3.13 (.44)	3.60 (.39)	3.82 (.38)	186.434***	.15	.65
Valued/Celebrated$_g$	4.49 (.47)	3.70 (.51)	3.52 (.44)	3.74 (.45)	116.58***	.15	.54
Imagined as a Child$_c$	4.40 (.79)	4.41 (.46)	3.93 (.60)	3.49 (.60)	58.61***	.33	.37
Formative Experience$_a$	4.31 (.61)	4.19 (.48)	3.73 (.55)	3.55 (.56)	64.75***	.20	.40
Life Lessons Learned$_b$	4.65 (.44)	4.33 (.46)	3.94 (.52)	3.89 (.47)	110.71***	.12	.53
Expected in Life story telling$_d$	4.30 (.66)	3.74 (.55)	3.01 (.60)	3.28 (.57)	139.61***	.29	.59
Surprising in Life story telling$_g$	4.25 (.94)	3.58 (.45)	3.28 (.63)	3.60 (.66)	48.30***	.35	.33
Turning Point$_b$	4.56 (.49)	3.96 (.53)	3.35 (.65)	3.41 (.49)	159.86***	.20	.62
Changes Daily Activities$_a$	4.69 (.41)	4.21 (.44)	4.01 (.49)	3.68 (.45)	141.96***	.13	.59
Changes Social Relations$_d$	4.51(.54)	4.25 (.42)	3.39 (.58)	3.82 (.47)	148.38***	.16	.60
Changes Spatial Environment$_h$	3.58 (.68)	3.67 (.43)	3.95 (.53)	3.19 (.44)	63.80***	.18	.39
Single Occurrence$_i$	3.14 (.64)	3.61 (.49)	3.12 (.60)	2.41 (.60)	104.56***	.24	.51

Note: See Table 1 for explanations of the event category labels. Standard deviations are

presented in parentheses. Asterisks represent the alpha level of significance with * for $p < .05$,

** for $p < .01$, and *** for $p <.001$. Subscripts represent the pattern of significance between the

event categories according to post-hoc t-tests with a for Extreme>Standard>Borderline>Non, b

for Extreme>Standard>Borderline=Non, c for Extreme=Standard>Borderline>Non, d for

Extreme>Standard>Non>Borderline, e for Extreme=Standard>Borderline=Non, f for

Extreme>Non>Borderline>Standard, g for Extreme>Non=Standard>Borderline, h for

Extreme=Standard>Non>Borderline, and i for Standard>Extreme=Borderline>Non.

Table 4

Experiment 2 Mean ratings and ANOVA statistics for each scale as a function of age and event category with statistics for the main effect of event type.

		Extreme CLS Events	Standard CLS Events	Borderline CLS Events	Non CLS Events	Main Effect of Event Type F(3,261)	MSE	η_p^2
Time Importance	YAc	4.11 (.68)	4.14 (.55)	3.77 (.49)	3.58 (.48)	31.23	.17	.26
	OAc	4.35 (.53)	4.30 (.48)	4.11 (.46)	3.85 (.48)			
Commonly Occurring	YAa	4.29 (.57)	4.08 (.57)	3.77 (.54)	3.49 (.51)	88.70	.14	.51
	OAc	4.49 (.46)	4.34 (.35)	3.93 (.41)	3.59 (.50)			
Importance in Own Life	YAe	3.84 (1.35)	3.76 (.61)	3.05 (.74)	3.11 (.57)	46.54	.54	.35
	OAb	4.63 (.67)	3.95 (.61)	3.36 (.83)	3.13 (.71)			
Importance in an Ordinary Life	YAd	4.44 (.66)	3.83 (.49)	2.92 (.62)	3.12 (.58)	127.30	.29	.59
	OAb	4.57 (.47)	4.03 (.58)	3.43 (.79)	3.22 (.58)			
Emotion	YAf	4.48 (.59)	3.17 (.54)	3.52 (.44)	3.80 (.40)	137.41	.36	.61
	OAj	4.60 (.52)	3.57 (.58)	3.74 (.39)	3.93 (.46)			
Valued/Celebrated	YAd	4.35 (.63)	3.79 (.47)	3.41 (.51)	3.54 (.48)	82.58	.16	.49
	OAb	4.5 (.53)	4.14 (.49)	3.7 (.46)	3.77 (.49)			
Imagined as a Child	YAc	4.20 (.80)	4.33 (.59)	3.78 (.71)	3.35 (.68)	49.11	.40	.36
	OAc	3.99 (.98)	4.04 (.71)	3.42 (.76)	3.00 (.81)			
Formative Experience	YAb	4.27 (.64)	4.00 (.56)	3.58 (.51)	3.44 (.55)	66.78	.17	.43
	OAc	4.53 (.51)	4.42 (.44)	4.01 (.54)	3.79 (.54)			
Life Lessons	YAb	4.54 (.59)	4.21 (.48)	3.72 (.62)	3.71 (.51)	70.00	.15	.45
	OAb	4.73 (.36)	4.38 (.42)	4.14 (.54)	4.08 (.47)			

Expected in Life	YA$_b$	4.33 (.68)	3.73 (.50)	2.98 (.55)	3.12 (.51)	127.65	.23	.60
story telling	OA$_b$	4.64 (.42)	3.93 (.56)	3.44 (.59)	3.59 (.49)			
Surprising in Life	YA$_d$	4.29 (.94)	3.90 (.79)	3.20 (.76)	3.47 (.70)	55.95	.28	.39
Story telling	OA$_d$	4.38 (.90)	4.05 (.59)	3.49 (.62)	3.82 (.57)			
Turning Point	YA$_b$	4.54 (.48)	3.89 (.51)	3.34 (.65)	3.30 (.51)	139.58	.19	.62
	OA$_b$	4.68 (.39)	4.16 (.47)	3.67 (.77)	3.53 (.57)			
Changes Daily	YA$_b$	4.53 (.50)	4.04 (.55)	3.76 (.59)	3.77 (.65)	62.14	.17	.42
Activities	OA$_k$	4.73 (.38)	4.22 (.58)	4.13 (.57)	3.92 (.47)			
Change Social	YA$_d$	4.26 (.66)	4.05 (.52)	3.27 (.59)	3.6 (.59)	83.54	.18	.49
Relationships	OA$_b$	4.6 (.44)	4.23 (.51)	3.79 (.64)	3.81 (.54)			
Changes Spatial	YA$_h$	3.47 (.83)	3.61 (.51)	2.95 (.62)	3.11 (.44)	38.65	.19	.31
Environment	OA$_e$	3.90 (.72)	3.74 (.65)	3.29 (.84)	3.42 (.65)			
Single Occurrence	YA$_i$	3.39 (.75)	3.67 (.55)	3.20 (.65)	2.55 (.69)	62.18	.30	.42
	OA$_i$	2.85 (.95)	3.39 (.55)	2.80 (.77)	2.28 (.72)			

Note: See Table 1 for explanations of the event category labels. Standard deviations are presented in parentheses. All main effects of event type were significant at the *p* <.001 level. Subscripts represent the pattern of significance between the event categories within that age group according to post-hoc t-tests with a for Extreme>Standard>Borderline>Non, b for Extreme>Standard>Borderline=Non, c for Extreme=Standard>Borderline>Non, d for Extreme>Standard>Non>Borderline, e for Extreme=Standard>Borderline=Non, f for Extreme>Non>Borderline>Standard, g for Extreme>Non=Standard>Borderline, h for

Extreme=Standard>Non>Borderline, i for Standard>Extreme=Borderline>Non, j for

Extreme>Non>Borderline=Standard, and k for Extreme>Standard=Borderline>Non.

Table 5

Experiment 2 Proportion of events endorsed as experienced as a function of event type and age.

Event Type	Proportion of Events Experienced	
	Younger Adults	Older Adults
Extreme Cultural Life Script Events	.01	.95
Standard Cultural Life Script Events	.88	.98
Borderline Cultural Life Script Events	.81	.89
Non Cultural Life Script Events	.71	.78