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Life Story Chapters: Past and Future, You and Me

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Abstract

We review research on *life story chapters*, defined as important extended time periods in individuals' lives with identifiable beginnings and endings (e.g., "my marriage"). Studies show that individuals form chapters for the personal past and future, and for other people's past and future lives (vicarious chapters). Research also indicates that emotional qualities of both past and future chapters are related to well-being, and that mentally constructing fewer and temporally less extended future chapters could underlie the sense of limited remaining time experienced by older adults. Qualities of vicarious life story chapters are related to characteristics of chapters in the individual's own life, suggesting potentially important interactions between how individuals represent their own lives and how they represent close others' lives. Life story chapters are more than an important part of autobiographical memory; they are centrally involved in time perspective, well-being, and social cognition.

Life Story Chapters: Past and Future, You and Me

A day consists of circumscribed events: checking emails, meeting with a student, a presentation by a visiting researcher. But a life also consists of extended time periods: my spring semester, my school years, when I lived in London. Extensive research has examined the processes involved in how people segment time into circumscribed events and the characteristics of specific memories for such events (Berntsen, 2009; Conway, 2005; Nelson, & Fivush, 2004; Rubin, 1986; Zacks, Speer, Swallow, Braver, & Reynolds, 2007). Although research has only recently addressed how people come to think of their lives as consisting of autobiographical periods and identified the characteristics of such periods, studies testify to their importance. Autobiographical periods function as temporal categories that structure activities and influence motivation (Fuhrman, & Wyer, 1988; Peetz, & Wilson, 2013) and they serve as cues that provide access to associated specific memories and aid dating of these memories (Conway, & Bekerian, 1987; Thompson, Skowronski, & Betz, 1993; Thomsen, 2015).

A subset of autobiographical periods is used for constructing of life stories, here termed *life story chapters* (McAdams, 2001; Thomsen, 2009). Life story chapters refer to extended time periods with perceived beginnings and endings that are considered important to how the person has become who she or he is today. Each chapter is associated with information about the people, objects, activities, and locations typical of the period. In addition, chapters are evaluated emotionally and become characterized by positive and negative tones. Individuals engage in autobiographical reasoning about the relationships between different chapters (e.g., “because my first relationship was so bad, I was single for a long time afterwards”) and between chapters and aspects of the self (e.g., “when I lived in London, I was more introverted than I am now”) (Habermas, & Bluck, 2000). In this paper, we give a brief overview of research on life story

chapters and address the issue of how individuals come to think of their lives as consisting of chapters. We then give a more detailed description of two recent studies that examine chapters for the future and chapters for other people. We focus on these two studies because they broaden the scope of research on chapters.

Life story chapters: A brief overview

People readily identify chapters in their life stories (Steiner, Pillemer, Thomsen, & Minigan, 2014; Thomsen, 2009), indicating that chapters are a naturally occurring way of thinking and talking about the past and are useful for constructing coherent life stories. But in most of our studies we have asked participants to directly identify chapters. Thus, just as it is assumed that making direct requests for specific memories is a valuable way to examine characteristics of specific memories, we assume that directly asking for chapters is a valuable way to examine their characteristics. Our studies on chapters have yielded several consistent findings (see Thomsen, 2015 for a more extended review). First, when individuals are asked to recall specific memories within their chapters, they recall more specific memories from chapter beginnings and endings (e.g., Pillemer, Goldsmith, Panter, & White, 1988; Thomsen, & Berntsen, 2005; Thomsen, Pillemer, & Ivcevic, 2013). We have labeled this the end point effect. Second, chapters show a reminiscence bump (e.g., Rubin, & Schulkind, 1997), but no childhood amnesia (e.g., Pillemer, & White, 1989). Participants identify more chapters beginning and ending during young adulthood, and they also identify chapters starting at birth (e.g., “my childhood” dated as starting at age 0 and ending at age 6) (Steiner et al., 2014; Thomsen, & Berntsen, 2008; Thomsen et al., 2011; Thomsen, Olesen, Schnieber, & Tønnesvang, 2014). Third, the emotional tone of chapters is reliably related to personality traits: neuroticism is

related to more negative chapters, and extraversion is related to more positive chapters (Thomsen, & Pillemer, under review; Thomsen et al., 2014).

Brown and colleagues have suggested that transitions play a major role in the formation of autobiographical periods (Brown, Hansen, Lee, Vanderveen, & Conrad, 2012; Brown, Schweickert, & Svob, in press). Major transitions cause or signal a simultaneous change in the people, places, objects, and/or activities, also termed event components, which make up the individual's daily life. After the transition, the individual repeatedly encounters new people, places, objects, and activities, and associations are formed between these new event components based on repeated co-occurrence. Over time, a rich network of associations is formed between event components leading to the emergence of an autobiographical period.

Although we agree that transitions are one important factor influencing the formation of life story chapters, we believe that a bottom-up process where different event components are associated with each other based on repetition is not the only factor contributing to the formation of chapters (and autobiographical periods in general). We suggest that actual or anticipated changes associated with transitions invite the individual to interpret an autobiographical period as ending and/or beginning (e.g., "soon I will retire"). When periods are thought about and talked about, they become easily accessible. Thinking of lives as periods is an interpretive process, which is shaped by cultural conceptions of lives as periods and is learned through interactions with caregivers (Thomsen, 2015). This idea is an extension of the socio-cultural theory of autobiographical memory (Nelson, & Fivush, 2004). According to the theory, adults provide narrative scaffolding for recounting personal experiences, and this scaffolding gives the child a sense of the importance and emotional significance of the event and a reason why the event should be remembered. This theory focuses on the development of specific memories, but we

believe the same processes could be at work for the development of autobiographical periods.

That is, children learn through conversations with caregivers 1) to think of their lives as autobiographical periods, 2) to associate different types of information with autobiographical periods (e.g., event components, emotional tone, and autobiographical reasoning), and 3) to use autobiographical periods to contextualize specific memories. We are currently examining the developmental origins of autobiographical periods in a study where mothers talk with their young children about autobiographical periods in the child's life (Steiner, Pillemer, Leichtman, & Thomsen, in preparation).

Several recent studies have found that the tendency to use chapters when prompted to tell a life story increases with age (Chen, McAnally, & Reese, 2013; Steiner, & Pillemer, under review). In one study, researchers asked 8-12 year old participants to think of their lives like a book and describe the chapters that made up that book. They found that 12 year olds were more likely to use chapters to describe their life, while the younger children were more likely to give single events as "chapters" (Chen et al., 2013; see also Habermas, Diel, & Welzer, 2013). Steiner and Pillemer (under review) found similar results when they used an open-ended method to elicit oral life stories from 10, 12, and 14-year old participants. The 10 year olds were more likely to identify single events as "chapters" in their life stories (but note that this occurrence was rare and the majority of chapters described extended time-periods). Although more studies are needed to examine the development of chapters, these studies suggest that the ability to organize life stories using chapters increases from childhood to adolescence.

An important reason for emphasizing interpretations, shaped by social and cultural influences, in the formation of chapters (in addition to associations between event components), is that individuals can identify chapters in their own future and for close others' pasts and futures

(see Figure 1 for an example; Thomsen, Lind, & Pillemer, under review; Thomsen, Panattoni, Allé, & Pillemer, in preparation; Thomsen, & Pillemer, under review). Since participants have not directly experienced event components in their own future or in close others' lives, forming chapters based solely on associations between event components is not likely. Although constructing future chapters and chapters for other people may be governed by different processes, we suggest that similar mechanisms are involved in the emergence of chapters for both the past and future in personal and other people's lives because this is the most parsimonious theory. It is also consistent with other theories emphasizing similarities between past and future mental time travel (e.g., Schacter, Addis, & Buckner, 2007). Below, we elaborate on how future chapters and chapters for other people may help expand our understanding of time perspective, well-being, and social cognition.

Life story chapters: Past and future

Previous studies have suggested that individuals can identify chapters in their future life stories (Dalglish, Hill, Golden, Morant, & Dunn, 2011). Because chapters function as temporal categories that create boundaries in subjective time, we reasoned that future chapters may play a role in whether individuals perceive their future time as limited. This idea was also based on socio-emotional selectivity theory, where a central tenet is that older individuals and individuals with serious diseases perceive future time as limited. The perception of limited remaining time increases poignancy and leads individuals to prioritize emotional meaning in the present using a range of strategies (e.g. preferring close partners; Carstensen, 2006; Carstensen, Isaacowitz, & Charles, 1999). We hypothesized that future time is perceived as limited when future chapters are not imagined to be extended (as in old age and serious illness). If this is the case, older

individuals should represent their future life story with fewer and less temporally extended chapters.

We examined this hypothesis in two samples ranging in age from 18-84 years (Thomsen et al., under review). Participants were asked to identify past and future chapters in their life stories, give their age at the beginning and end of each chapter, and rate the emotional valence of each chapter. As expected, higher age was associated with identifying fewer future chapters and with identifying future chapters that extended less from the present, but age showed no relationship with past chapters. In addition, higher age was associated with rating future chapters as less positive, whereas age was not related to the emotional valence of past chapters. Participants also completed measures of subjective well-being, and even though older participants had fewer, less temporally extended, and less positive future chapters, they scored higher on subjective well-being than younger participants, replicating previous studies (e.g. Gross et al., 1997). One straightforward explanation for this counterintuitive finding is that future chapters are not related to subjective well-being. But while having fewer and less temporally extended future chapters was not related to subjective well-being, having less positive future chapters was in fact related to lower subjective well-being, as was having less positive past chapters (Thomsen et al., under review). While having less positive future chapters was related to lower well-being in both older and younger adults, chapters only explain part of the variation in well-being. Older adults may compensate for their less positive chapters using their superior emotional regulation strategies to increase well-being above that of younger individuals (Carstensen et al., 1999).

Integrating our understanding of chapters with socio-emotional selectivity theory, we suggest that representations of future chapters underlie perceptions of future time. Thinking of

lives as periods that may end in near future brings about a feeling of limited remaining time. Chapters represent time perspective in a personalized way rather than as units of calendar time, but chapters are shaped by culturally shared ideas about the life span, such as the cultural life script (Berntsen, & Rubin, 2004; Bohn, 2010). For example, cultural life scripts allow individuals to know that retirement is an expected period in late life and the approximate timing of this period. The cultural life script, however, is just a rough sketch and does not contain the richness of lived experience associated with chapters (e.g., particular people, places, and activities) and it is probably the anticipated loss of chunks of people, places, and activities that is involved in the increased poignancy associated with perceived endings (Zhang, & Fung, 2009).

Our study provides a general framework for using chapters to understand time perspective. A promising avenue for future research is to examine experimentally whether making chapter endings salient will increase individuals' prioritizing of emotional meaning in the present, as would be predicted from socio-emotional selectivity theory (Carstensen, 2006). Studies could manipulate the salience of chapter endings by showing participants a timeline for anticipated endings of ongoing chapters (e.g., college) displayed as either extended or narrow, leading participants to perceive endings as more or less imminent (see Peetz, & Wilson, 2013). Effects could then be measured on outcomes examined within socio-emotional selectivity theory, such as a preference for close social partner (Carstensen, 2006).

Life story chapters: You and me

Individuals may also represent the lives of other people in series of chapters. Research in social cognition shows that individuals construct mental models of other people including information about traits and attitudes (Hassabis et al., 2014; Mohr, & Kenny, 2006; Park, DeKay,

& Kraus, 1994; Srull, & Wyer, 1989; Vazire, & Carlson, 2011). We reasoned that such mental models may also include information about the other person's autobiographical memories. This idea was supported by our recent study on specific *vicarious memories*, or memories of circumscribed events that have happened to another person (with the participant not present), where we found that participants could readily identify vicarious memories for close others (Pillemer, Steiner, Kuwabara, Thomsen, & Svob, 2015). Other studies confirm that individuals commonly retrieve memories of events experienced by other people (e.g., Fivush, & Merrill, in press; Larsen, & Plunkett, 1987). We assumed that individuals would also be able to identify chapters in close others' lives and that such chapters would represent life stories for close others. *Vicarious chapters* may be useful for constructing personal chapters (Thomsen, & Pillemer, under review). Having detailed knowledge of other peoples' chapters may inspire future chapters in one's personal life story and may also serve as sources of inspiration when reflecting on one's past and present chapters. (e.g. "My sister also had a difficult time when she started university, but I know she felt that things improved after a couple of months; maybe I will also catch up when I have been here for some time"). In parallel with this, individuals may use their own chapters as templates for constructing chapters for other people. This mental intertwining of personal and vicarious chapters suggests that we should see relationships between how individuals represent chapters in their own life and how they represent chapters in close others' lives.

We examined vicarious chapters in a recent study where we asked two samples to identify chapters in their own life stories and in close friends' life stories (Thomsen, & Pillemer, under review). Participants then rated the emotional valence of these chapters. We found that participants identified almost as many chapters in their friends' life stories as in their own life

stories. We also found relations between personal and vicarious chapters; the more chapters that participants identified in their personal life stories, the more chapters they identified in their friends' life stories and the more positive they rated their personal chapters, the more positive they rated their friends' chapters. Participants also completed measures of the big five personality traits (Costa, & McCrae, 2004). Higher extraversion and lower neuroticism were related to more positive personal chapters, but individuals who scored low on neuroticism also rated their friends' chapters as more positive.

We were intrigued by these initial findings for several reasons. First, research in autobiographical memory and life stories focuses on self-experienced events and periods. But our studies expand this understanding to also include similar representations for events and periods experienced by other people. Thus, individuals attribute memories, chapters, and life stories to other people (see also Rubin, & Umanath, 2015). This invites a new understanding of memory that is consistent with approaches portraying memory and social cognition as related processes (e.g., Buckner, & Carroll, 2007). Second, the similar relations between personal and vicarious chapters to neuroticism calls for further attention, but also for the need to examine a wider set of life story characteristics. We are currently examining whether meaning-making associated with personal chapters and vicarious chapters for caregivers are positively related, and our initial analyses suggest that this is indeed the case (Lind, & Thomsen, in preparation; Thomsen, Panattoni, Allé, & Pillemer, in preparation). We will need to discern the reasons for these relationships and explore whether personal and vicarious chapters are related because individuals use close others' chapters as inspiration when reflecting on their own chapters or whether they are related because individuals view close others' chapters through the lens of their own chapters. The latter interpretation would be consistent with studies showing that individuals'

own personality traits color the way they perceive other individuals (Wood, Harms, & Vazire, 2010).

Studying vicarious chapters will yield a rich theoretical and empirical harvest, as the concept opens up a wide range of possibilities for future studies. Studies could examine correspondences between vicarious chapters (memories/life stories) identified in the lives of close others and close others' descriptions of their own chapters (memories/life stories), and the predictors and consequences of such correspondences. Studies could also examine the development of vicarious and personal chapters (memories/life stories), possibly in combination with the development of other aspects of mental models of self and other (e.g., traits and attitudes).

Conclusions

Autobiographical periods, and life story chapters as a part of these, have been recognized by leading scholars as an important component of autobiographical memory (Barsalou, 1988; Brown, 1990; Conway, 2005; Linton, 1986; Neisser, 1986). By examining chapters empirically, we have shown that chapters are also important for understanding time perspective, well-being, and social cognition.

Conceptually and empirically, specific memories and autobiographical periods are distinct (Steiner, Pillemer, & Thomsen, under review; Thomsen, 2015), but both specific memories and autobiographical periods depend on segmenting time into chunks, and both chapters and specific memories display end point effects, that is, enhanced memory for information at boundaries (Thomsen, 2015; Zacks et al., 2007). Delving deeper into the ways that individuals segment time into specific events and extended life periods, and examining the

influence of individual differences and culture on these segmentation processes (Wang, 2009), will enrich our understanding of the relationship between specific memories and autobiographical periods.

Author contribution

All three authors have written parts of the paper.

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Figure 1

An example of selected personal and vicarious chapters for past and future for a fictive 25-year old male and his 50-year old mother (age at beginning and end of chapter in brackets). Past chapters are shown in full lines, ongoing chapters in lines-and-dot; and future chapters in dotted lines. Lines between years and chapters illustrate that personal time is tied to calendar time.