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I know my story and I know your story: Developing a conceptual framework for vicarious life stories

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Abstract

Objectives: Vicarious life stories are mental representations of other people's life stories. We propose a conceptual framework that situates the study of vicarious life stories at the crossroads between personality and social cognition, identifies their possible functions, and describes possible connections between vicarious and personal life stories. Two preliminary studies compared chapters and specific memories in personal and close others' life stories.

Results: Ages associated with chapters and specific memories in personal and vicarious life stories showed similar temporal distributions. Emotion ratings of both personal and vicarious life story chapters were related to personality traits and self-esteem, although relations were more consistent for personal chapters. **Conclusion:** Personal and vicarious life stories share important similarities. Mental models of other people include vicarious life stories that serve to expand the self as well as facilitate understanding of others.

I know my story and I know your story:

Developing a conceptual framework for vicarious life stories

The social nature of stories is broadly agreed upon. Stories always have an audience (Bruner, 1990), are learned in interactions with parents (Fivush, Habermas, Waters, & Zaman, 2011), are shaped through sharing with others (McLean, Pasupathi, & Pals, 2007), and are framed within culture (Bruner, 1990; McAdams, 2013). What is implicit in these ideas is that we are exposed to an enormous number of stories from friends, family, and colleagues. We read stories about famous (and infamous) movie stars, athletes, and politicians. Still, the majority of empirical studies focus on individuals' *personal life stories*, that is internalized narratives encompassing past and future events organized to create temporally, causally, and thematically coherent accounts of individuals' *own* lives (Habermas & Bluck, 2000; McAdams, 2001). Studies of autobiographical memory also target past events that are personally experienced (e.g., Conway, Singer & Salovey, 1993). There is little current research and theorizing on individuals' representations of the events, meanings, and themes that comprise of *other* individuals' life stories, what we will term *vicarious life stories* (Habermas & Bluck, 2000; McAdams, 2013; McLean, 2016; Pillemer, Steiner, Kuwabara, Thomsen, & Svob, 2015; Singer, Blagov, Berry, Oost, 2013; Thomsen, 2009).

Although contemporary research on life stories focuses squarely on the self, there is deep historical precedent for broadening current models of personality to include representations of other people. In his foundational *The Principles of Psychology*, William James (1890) offered a markedly expansive portrait of the self: "a man's Self is the sum total of all that he CAN call his, not only his body and his psychic powers, but his clothes and his house, his wife and his children, his ancestors and friends...All these things give him the same emotions. If they wax and prosper, he feels triumphant; if they dwindle and die away, he feels cast down..." (pp. 279-280). In the classic text *Personality* (1937), Gordon Allport also presented an expanded model of the self: "Possessions, friends, one's own children, other children, cultural interests...all lead to the incorporation of interests once remote from the self into selfhood proper...anything one can admire, feel sympathy for, appreciate, revere, deliberately imitate, or become unconsciously identified with, may become *introjected* into the personality, and remain ever after a vital part of it" (p. 217). Freud's psychoanalytic theory also described ways in which representations of close others become incorporated into the self, such as the

psychic transformations that occur following the loss of a love object: “When the ego assumes the features of the object...[it] is trying to make good the id's loss by saying: ‘Look, you can love me too—I am so like the object’” (1960, p. 20).

Despite a long-standing recognition that the self can be expanded by knowledge of other people, contemporary research and theory adopting this perspective is lacking. McLean's (2016) recent book is a notable exception—it shows how sharing family stories not only serves to enhance interpersonal connectedness, it contributes centrally to the child's evolving sense of self: “children's identities are bound up in their parents' stories. These ‘other’ stories are shaping the self in powerful ways, even when the events occurred long before those children were in existence” (p. 110). McLean recounts a young woman's reaction to her mother's alarming story of being raped: “When she shared this story with me, I really realized that this truly did have an impact on the type of person she was...It [also] really shaped who I am and what my interests are in. I will never forget that story and actually it is one of the reasons I have a particular interest in crimes and prevention...The story made me stronger, because it gave me passion for something...My mom's story was like letting the flood gates open up to my future and what I want to accomplish with my life” (2016, p. 110). This story influenced not only the daughter's perceptions of her mother; it also contributed to her own long-term life goals, attitudes and world view.

McLean's (2016) analysis emphasizes the importance of others' stories; in this paper we outline a conceptual framework for vicarious life stories that is intended to further advance theory and empirical research. We start by situating the study of vicarious life stories at the intersection between personality and social cognition. We then explore the functions of vicarious life stories, and outline how vicarious life stories and personal life stories may be related. The framework contains a rich set of ideas to be tested, and we describe two preliminary studies that target a small subset of these ideas. We examine similarities and differences between personal and vicarious life stories with respect to temporal distributions of story components (chapters and specific memories) and relations between emotional tone and personality traits. In the discussion, we suggest ideas for future studies that will test and further develop the conceptual framework.

Vicarious life stories at the intersection between personality and social cognition

Personality consists of different levels (McAdams, 1996; McAdams & Pals, 2006). At one level are personality traits, which refer to partially inborn individual differences in patterns of affect, cognition, and behavior that are relatively consistent across contexts and stable across adulthood (John, Naumann, & Soto, 2008; McAdams & Pals, 2006; McCrae & Costa, 2008). Personality traits are often conceptualized as the big five, including Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Openness. Research on the big five has helped unite the field of personality by providing a taxonomy of important individual differences and a set of strong empirical findings (John et al., 2008; McCrae & Costa, 2008).

McAdams and colleagues have convincingly argued that personality psychology needs to consider more than traits in order to fully understand how individuals differ (McAdams, 1996; McAdams & Pals, 2006). They have suggested that personality also consists of characteristic adaptations, which encompass aspects of personality that depend on context, role, and developmental stage, including goals, coping strategies, and self-schemata. In addition, personality is shaped by life stories, which help individuals to construct a coherent identity by providing links between temporally and contextually separate aspects of personality. By constructing life stories, individuals gain a sense of being the same person over time and in different contexts (McAdams, 1996). McAdams' framework has been used not only to organize and integrate research in personality, but also to understand how individuals come to understand themselves (McAdams, 2013). People construct self models including traits ("I am introverted"), goals ("I strive to be a good mother"), and life stories ("Living in London when I was younger made me more independent").

We suggest that McAdams' framework may be extended to address the knowledge individuals include when they construct models for other individuals' personalities. Attempting to understand other individuals' minds and personalities is a central human endeavor (Mayer, 2014; Tomasello, Carpenter, Call, Behne, & Moll, 2005). One aspect of this capacity is to keep track of other individuals over time, representing them as distinct entities possessing characteristics that make them different from other entities. Such representations have been labeled impression formation, person memory, person perception, and person models and research has tested the accuracy and organization of impressions, as well as the processes involved in forming impressions of particular individuals (Hassabis, Spreng, et al.,

2014; Mohr & Kenny, 2006; Park, DeKay, & Kraus, 1994; Smith & Collins, 2009; Srull & Wyer, 1989; Uleman & Kressel, 2013; Vazire & Carlson, 2011). Importantly, most of this research has focused on traits, and has not fully addressed the other levels of personality described by McAdams. Individuals could also include knowledge about characteristic adaptations and life stories in these person models. For example, an individual may construct a model of her friend including information that the friend is extraverted, strives to stay in good physical shape, and has a life story where her parents' divorce is interpreted as having shaped choices about prioritizing family over work.

Complex person models are relevant to personality psychology and its efforts to understand individual differences, as well as to social cognition and its focus on how individuals understand the personalities of others. While distinct, the two domains are connected. A long theoretical tradition emphasizes the close association between representations of the self and others (e.g. Aron, Aron, Tudor, & Nelson, 1991; Bowlby, 1975), suggesting that individuals' models of themselves and their models for other individuals are connected. Such connections may serve to incorporate the other into the self, thereby expanding the self. Connections between self models and person models for close others may lead to consistent individual differences in how other people are perceived in terms of positivity, complexity, and accuracy. Supporting this idea, studies have shown that individuals differ systematically in how positively they describe other people (Wood, Harms, & Vazire, 2010). We take this understanding of similar and interrelated models of self and others as our starting point for developing a framework for vicarious life stories.

Vicarious life stories

Although autobiographical memory is concerned with self-experienced events (Brewer, 1986; Conway, 2005; Nelson & Fivush, 2004; Singer & Salovey, 1993), two recent theoretical analyses suggest that individuals have similar memory representations for the self and for other individuals (Rubin & Umanath, 2015; Thomsen, 2015; see also Larsen and Plunkett, 1987). This new understanding cuts across the episodic-semantic distinction, where episodic memory is limited to self-experienced events and representations of other individuals' memories per definition cannot be episodic (Tulving, 2002). We take the position that theories of memory should be expanded to include representations of events and general knowledge from both one's own and other individuals' lives (Pillemer et al., 2015; Rubin &

Umanath, 2015; Thomsen, 2015). People may construct representations of events or conceptual knowledge that are attributed to their personal past or to another individual's memory. These constructions would all be conceived as memory, but varying in concreteness and source.

Studies confirm that individuals form detailed mental representations of circumscribed events in other people's life stories. Young adults readily identify important events in their parents' life stories (Svob & Brown, 2012), and they can recall specific vicarious memories for parents and friends, that is, memories of specific events that they knew their parents/friends had experienced, but where the participant was not a part of the event (Pillemer et al., 2015). This study also showed that vicarious memories had phenomenological qualities (e.g., vividness) that were lower in intensity but otherwise similar to the qualities of the individual's personal memories. Other studies have also shown that participants can readily identify specific memories for friends and parents (e.g. Grysman, Prabhakar, Anglin, & Hudson, 2013; McLean, 2016; Skowronski, Betz, Thompson, & Shannon, 1991; Zaman & Fivush, 2013). In general, these studies support the idea that individuals' mental models of other individuals extend beyond attributions of traits and capture story details. But these studies have focused on memories of particular events rather than other qualities of life stories.

Individuals may frequently construct representations of other peoples' life stories because vicarious life stories serve key adaptive functions. Vicarious life stories are important to both personality and social cognition, in that they shape and expand the construction of the self and facilitate interpersonal interactions. Knowledge about how other people create meaning in their life stories could shape meaning-making in one's personal life story. For example, knowing how others remember and interpret the transition to parenthood may influence the way the individual thinks about her/his own reaction to the new role (e.g., "my sister also had a difficult time when she had her first baby, because she couldn't do the things she used to enjoy, but she now believes that she got better at accepting lack of control"). This may also serve self-regulatory or directive functions by leading the individual to change her/his behavior and coping strategies, for example by promoting acceptance and more quickly cutting down on activities that may conflict with parenthood (Pillemer et al., 2015). Vicarious life stories could also shape meaning-making through strategic social comparisons and self-enhancement (Taylor & Lobel, 1989). By

comparing one's own life experiences to strategically selected vicarious life stories, the individual may come to feel that she/he coped better with the circumstances than other people, thus supporting a positive life story and view of the self (e.g. "My sister still thinks of becoming a mother as very stressful, but I actually think that I have adapted better").

Vicarious life stories may directly shape and expand personal life stories when events experienced by other people are interpreted as having affected the self. McLean (2016) and Fivush & Merrill (in press) have provided detailed analyses of how events experienced by parents may affect their children's identity, as was suggested by McLean's example (presented earlier) of a mother's rape story influencing her daughter's career choices and life outlook. When using personal life stories to explain how I have come to be the person I am today, both self-experienced events and events experienced by close others may be weaved together, thus creating richly interconnected networks of personal and vicarious life stories that provide a sense of socially anchored identity.

With respect to social interactions, knowing others' life stories may be useful because it allows mental simulation of the other person's thinking. The ability to take another person's life experiences into account is a form of *personal intelligence* that promotes successful adaptation: "If our perceptions [of other people] are weak or fall into disuse, we're likely to be regularly blindsided by the unpredictability of people around us. If our perceptions are strong, we'll develop a readiness to cope with how people will react" (Mayer, 2014, pp. 3-4). By mentally simulating another's past experiences, an individual can strategically regulate the other person's remembering. Remembering in conversations includes transactions where one person supports another person's memory by providing cues (Harris, Keal, Sutton, Barnier, & McIlwain, 2011; Nelson & Fivush, 2004). Although not explicitly mentioned in these approaches, conversational scaffolding requires a mental model of the other person's memory and life story. Having detailed and accurate representations of others' life stories enhances the choice of memory cues that are likely to facilitate recall and memory sharing (e.g., "Don't you remember? It was while you were in college, before you failed your chemistry exam"). Mental models of another person's life story may also be used to avoid activating negative recollections. For example, knowing that a colleague has recovered from cancer and is emotionally vulnerable may lead an individual to steer conversations away from topics that might cue the colleague's disruptive cancer memories. Mental models of others' experiences also support

understanding of other people's emotional reactions. A colleague suddenly turning quiet and abruptly leaving a lunch meeting may make more sense when one surmises that the conversation about a new study of cancer outcomes may have triggered troublesome memories and negative feelings. Research has shown that people vary in their ability to accurately discern the causes of other people's actions and emotional reactions (Mayer, 2014).

Conceptualizing vicarious life stories as a vital part of the mental models that individuals construct for other people poses a wide range of new questions. Research has examined the processes involved in the development of personal life stories (Habermas & Bluck, 2000); how personal life stories are related to well-being and other aspects of personality, such as traits (Adler, Lodi-Smith, Philippe, & Houle, 2015; McAdams, Anyidoho, Brown, Huan, Kaplan, & Machado, 2004); and the social and cultural factors influencing the construction of personal life stories (McLean et al., 2007). Similar questions can be asked about vicarious life stories: How do they develop? How are they related to well-being, traits, and motives? How are they shaped by social and cultural processes? We focus here on relations between personal and vicarious life stories, and we evaluate the potential benefits of adopting conceptual models of the self that explicitly connect to and incorporate representations of other people's lives.

Relations between personal and vicarious life stories

A number of reasons exist for expecting similarities between how individuals think about personal and vicarious life stories. Theories of social cognition assume that people reason about other persons' minds by analogy: They use their own minds as models for how other individuals' minds work (Dimaggio et al., 2008; Tomasello et al., 2005). Similarly, perceptions of other people's traits are influenced by perceivers' personalities (e.g. Markus, Smith, & Moreland, 1985; Mohr & Kenny, 2006; Park et al., 1994). Extending this idea to life stories, personal life stories may be used as templates for constructing vicarious life stories. Vicarious life stories may be constructed on-line while talking to other individuals about significant events in their lives. When individuals have experienced similar events, relevant parts of individuals' personal life stories may spring to mind and guide the constructions of vicarious life stories. Even when conversational

partners have not experienced similar events, the general structure and interpretive style of a person's own life story may be used to construct vicarious life stories.

A different way of thinking about relations between personal and vicarious life stories is inspired by the idea that self-representations are socially derived (e.g., James, 1981; McConnell, Brown, & Shoda, 2013; Mead, 1913). Close others' may even be incorporated as part of selves (e.g., Allport, 1937; Aron et al., 1991; Bowlby, 1975). Individuals may internalize descriptions of close others' life stories from conversations and use these as sources of information when reflecting on their own lives. This aligns well with an influential theory that addresses the question of how conversations with other people mold personal life stories (McLean et al., 2007). These conversations do not just shape the way individuals think about their personal life stories; they are also rich in material used when constructing vicarious life stories for others.

Another possibility is that personal and vicarious life stories share certain qualities because they are both shaped by widely shared story scripts. Cultural influences on life stories, such as master narratives and the cultural life script (Berntsen & Rubin, 2004; Gryzman et al., 2013; McLean, 2016) may affect the construction of both personal and vicarious life stories. Nevertheless, life stories go beyond culturally scripted knowledge and include idiosyncratic details and interpretations (relevant data will be presented in the results section). Thus, although shared cultural influences may contribute to similarities in personal and vicarious life stories, these accounts extend beyond story scripts to support the unique identities and complex understandings of self and others.

Two Preliminary Studies

Based on the ideas described above, similarities between personal and vicarious life stories are expected for a variety of life story characteristics, including emotional tone, themes, meaning making, and temporal organization. Here, we report our first attempt at examining vicarious life stories, where we focus on a limited subset of these characteristics. When designing the studies, we had few strong expectations. Indeed, we were not entirely sure how participants would react to a request to provide vicarious life stories. Hence, we thought it best to start out with some very simple ideas, post-phoning more complex studies until we had collected some basic data on vicarious life stories. Hence, the two initial studies examined 1) similarities in the temporal distributions of

personal and vicarious life story events and 2) similarities in the pattern of correlations between the emotional tone of personal and vicarious life stories and aspects of personality. We focus on temporal distributions and relations between emotional tone and aspects of personality because there exist well-established parallel findings when examining personal life stories. We can then investigate whether vicarious life stories for close others show similar patterns of results. Below, we describe the theoretical and empirical basis for our study design and hypotheses.

Memories and Chapters

When individuals construct personal life stories, they use different types of autobiographical memory. Here we focus on chapters and specific memories. Chapters are abstract, conceptual memory representations that refer to subjectively defined, temporally extended life periods with beginnings and endings (e.g., “my marriage”). They include information about the people, places, activities, and objects associated with the period (Brown, Hansen, Lee, Vanderveen, & Conrad, 2012; Conway, 2005; McAdams, 2001; see Thomsen, 2015 for a review). Adults and children can readily identify chapters in their life stories (Steiner & Pillemer, under review; Steiner, Pillemer, Thomsen & Minigan, 2013; Thomsen & Berntsen, 2008; Thomsen, 2009; Thomsen, Pillemer, & Ivcevic, 2011). By thinking of lives in term of chapters, individuals construct temporally, causally, and thematically coherent life stories through autobiographical reasoning (Habermas & Bluck, 2000; Thomsen, 2009).

In contrast to chapters, specific memories represent “a circumscribed, one-moment-in-time event...including what was seen, heard, thought, and felt” (Pillemer, 1998, p. 3). Specific memories are often accompanied by reliving of sensory and emotional aspects of the original events and as such may provide unique information about what it was like to be in that particular event (Brewer, 1986; Rubin, Schrauf, & Greenberg, 2003). Some specific memories are interpreted as important to life stories and these are often perceived to be a part of chapters and are frequently located at transitions, including the beginnings or ends of chapters (Thomsen et al., 2011; 2014; Thomsen & Berntsen, 2008). When specific memories capture recurring themes across several chapters in individuals' life stories, they may become self-defining (Singer & Salovey, 1993; Singer et al., 2013).

Previous studies of personal life stories have focused on circumscribed, self-defining events such as high points, low points, and turning points that include episodic detail (e.g. Adler et al., 2015; McAdams et al., 2004; Singer et al., 2013). Chapters represent a different unit of analysis spanning longer periods of time and including more conceptual knowledge. Studying chapters is an important addition to life story research (see Thomsen, 2015 for a review). For example, the general emotional tone of a student's first year in college may be more representative of the self and more predictive of well-being than a vivid memory of uncertainty and loneliness on the first day.

Temporal Distributions

Temporal distributions of specific memories and chapters in personal life stories show certain regularities. In particular, older adults identify more chapters and specific memories from adolescence and young adulthood compared to other periods of life, a phenomenon known as the reminiscence bump (Fitzgerald, 1988; Koppel & Berntsen, 2014; Rubin & Schulkind, 1997; Thomsen et al., 2011; Thomsen et al., 2014). One reason for the higher frequency of chapters and specific memories in young adulthood is that individuals begin constructing personal life stories by tying together different aspects of personality to achieve a coherent identity (Habermas & Bluck, 2000; McAdams, 2001). The cultural life script may also contribute to explaining why individuals focus on young adulthood when identifying chapters and specific memories in their life stories. The cultural life script refers to general knowledge about the type and timing of important events in the typical life, such as school graduations, marriage, and childbirth (Berntsen & Rubin, 2004). When individuals think about their own and other individuals' life stories, they may use the cultural life script to help identify important elements (Bohn, 2010; Thomsen & Berntsen, 2008). Because the cultural life script contains many positive events occurring in young adulthood, individuals may readily identify specific memories and chapters from this time period when constructing life stories for both themselves and other individuals.

In the present study, we examined whether vicarious life stories for close others would show temporal distributions similar to personal life stories. We hypothesized that temporal distributions of specific memories and chapters would be similar because of the relationships between personal and vicarious life stories outlined in our conceptual framework and because both personal and vicarious life stories are constructed with reference to the cultural life

script. However, it is important to note that vicarious life stories go beyond culturally scripted knowledge by including idiosyncratic information about particular individuals. We provide evidence for this by examining whether vicarious life stories for close others contain unique information beyond events included in the cultural life script.

Emotional tone

The emotional tone of personal life stories varies across individuals. Some life stories are constructed with an overall positive and optimistic outlook, whereas others are more negative and pessimistic (McAdams et al., 2004). Although these differences in emotional tone reflect variations in actual life experiences, they also result from interpretive processes that are shaped by aspects of personality. For example, a very neurotic individual may perceive a divorce as more central to her/his life and emphasize more negative implications of the divorce (e.g., "I am incapable of sustaining close relationships"). Supporting this idea, individuals who score high on extraversion, high on conscientiousness, and low on neuroticism have more positive personal life stories (McAdams et al., 2004; Raggatt, 2006; Thomsen et al., 2014). Here, we examined whether the emotional tone in vicarious life stories for close others is associated with one's *own* traits and self-esteem. Because of the hypothesized links between personal and vicarious life stories outlined in our conceptual framework, we expected the emotional tone of close others' life stories to be related to self-esteem and traits in ways that were similar to the emotional tone of personal life stories. First, a very neurotic individual may think of her personal life story in negative terms and her understanding of her own life story may influence the way she listens to and remembers the life story for a close friend. Second, her neuroticism may lead her to selectively attend to and remember negative information about her friend's life story and her vicarious life story for her friend may then shape the way she interprets her personal life story. Third, negative events in her friend's life story may be incorporated into her personal life story explaining how she developed her own negative world views.

Although we expected personal and close others' life stories to be similar and interrelated, there may also be differences. One commonly found difference between perceptions of self and others is that self-perception is characterized by a self-serving bias. This bias is found for a variety of cognitive processes, including memory and judgment (Ross & Wilson, 2003; Sedikides & Gregg, 2008; Skowronski et al., 1991; Taylor & Brown, 1988;

Walker, Skowronski, & Thompson, 2003). Although vicarious life stories may be similar to personal life stories in important respects, close others' life stories are probably less central to the self and thus may be less subject to self-enhancement. Indeed, vicarious life stories may be used as a part of strategic social comparisons to facilitate self-enhancement. If this is the case, we should expect personal life stories to be rated as more positive than vicarious life stories.

Hypotheses

In two preliminary studies, we begin to examine similarities and differences between personal and vicarious life stories for close others. With respect to similarities, we expected the temporal distribution of chapters and specific memories in personal and close other's life stories to be similar, that is, with the incidence of both chapters and specific memories showing a marked increase in adolescence. We expected trait measures of high extraversion, high conscientiousness, high self-esteem, and low neuroticism to be related to more positive personal life stories and also to more positive vicarious life stories for close others. In addition, we expected positive correlations between aspects of personal life stories and close others' life stories: the number of chapters and specific memories included in life stories, their importance to self-understanding, and their emotional tone. Although both personal and vicarious life stories could be shaped by the cultural life script, we expected vicarious life stories to go beyond scripted events; accordingly, we examined their correspondence to the cultural life script in both studies.

We also expected some differences. We hypothesized that close others' life stories would be less positive, and less important to self-understanding, compared to personal life stories. Also, replicating the findings of Pillemer et al. (2015), specific memories in personal life stories were hypothesized to be rated higher on phenomenological qualities, like reliving and vividness, compared to specific memories in close others' life stories.

Study 1

Method

Participants

Participants were 170 Danish psychology students (139 women, mean age = 24.21 years; $SD = 4.87$), who were divided into two groups (based on their birth date) and identified chapters and specific memories in either personal or close others' life stories.

Materials

In a questionnaire, the group describing the life story of a close other was first asked to select a close other of the same gender and age (not a boy/girl friend or a sibling). They gave the age and gender of the close other; estimated the number of years they had known their close other; and rated openness and honesty in the relationship: "To what degree would you say that your friend tells you about her/his experiences in an open and honest way?" rated on a 7 point scale (1 = not at all, 4 = to some degree, 7 = to an extremely high degree). Then, participants were asked to identify chapters (in their personal or the close other's life story). The instructions asked participants to think about their personal/their close other's life story and identify up to 20 periods that constituted chapters in the life story and that, taken together, covered the entire life span. The group identifying chapters for their close other was asked to only identify chapters that they thought were a part of their close other's life story, rather than make something up. All participants were informed that chapters need not have a clear beginning or end; that different chapters could refer to the same span of time; and that chapters may also be ongoing (adapted from McAdams, 1993). They were asked to begin with the first chapter in their personal/close other's life story and continue until the chapters described their/their close other's life story (contact first author for verbatim instructions). The questionnaire contained sections for 20 chapters. In each section, the participant was asked to briefly describe the chapter, give the start and end age for the chapter or mark if the chapter was ongoing, and rate the chapter on emotional tone and importance to self-understanding using the following two questions: 1) "How would you describe the chapter emotionally?" rated on a 7-point scale (1 = extremely negative, 2 = very negative, 3 = moderately negative, 4 = neutral or mixed, 5 = moderately positive, 6 = very positive, and 7 = extremely positive) and 2) "to what degree is the chapter a central part of your identity and self-understanding?" rated on a 7-point

scale (1 = not at all, 4 = to some degree, 7 = to an extremely high degree) (adapted from Berntsen & Rubin, 2006).

Next, participants were asked to identify specific memories (in their personal or the close other's life story). The instructions asked participants to think about their personal/their close other's life story and identify up to five memories from birth and to the present that were central to the life story. It was explained that memories referred to events happening on a single day and not, like chapters, occurring over an extended time period. The group identifying memories in their close other's life story was asked not to identify memories in their personal life stories and not to identify memories of hearing their close other describing a memory to them. Rather, they were asked to identify what they thought would be their close other's memories, memories of events where they were not present (contact first author for verbatim instructions). The questionnaire then contained sections for 5 specific memories, where participants were asked to briefly describe the memory, give the age at the time of the event, and rate the memory on emotional tone and self-understanding using the two questions described above (the word *chapter* was replaced with *memory*). In addition, they were asked to rate the memories on phenomenological qualities using the following questions (adapted from Rubin et al., 2003): 1) "This memory elicited a physical reaction (e.g. palpitation, restlessness, tension, tears, laughter), when it came to me" 2) "The emotions I experience when I think about this memory now are intense" 3) "When I think about this memory now, I experience a sense of reliving" and 4) "When I think about this memory now, I see images associated with it, with my inner eye". These four questions were rated on 7-point scales (1 = not at all, 4 = to some degree, 7 = to an extremely high degree).

To obtain composite scores for individual participant's ratings of emotional tone, self-understanding, and phenomenological qualities, we summed ratings across chapters or memories and divided by the number of ratings.

To measure personality traits, the NEO-FFI was used (Costa & McCrae, 2004). The Danish translation of the NEO-FFI consists of 60 items measuring Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness answered on 5-point scales. To measure self-esteem, the Danish translation of the Rosenberg Self-esteem Scale was used (Lasgaard, 2007; Rosenberg, 1965). The scale consists of ten items rated on 4 point scales. We also included a measure of empathy to examine relations between empathy and close others' life stories, but the results were generally weak ¹.

Procedure

The two groups were tested separately and were given 25 minutes to complete the 20 chapter sections. The group identifying chapters in their close other's life story was asked to complete the rating scales with respect to how they experienced their close other's chapters, not how they thought their close other would rate the chapters. That is, they rated how positive/negative *they* thought their close other's chapters were and how important to *their own* self-understanding their close other's chapters were. We focused on their personal interpretation of their close others' life stories, rather than on how they thought their close other would respond, because their personal interpretations may be more closely related to traits and self-esteem and may show more evidence of self-enhancement. The participants were then given 18 minutes to complete the five sections for specific memories. As for chapters, the group identifying specific memories in their close other's life story were asked to complete the rating scales with respect to how they experienced their close other's specific memories. Finally, participants completed the NEO-FFI and the Rosenberg Self-esteem Scale.

Coding

All chapters and specific memories were coded for correspondence to the cultural life script. We used the list of events from Berntsen and Rubin (2004, p. 436). However, we collapsed the two categories of "begin school" and "go to school" to one category labeled "school", because they were difficult to distinguish based on the brief descriptions participants gave in the present studies. All specific memories and chapters were coded by a single coder and the first author coded 10% percent of the participants to check for reliability (randomly selected). Interrater reliability was high with kappas of .83 and .74 (for chapters and specific memories respectively) and an overall agreement of 82%. An example of coding can be seen in Appendix 1.

Results

Preliminary analyses. As instructed, the group identifying chapters and specific memories in close others' life stories selected close others who were the same gender as themselves (i.e. 69 women and 14 men; two men selected women as their close other) and the mean age of the close other was very close to participants' mean age (23.98 years, *SD*

= 4.50). The mean length of the relationship was 10.32 years ($SD = 6.57$) and the relationships were rated as highly open and honest ($M = 6.19$; $SD = .76$). Participants identified more chapters and specific memories in their personal life stories than in their close others' life stories ($ts(168) = 2.07$ and 4.41 , $ps < 0.05$). Means for chapter and memory variables are presented in Table 1.

Length of relationship correlated positively with number of chapters identified ($r(81) = .22$, $p < .05$), but did not show any other significant correlations with measures of close others' life stories. Openness of relationship correlated positively with all four phenomenological ratings of close other's specific memories ($rs(80)$ from $.25$ to $.37$, $ps < .05$). No other correlations were significant.

The thematic content of personal and vicarious life stories is presented in Table 2. Approximately 50% of chapters and specific memories in both personal and close others' life stories had content that corresponded to events in the cultural life script, so that about one-half of chapters and memories represented idiosyncratic and unscripted activities.

Main analyses. Plotting the temporal distribution of personal and close others' chapters and specific memories showed that few specific memories were recalled from early childhood (i.e. childhood amnesia, Nelson & Fivush, 2004), and, as predicted, most specific memories were from late adolescence and early adulthood. Chapters showed a slightly different pattern. There was no childhood amnesia but, as with specific memories, most chapters were from recent years (see Figures 1 and 2; ages after 24 years are not shown because of very few data points).

As expected, high extraversion, high conscientiousness, high self-esteem, and low neuroticism were significantly related to more positive personal chapters (Table 3). But only high conscientiousness was related to more positive personal specific memories. Analyses of vicarious life stories revealed a similar pattern: High extraversion, high self-esteem, and low neuroticism were related to evaluating close others' chapters as more positive, although the correlations were weaker than the correlations between these measures and personal life chapters. Traits and self-esteem were not significantly related to evaluating vicarious specific memories as more positive.

An ANOVA on emotional tone showed a significant effect of memory type ($F(1, 167) = 41.23$, $p < 0.05$, $\eta^2 = .20$), a significant effect of person ($F(1, 167) = 7.15$, $p < 0.05$, $\eta^2 = .04$), and no interaction ($F(1, 167) = .52$, $p > 0.10$, $\eta^2 = .003$). An ANOVA on self-

understanding showed a significant effect of memory type ($F(1, 167) = 38.44, p < 0.05, \eta^2 = .19$), a significant effect of person ($F(1, 167) = 209.59, p < 0.05, \eta^2 = .56$), and a significant interaction ($F(1, 167) = 4.56, p < 0.05, \eta^2 = .03$). As Table 1 shows, chapters and specific memories from personal life stories were rated as more positive and more important to self-understanding than chapters and specific memories from the close others' life stories². Also chapters were rated as more positive and more important to self-understanding than specific memories.

A series of t-tests showed that specific memories from personal life stories were rated significantly higher on phenomenological qualities than specific memories from close others' life stories ($ts(167)$ from 4.30 to 7.53, $ps < 0.05$, rs from .32 to .50; see Table 1).

Discussion

In this first preliminary study of vicarious life stories, students could readily identify both memories and chapters in a close other's life story. Temporal distributions of chapters and memories in personal and close others' life stories were similar, as were relationships between emotional tone of chapters and memories on the one hand, and traits and self-esteem on the other hand, although the correlations for vicarious chapters were generally lower than for personal chapters. As predicted, personal life stories were more positive and important to self-understanding compared to close others' life stories. Although the study only addresses a few characteristics of personal and vicarious life stories, they do support the central idea that personal and vicarious life stories are similar.

Study 2

In study 2, our main focus was to replicate the basic findings from Study 1, but we conducted the second study using a within-subject design to allow for examination of relations between personal and close others' life stories. In addition, we provided participants with similar conditions for identifying chapters and specific memories. In study 1, we asked participants to exclude events in their close others' life stories where they had participated. But because individuals may often participate in events that later become part of their close others' life stories, in study 2 we allowed participants to report events that they had participated in for their close others' life stories.

Method

Participants

The participants were 143 Danish students (113 women, mean age = 24.35 years, $SD = 5.13$), who were divided into four groups, based on their birth dates. Each group described chapters and specific memories in personal life stories and chapters and specific memories in close others' life stories. The order of chapters/memories and personal/close others' life stories was counterbalanced across groups, while always clustering chapters and specific memories from the same person together.

Materials and procedure

The materials in study 2 were the same as in study 1 with a few exceptions described below. For all participants, the life story questionnaire included four main parts: Personal chapters, personal specific memories, close other's chapters, and close other's specific memories. Each part began with instructions and then contained 20 sections similar to the sections described for study 1. The instructions were changed slightly to adapt to the new within-subjects design (contact first author for verbatim instructions). Instructions for chapters and specific memories for close others emphasized that the participant may or may not have been a part of the period/event in the close others' life stories (analyses showed that the participants were present for less than half of vicarious chapters and specific memories). Questions on phenomenological qualities of specific memories were omitted due to time constraints. The groups were tested in four separate settings. They were given 20 minutes to complete each of the four life story parts. They then completed the NEO-FFI and the Rosenberg Self-esteem Scale.

Coding

The content of chapters and specific memories was coded using the same procedure as in study 1. Inter-rater reliability was good with kappas from .73-.87 for personal and vicarious chapters and specific memories and an overall agreement of 84%.

Results

Preliminary analyses. Participants selected close others that were the same gender as themselves (112 women and 30 men; one man selected a woman as a close other and one

woman selected a man as a close other; one missing value) and the mean age of the close other was very close to participants' mean age (24.63 years; $SD = 5.19$). The mean length of the relationship was 10.72 years ($SD = 7.42$) and sharing of experiences was rated as highly open and honest ($M = 6.31$; $SD = .66$). As can be seen in Table 1, participants identified more chapters and specific memories in their personal life stories compared to their close others' life stories ($F(1, 141) = 84.02, p < .05$).

Length of relationship correlated positively with number of chapters and specific memories identified in close others' life stories ($r(139 \text{ and } 138) = .17 \text{ and } .20, p < .05$ respectively). No other correlations with close others' life stories were significant at the $p < .05$ level. A series of one-way ANOVAs showed little effect of presentation order on the central variables and hence we collapsed the data across the four groups.

An overview of the content in personal and vicarious life stories can be seen in Table 2. As in study 1, the thematic content of a slight majority of memories and chapters was idiosyncratic—they did not correspond to the cultural life script.

Main analyses. The temporal distribution of chapters and specific memories in personal and close others' life stories were highly similar (Figures 1 and 2; ages after 24 years not shown due to very few data points).

Consistent with Study 1 results, high extraversion, high self-esteem, and low neuroticism were related to more positive chapters in personal life stories (Table 3). In addition, high agreeableness was related to more positive personal chapters. Neuroticism and openness were related to more negative personal memories. Regarding chapters in vicarious life stories, high neuroticism and openness were related to more negative close others' chapters. As in study 1, personality measures did not correlate significantly with ratings of close others' specific memories.

There were significant positive correlations between measures of personal life stories and measures of close others' life stories. The more chapters and specific memories participants identified in their personal life stories, the more chapters and specific memories they identified in their close others' life stories ($r(141 \text{ and } 140) = .60 \text{ and } .56, ps < .05$). The more positive and important to self-understanding the participants rated chapters and specific memories in their personal life stories, the more positive and important to self-understanding they also rated chapters and specific memories in their close others' life stories ($r(140 \text{ and } 141)$ from .22 to .36, $ps < .05$).

An ANOVA for emotional tone showed a significant effect for person ($F(1, 141) = 24.26, p < .05, \eta^2 = .15$), a significant effect for memory type ($F(1, 141) = 72.30, p < .05, \eta^2 = .34$), and no interaction ($F(1, 141) = 2.90, p > .05, \eta^2 = .02$). An ANOVA for self-understanding showed a significant effect for person ($F(1, 141) = 763.91, p < .05, \eta^2 = .84$), a significant main for memory type ($F(1, 141) = 85.60, p < .05, \eta^2 = .38$), and a significant interaction ($F(1, 141) = 13.18, p < .05, \eta^2 = .09$). Participants rated chapters and specific memories in their personal life stories as more positive and more important to self-understanding than chapters and specific memories in the close others' life stories (see Table 1). Chapters were rated as more positive and important to self-understanding than specific memories.

General discussion

We have outlined a conceptual framework for studying vicarious life stories, describing their possible functions and how they may relate to personal life stories. The framework builds on the longstanding but currently underappreciated idea that the self extends beyond personal traits and life stories; it also reflects our knowledge of, feelings toward, and identification with significant others (Allport, 1937; Aron et al., 1991; Bowlby, 1975; Freud, 1960; James, 1981; McLean, 2016). Following McAdams (1996; 2013), the framework highlights the importance of life stories, which may provide unique information about an individual's personality that is not captured by traits and characteristic adaptations. We extended this theoretical perspective to suggest that person models of other people include personality traits, characteristic adaptations, and vicarious life stories. Person models of close others and, as a part of these, vicarious life stories interact with and expand the self.

The conceptual model identifies several reasons why remembering significant events and periods from close others' life stories, and constructing connections between vicarious and personal life stories, contribute to smooth social interactions, informed decision-making, and the growth of personal identity. Knowing another person's life story allows one to tailor conversations in a way that promotes supportive interactions, and to incorporate lessons gleaned from another's story into one's own self-understanding and decision-making.

Two initial studies were designed to initiate a broader research program on vicarious life stories. The studies focused on comparisons between personal life stories and vicarious life stories of close friends, including temporal distributions, correspondence to the cultural life script, and relationships between emotional tone and personality measures. Although these preliminary studies addressed only a small subset of questions about the properties and functions of vicarious life stories, they demonstrate the potential value of our approach and below we outline how future studies may help further developing the framework.

Comparing personal and vicarious life stories

Comparisons between personal and vicarious life stories revealed several notable consistencies. Temporal distributions of both personal and vicarious specific memories showed the predicted increase in frequency during adolescence and the absence of very early memories that has been observed in prior research (e.g., Fivush & Nelson, 2004; Koppel & Berntsen, 2016). The beginning ages of personal and vicarious chapters also showed a pronounced increase in adolescence but no evidence of childhood amnesia—some chapters began at birth or shortly afterwards. Consistent with Pillemer et al. (2015), ratings of phenomenological qualities of personal and vicarious specific memories demonstrated similar patterns, although ratings were higher for personal memories. With respect to chapter and memory content, the proportions of memories and events that were part of the cultural life script (Berntsen & Rubin, 2004) were very similar. Notably, about one-half of the chapters and memories in both personal and vicarious life stories described idiosyncratic, unscripted events. And even when individuals described life story events that were consistent with the cultural life script, their descriptions contained unique information that extended beyond shared cultural knowledge (see Appendix 1).

Similarities between personal and vicarious life stories are consistent with the view, presented earlier, that a person's own life story may provide a template for constructing a close friend's life story (e.g. the close friend also must have experienced discomfort when entering middle school), and also with the alternative view that key elements of a close other's life story may be incorporated into personal life stories (e.g., when a friend's troubled middle school story prompts a negative reinterpretation of one's own middle school experience). But the design of the current studies does not permit causal inferences about the direction of influence. While cultural scripts may also contribute to some of the

similarities between personal and vicarious life stories (especially increased frequency of chapters and specific memories in adolescence), other results seem difficult to explain with reference to cultural scripts (e.g., the presence of childhood amnesia for both personal and vicarious specific memories). In addition, over one-half of chapters and memories were not coded as part of the cultural life script.

We also expected to find similar relationships between emotional tone and personality measures for both personal and vicarious life stories. Some relationships for personal chapters were consistent across studies: Having more positive chapters was associated with higher extraversion and self-esteem and lower neuroticism. Relationships for vicarious chapters also were evident, but they were less consistent: Only lower neuroticism was significantly associated with chapter positivity in both studies. Personality traits may influence the way personal life stories are constructed, but less so for vicarious life stories, because these are less central to self-understanding. It is possible that vicarious life stories are more closely connected to the traits for the person that the vicarious life stories represent, e.g., the close friend's extraversion, conscientiousness etc. The weaker results for vicarious life stories may be explained by the dual purposes of vicarious life stories, e.g., expanding the self and accurately representing the other person.

Associations between the emotional valence of vicarious life stories and personality measures, albeit less consistent than for personal life stories, supports a central component of our conceptual framework: Mental representations of close others' lives may be related to personal dispositions. For example, a person's neurotic tendencies may inform his or her negative view of the life of a close friend. It is also possible that individuals high in neuroticism simply choose close friends who match their level of neuroticism (Furnham & Henderson, 1983). Future research is necessary to disentangle these alternative explanations. For example, pairs of friends could be asked to rate both the own personality traits and life stories and their friends' personality traits and life stories. It could then be examined whether vicarious life stories for the friend was related to the friend's personal life story and personality traits as well as to the life story and personality traits of the participant.

Finally, close others' life stories were less positive than personal life stories. The relatively small difference in positivity may be due to a self-serving bias and is consistent with the idea that vicarious life stories may be used for strategic social comparisons (e.g.,

Sedikides & Gregg, 2008). It seems unlikely that participants would have systematically selected close others who had objectively worse lives.

Chapters and specific memories

Across personal and vicarious life stories, chapters and specific memories showed different patterns of results, indicating that they refer to different ways of representing life stories that cut across the self-other focus. Consistent with previous studies, chapters did not show childhood amnesia, whereas there was a very low frequency of specific memories before age 5 (Nelson & Fivush, 2004; Thomsen, 2015). Chapters were also rated as more important to self-understanding and more positive than specific memories. Chapters are presumably more central to self-understanding because they refer to longer spans of time and attract more rehearsal linking past chapters to present circumstances and personality (Thomsen, 2015). In contrast, specific memories represent emotionally salient and unique occurrences that do not necessarily embody broad life themes (Pillemer, Goldsmith, Panter, & White, 1988; Selimbegovic, Regner, Sanitioso, & Huguet, 2011). The centrality of chapters to life stories may also lead them to be rated as more positive than specific memories due to self-enhancement processes (Sedikides & Gregg, 2008).

A striking difference between chapters and memories was apparent in correlations between emotion ratings and measures of personality. Personality traits and self-esteem were more strongly and consistently associated with the emotional tone of chapters than the emotional tone of specific memories: 13 of 24 correlations were significant for chapters, whereas only 3 of 24 correlations were significant for specific memories (Table 3). These results are in line with a recent study where we found that chapters were more closely related to self-esteem and self-concept clarity compared to specific memories (Steiner, Pillemer, & Thomsen, under review). Traits such as extraversion and neuroticism and self-esteem may be more closely related to the emotional valence of chapters because chapters represent extended and self-defining lifetime periods. Compared to specific memories, they are likely to be more often rehearsed, reasoned about, and linked to current conceptions of self (Thomsen, 2015).

Theoretical implications and future directions

Our conceptual model of vicarious life stories posits that individuals form mental models representing other individuals as unique persons, including information about traits, characteristic adaptations, and life stories. These mental models interact with and even become partly incorporated into the mental models individuals construct for themselves, resulting in similarities between personal and close others' life stories. This framework needs to be developed and several new lines of research would contribute.

First, the present studies focused on temporal distributions and emotional tone of vicarious life stories of a close other who was not a family member or romantic partner. Others' stories convey much more than a general emotional tone—they also reveal beliefs about how events shaped the self, themes of agency and communion, and complexity of self-understanding. A wider range of life story variables, such as underlying themes and meaning-making, need to be examined, along with a greater diversity of close others. Story-sharing among family members is a common and daily activity (e.g., Bohanek et al., 2009), suggesting that studies of vicarious life stories among family members may be even more likely to demonstrate the predicted associations between personal and vicarious life stories. To address some of these issues, we are currently conducting studies examining relations between meaning-making in personal life stories and meaning-making in vicarious life stories for mothers and friends' mothers (Thomsen, Panattoni, Alle, & Pillemer, in preparation). These studies will help establish whether similarities between life stories depend on the relationship between the individual and the close other or whether similarities reflect a general narrative style employed by individuals when constructing life stories for other persons.

It would also be valuable to extend the focus on life stories to include additional aspects of people's mental models for other individuals, such as their traits and goals (see also Mayer, 2014). This would allow analyses of whether the relationships seen between personality traits and personal life stories (McAdams et al., 2004; Thomsen et al., 2014) also extend to traits and life stories attributed to other individuals (e.g., Is the rating of a friend's neuroticism related to the emotional tone of the vicarious life story for that friend?). These studies would test whether the connections between aspects of the individuals' own personality (i.e., their life stories and traits) parallel connections between the same aspects attributed to close others' personalities.

Second, it would be important to establish whether correspondences exist between people's representations of close others' life stories and the close others' own representations of their life stories, and whether such correspondences are related to other variables such as well-being, perspective taking, and relationship quality. For example, healthy relationships may be fostered by a close match between a person's own life story and the life story attributed to them by a significant other, whereas substantial mismatches in emotional tone or underlying themes could be diagnostic of interpersonal dysfunction. In order to address some of these questions, we are currently examining whether the way a romantic partner describes the life story of her/his partner corresponds to the way the partner describes her/his personal life story (Panattoni & Thomsen, in preparation).

Third, research studies have shown that personal life stories develop during late childhood and early adolescence (Habermas & Bluck, 2000; Habermas, Ehler-Lerche, & de Silveira, 2009; Steiner & Pillemer, under review). It would be important to know whether vicarious life stories follow a similar developmental pattern, and whether the developmental pattern for vicarious life stories is similar to or different from children's representations of other peoples' traits. Developmental studies would also be particularly useful for examining the idea that representations of close others' life stories (e.g., mothers' and fathers' life stories) shape the development of children's personal life stories.

Fourth, an array of studies has shown that personal life stories are related to well-being and that personal life stories may be more fragmented and negative in psychiatric populations (Adler et al., 2015; Alle et al., 2015; Dalgleish, Hill, Golden, Morant, & Dunn, 2011; Holm, Thomsen, & Bliksted, under review). Examining whether these relations also extend to vicarious life stories could help shed light on whether mental models of other individuals' lives contribute to mental health (see Wood et al., 2010). To begin addressing this question, we are currently examining personal life stories and vicarious life stories for parents in patients with borderline personality disorder and healthy controls (Lind et al, in preparation).

Fifth, reasons exist for expecting cross-cultural differences as well as similarities in the content, functions and developmental trajectories of vicarious life stories, and in relationships between personal life stories and vicarious life stories. For example, Wang (2013) described how Asian American families were more likely to talk about "vicarious events" compared to European American families. Wang argued that in relationship-

oriented cultures, including East Asians and Native Americans, vicarious stories are used to socialize the child and model appropriate behaviors. Speculatively, one might expect stronger associations between personal and vicarious life stories in cultures that value relatedness and interpersonal connections rather than personal independence and autonomy.

Limitations

Two preliminary studies were designed to initiate a research program on vicarious life stories and the answers that they provide are incomplete. First, the samples consisted mainly of female psychology students and it will be important to examine whether gender, age, and other socio-demographic variables influence the construction of vicarious life stories and their relations with personal life stories. Second, descriptions of life stories were generally brief due to time constraints, and thus did not permit detailed content analyses. In fact, it may be argued that the brief descriptions given in the present studies do not even qualify as life stories, because very little narration was included. While we believe that participants did have life stories in mind while answering the questionnaires, future studies should probe life stories in more depth and allow more detailed descriptions. Third, the rating scales for emotion confounded intensity with valence and future studies should include more nuanced measurements. Fourth, the research designs that we employed did not allow us to determine whether observed similarities between personal and vicarious life stories arose because participants used their personal life stories as templates when describing vicarious life stories, because similar people become friends, or because individuals use information from vicarious life stories when they construct their personal life stories. Future studies are needed to disentangle these possible interpretations. Fifth, vicarious life stories could refer to how the person views another person's life story or they could refer to how the person believes that the other person views his/her life story. Our instructions to some degree mix these two possibilities, because we asked participants to imagine how their friend would describe her/his life story, but then asked them to rate the questions from their own perspective (that is, how positive *they* thought that the chapter was). Thus, two different processes may be involved and future studies need to tease these apart. In a related vein, vicarious life stories may be constructed based on shared first-hand experiences or based on non-shared experiences that are known only from conversations.

These distinctive sources of information may influence the relationships between personal and vicarious life stories and future studies should address this possibility.

Conclusion

Our conceptual analysis of vicarious life stories and two initial research studies support the idea that life stories are not just personal; they are social in a way that has not been fully captured by personality theory and research. Vicarious life stories intersect with personal life stories when individuals think about events experienced by other people to make sense of their own lives, and when personal life stories shape the way individuals understand others' life stories. Our framework broadens the horizons for research in both personality and social cognition by conceptualizing models for the self and models for others as interacting and as including similar dimensions of personality: Traits, characteristic adaptations, and life stories.

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Table 1

Means (SD) characteristics of personal and close others' chapters and specific memories (Study 1/Study 2)

	Personal chapters	Personal memories	Close others' chapters	Close others' memories
Number	9.49 (3.27)/12.38 (4.23)	4.51 (.82)/13.57 (4.14)	8.46 (3.26)/10.24 (3.67)	3.82 (1.17)/11.16 (4.25)
Valence	4.93 (.71)/5.06 (.61)	4.46 (.87)/4.56 (.77)	4.71 (.68)/4.72 (.57)	4.12 (1.13)/4.39 (.74)
Self-understanding	5.45 (.73)/5.46 (.68)	5.10 (.92)/4.86 (.93)	3.87 (.98)/3.13 (.93)	3.17 (1.19)/2.87 (1.07)
Physical reaction	---	3.89 (1.37)/---	---	3.01 (1.29)/---
Re-experience emotions	---	4.09 (1.08)/---	---	3.09 (1.23)/---
Reliving	---	4.69 (1.18)/---	---	3.55 (1.32)/---
Images	---	5.67 (.90)/---	---	4.37 (1.30)/---

Note that the increase in specific memories between Study 1 and 2 is due to differences in procedure.

Table 2

Themes mentioned in personal and vicarious life stories for chapters and specific memories (in percentages), study 1/study 2

Theme	Personal life stories		Close others' life stories	
	% Chapters	% Memories	% Chapters	% Memories
Begin daycare	2.3/4.1	.3/.7	1.6/2.7	-.2
Siblings	1.2/.7	1.8/1.4	.4/1.1	1.3/1.9
School	11.8/9.3	1.5/3.2	8.2/8.9	1.9/3.0
First rejection	-/-	-.3	.1/-	1.6/.1
Confirmation	.1/.1	-.1.4	.1/.2	.6/1.0
Having peers	1.1/1.1	1.8/1.0	2.0/1.4	1.6/.7
First sexual experience	-.1	1.0/.8	-/-	1.3/1.2
Fall in love	2.7/1.3	.8/2.0	2.3/1.4	3.5/2.0
Leave home	2.2/1.5	1.8/1.0	2.8/1.4	2.5/1.5
Long trip	2.8/3.7	3.3/4.0	3.4/3.3	2.5/4.9
College/education	20.3/16.8	13.0/9.5	19.3/17.0	12.6/10.0
Major achievement	-/-	1.5/.4	-/-	.3/.4
Marriage	1.6/1.2	1.0/1.1	1.3/1.7	2.8/2.2
Having children	.6/.9	2.5/1.3	1.0/1.3	2.2/2.2
Others' death	.5/.7	3.8/4.0	1.3/.8	3.8/2.7
Parents' death	.6/.4	1.5/.7	1.1/.2	2.5/.8
Serious disease	.7/2.1	4.3/2.7	3.1/3.8	6.9/5.1
Other script events	.6/.6	1.3/1.5	.6/.8	.6/1.2
Non-scripted events	51.1/55.6	58.9/63.1	51.4/53.7	51.7/59.0

Note also that not all cultural life script events are shown in the table, only events that were used by the participants in present studies. We only show events used in more than 1% of chapters and specific memories (other cultural life script events are summarized under “other script events”, including for example “puberty” and “divorce”).

Table 3

Correlations between personality traits, self-esteem, and the emotional tone of chapters and specific memories in personal and close others' life stories (Study 1/Study 2)

	N	E	O	A	C	self-esteem
Emotional tone, personal chapters	-.41*/-.31*	.41*/.33*	-.12/-.08	.05/-.19*	.30*/.15	.41*/.38*
Emotional tone, personal memories	-.16/-.21*	-.01/.12	-.17/-.21*	-.02/.11	.22*/.09	.21/.14
Emotional tone, close others' chapters	-.29*/-.19*	.27*/.04	-.06/-.21*	-.05/-.05	.05/-.12	.33*/.11
Emotional tone, close others' memories	.01/.04	.03/.03	-.08/-.01	.05/-.14	.14/-.07	-.004/-.07

* $p < .05$

Figure 1. Percentage of life story chapter beginning ages (upper panel: Study 1; lower panel: Study 2).

Figure 2. Percentage of specific life story memory ages (upper panel: Study 1; lower panel: Study 2).

Footnotes

1. We initially thought that a higher degree of empathy would be related to the ability to identify chapters and specific memories in close others' life stories. We measured empathy with the Interpersonal Reactivity Index (Davis, 1983), which contains four subscales: Perspective taking, Fantasy, Empathic Concern, and Personal Distress. The scale was translated using a translation back-translation procedure with the kind assistance of Professor Davis, Eckerd College, USA, who developed the scale. The internal reliability of the four subscales was good (Cronbach's alphas from .71-.80). However, there were no significant correlations between any of the four subscales measuring empathy and number of chapters and specific memories identified in close others' life stories ($r(77)$ from $-.06$ to $.19$, $ps > .10$). None of the subscales correlated significantly with the emotional tone of chapters and specific memories in close others' life stories and only the fantasy subscale correlated significantly with importance to self-understanding, ($r(76) = -.23$, $p < .05$). The most interesting finding was that a higher degree of empathic concern was related to rating specific memories from close others' life stories higher on experiencing emotion and reliving ($rs(76) = .30$ and $.26$, respectively, $ps < .05$). No other correlations between the empathy subscales and the phenomenological quality ratings were significant.
2. One concern with the scale used to measure emotional tone is that it confounds tone with intensity. Any differences may then be due to personal chapters/specific memories being more intense rather than more positive. Also, participants may be more likely to mark mixed/neutral for their close friends' chapters and specific memories because of doubt about how to rate their close friends' life stories. To examine these possibilities, we scrutinized the data in more detail. The participants were not more likely to select mixed/neutral for their close others' chapters/specific memories (15.5%/9.4%) compared to their personal chapters/specific memories (15.9%/15.00%). With respect to confounding with intensity, participants were more likely to select 7 (the positive extreme) for their personal chapters/specific memories (15.4%/24.9%) compared to their close others' chapters/specific memories (10.5%/13.8%). However, they were not more likely to select 1 (the negative extreme) for their personal chapters/specific memories (3.9%/15.3%) compared to their close others' chapters/specific memories (5.1%/15.1%). Thus, it does not appear that the differences in positivity can be explained with reference to the way participants use the mixed/neutral category or confounding with intensity. The pattern was similar for study 2, although in this study slightly more chapters and specific memories for close

others' life stories were rated as mixed/neutral (20.5% and 13.6%) compared to chapters and specific memories for personal life stories (13.8% and 9.9%).

Appendix 1

Example of a life story for close other (in excerpts)

Chapters:

“Kindergarten” (coded as “begin daycare”)

“One year travel with his family” (coded as “long trip”)

“First sabbatical” (coded as “leave from education”)

“Job as substitute in a kindergarten in Aarhus” (coded as “work”)

Specific memories:

“Says goodbye to his family in the airport – it is the first time he is going on a longer trip (3.5 months) and he waits several hours before his two friends join him in the airport” (coded as “long trip”)

“[He is] 8 years, has a serious disease. Is hospitalized in a foreign country. His mother has stayed at the hospital overnight with him and later in the day the rest of the family visits and tell about the events of the day” (coded as “serious disease”)

“His first time (sexually), hash was involved” (coded as “first sexual experience”)

“Parachute jump” (coded as “other”)