

# Self-Event Connections in Life Stories, Self-Concept Clarity, and Dissociation: Examining Their Relations with Symptoms of Psychopathology

Imagination, Cognition and  
Personality: Consciousness in  
Theory, Research, and Clinical  
Practice

2018, Vol. 37(3) 293–317

© The Author(s) 2017

Reprints and permissions:

[sagepub.com/journalsPermissions.nav](http://sagepub.com/journalsPermissions.nav)

DOI: 10.1177/0276236617733839

[journals.sagepub.com/home/ica](http://journals.sagepub.com/home/ica)



Tine Holm<sup>1</sup> and Dorthe Kirkegaard Thomsen<sup>2</sup>

## Abstract

Constructing a coherent life story through the formation of self-event connections may help maintain unity in the self. We examined how positive and negative self-event connections were related to symptoms of psychopathology when controlling for two other measures of self-unity: self-concept clarity and dissociation. While most studies of life stories use content coding, we used a self-report method and hence provide a rationale for this method. One hundred five young adults identified life story chapters and rated them on self-event connections, including questions of positive or negative self-change and self-stability connections. They also completed scales measuring self-concept clarity, dissociation, and symptoms. Higher ratings of positive and lower ratings of negative self-event connections in life stories were related to fewer symptoms of psychopathology. Positive self-change was related to fewer symptoms when controlling for self-concept clarity and dissociation. The results suggest that positive and negative self-event connections are differentially related to symptoms of psychopathology. In addition, the results indicate that self-report measures of life stories may be a useful supplement to coding of narratives.

---

<sup>1</sup>Department of Psychology and Behavioural Sciences, Aarhus University, Denmark

<sup>2</sup>Center on Autobiographical Memory Research (CON AMORE), Aarhus University, Denmark

## Corresponding Author:

Tine Holm, Psychosis Research Unit, Aarhus University Hospital, Skovagervej 2, 8240 Risskov, Denmark.

Email: [tinehol9@rm.dk](mailto:tinehol9@rm.dk)

**Keywords**

self-event connections, self-concept clarity, dissociation, symptoms, self-report

There is widespread consensus that a unified self is key to normal development and protects against psychopathology (e.g., Bluck & Habermas, 2000; Conway, 2005; Erikson, 1968; Gallagher, 2000; Kernberg, 1982; Kohut & Wolf, 1978; Marcia, 1966; McAdams, 1996). Constructing a coherent life story may be essential to achieve such unity in the self in particular for maintaining unity in the self across time (McAdams, 1996). Making connections between events and the self that explain how the self has changed and remained the same over time is important in order for the life story to be coherent (Pasupathi, Mansour, & Brubaker, 2007). However, whether such self-event connections are positive or negative may be of importance to psychopathology (Banks & Salmon, 2013; Merrill, Waters, & Fivush, 2016).

While self-event connections in life stories may support unity in the self, other processes may also be involved (Bluck & Liao, 2012). To demonstrate the unique contribution of self-event connections in life stories in relation to psychopathology, it is important to consider other processes that enable self-unity. Here we focus on self-concept clarity and dissociation because both are well-established concepts that tap into processes involved in self-unity and are related to psychopathology (e.g., Campbell, Assanand, & Di Paula, 2003; Norton, Ross, & Novotny, 1990; Schwartz et al., 2011).

Our two aims in the present study were (a) to examine how positive and negative self-event connections in life stories are related to symptoms of psychopathology and (b) to examine whether self-event connections explain variance in symptoms of psychopathology when controlling for self-concept clarity and dissociation. We used self-report measures to assess self-event connections in life story chapters, and we provide a rationale for why self-report methods may be a useful addition to existing methods.

***Life Stories and Self-Event Connections***

The life story is an internalized and evolving narrative that individuals construct in order to understand who they are and how they have developed across their lives (McAdams, 1996). The story provides life with meaning and direction, and it helps maintain self-continuity, defined as a basic conviction that, despite change, one continues to be the same across time and place (Addis & Tippett, 2008; Prebble, Addis, & Tippett, 2013). While self-continuity is an important function of life stories, a temporally continuous but negative self is probably not adaptive. Hence, a focus on emotional tone in life stories is also needed to more fully understand relations between life stories and symptoms of

psychopathology. Life stories vary in their emotional tone, from the optimistic and happy to the pessimistic and dejected (McAdams, 1996), and a more positive emotional tone has been found to be related to psychological adjustment (Adler, Lodi-Smith, Philippe, & Houle, 2016; McAdams, Reynolds, Lewis, Patten, & Bowman, 2001).

Life stories are based on selected events from autobiographical memory and may be thought about and shared as extended narratives or by focusing on salient events, such as high points and low points (Habermas & Köber, 2015b; McAdams, 2001; Singer, 1995). In this study, we focused on life story chapters (Thomsen, 2009, 2015). Chapters refer to important, extended time periods in one's life, which include information about individuals, places, activities, and objects associated with the periods, for example, "my childhood" or "my high school years" (Brown, Hansen, Lee, Vanderveen, & Conrad, 2012; Conway, 2005; Thomsen, 2015). When individuals are asked to tell their life stories in a free format, the life stories frequently include reference to such extended periods (Steiner, Pillemer, Thomsen, & Minigan, 2014; Thomsen, 2009). Extended time periods also feature prominently in natural remembering (Barsalou, 1988), and we have proposed that they may be used to support coherence in life stories because they summarize complex information from vast amounts of specific episodes (Thomsen, 2009).

Creating a coherent life story also depends on autobiographical reasoning, which includes reasoning about connections between events and the self (Habermas & Bluck, 2000). Establishing connections between events and the self has also been referred to as constructing self-event connections and two types of self-event connections have been described in the literature: *self-change connections* and *self-stability connections* (McLean, 2005; Pasupathi et al., 2007). The former emphasizes how past experiences have caused changes in the self, for example, "the event made me a more independent person", and taps into processes of causal coherence, whereas the latter emphasizes the ways in which the self has remained the same, for example, "the event shows what a stubborn person I am" and identifies processes involved in creating thematic coherence (Köber, Schmiedek, & Habermas, 2015).

Establishing self-event connections has generally been viewed as an adaptive process because it reflects an effort to evaluate and learn from past experiences leading to self-insight and personal growth (Greenhoot & McLean, 2013; Habermas & Köber, 2015a; Pals, 2006). Furthermore, it contributes to feelings of self-continuity as it helps integrate the past self with the present self (McLean, 2008). However, a growing number of studies suggest that it can be maladaptive to reason about the past, if experiences are related to the self in negative ways (Banks & Salmon, 2013; Lilgendahl, McLean, & Mansfield, 2013; Merrill et al., 2016; Thomsen et al., 2016). Thus, self-change and self-stability connections may be conceived as containing both positive and negative connections. For the remaining parts of the article, we will refer to positive or negative self-stability

connections and positive or negative self-change connections or use positive or negative self-event connections as umbrella terms.

Research using content coding of narratives indicates that more positive self-event connections and fewer negative self-event connections in life stories may be related to fewer symptoms of psychopathology. For example, Banks and Salmon (2013) coded young adults' high- and low-point narratives for positive and negative self-event connections, respectively. They found that for low-point narratives, more negative and fewer positive self-event connections were related to higher levels of depression, anxiety, and stress. Similarly, Merrill et al. (2016) found that young adults who express more negative self-event connections when narrating traumatic experiences show higher levels of depression and anxiety. The concepts of redemption and contamination do not directly address self-event connections but may include positive and negative self-event connections, respectively (e.g., Adler et al., 2016; Bauer, McAdams, & Pals, 2008; Lilgendahl & McAdams, 2011; McAdams, 2006; McAdams et al., 2001). Thus, a redemption sequence may sometimes capture that the individual sees herself or himself as having changed positively as a result of a negative event, whereas a contamination sequence may encompass how an event changed one for the worse. Several studies have found that redemption is associated with lower levels of depression, whereas contamination is associated with more symptoms of depression (e.g., Adler, Kissel, & McAdams, 2006; McAdams et al., 2001). Studies examining how individuals self-rate positive and negative self-event connections in their life stories have found similar results; for example, that lower ratings of positive self-change connections are related to higher trait-anxiety and more symptoms of depression (Thomsen et al., 2016), that higher ratings of positive and lower ratings of negative self-change and self-stability connections are related to fewer symptoms of anxiety and depression (Jensen et al., 2017), that individuals with remitted bipolar disorder give lower ratings of positive self-stability connections (Pedersen, Straarup, & Thomsen, 2017), and that patients with borderline personality disorder give higher ratings of negative self-change connections (Lind, Thomsen, Bøye, Heinskou, Simonsen, Jørgensen, 2017).

Based on the results from previous studies referenced earlier, we expected that higher ratings of negative and lower ratings of positive self-event connections in life stories would be associated with more symptoms of psychopathology in young adults. We also examined relations between emotional tone and symptoms of psychopathology, expecting that more negative and less positive emotional tones would be related to more symptoms of psychopathology.

### *Examining Self-Event Connections and Emotional Tone Using a Self-Report Method*

In this study, we used self-report questions that ask individuals to directly indicate whether they perceive their life story chapters as positive or negative

(emotional tone), as leading to positive or negative self-change (positive or negative self-change connections), and as exemplifying positive or negative characteristics of themselves (positive or negative self-stability connections). In the following, we elaborate on the rationale for using self-report measures in life story research.

Leading theorists in the field of narrative psychology define life stories as *internalized* narratives (McAdams, 1996) and describe life stories as mental representations of the self (Habermas & Bluck, 2000). Leaning on these theories, researchers examine life stories because they provide a unique window into individuals' subjective understanding of themselves (Adler et al., 2017). The most commonly used method to examine aspects of internalized narratives is to ask participants to describe their life stories and then code the content and structure of the narratives they produce (for a review, see Adler et al., 2016). While this method has yielded many important insights, it does have limitations. First, it rests on the assumption that the described narratives reflect the mental representation. While this may often be the case, there may be circumstances where the correspondence is lower, for example, if participants leave out information due to time constraints or issues of privacy. Illustrating this issue, Pasupathi et al. (2007) found that participants who did not initially describe self-event connections in their narratives did report such connections when further prompted. In such cases, content coding may miss important aspects of internalized life stories. Second, coding of narratives is very labor intensive for the researchers, and this may prohibit interest in conducting narrative research and reduce the likelihood that multiple similar studies are conducted. Given that replication is a central concern in psychological research (e.g., Pashler & Wagenmakers, 2012), having content coding as an only method may slow down the establishment of narratives as a strong area of research. Hence, developing methods that can supplement coding of narratives would seem a valuable goal.

Another way to examine life stories as mental representations is to ask participants to think about their stories (activate their mental representations) and then answer questions about these stories, as they keep them in mind. Given that researchers wish to capture individuals' *subjective* understanding of who they are, asking them whether *they* perceive a given event as positive or negative and as leading to positive or negative changes in the self would seem a good supplement to expert coded content analyses of written or transcribed narratives. Using self-report to assess aspects of mental representations is a method widely used not only in autobiographical memory research, for example, when addressing the life story importance of memories (e.g., Berntsen & Rubin, 2006), but also in other areas of personality psychology, for example, when individuals are asked to self-report on properties of their goals (e.g., Klug & Maier, 2015). Self-reports may have weaknesses because responses could reflect socially desirable responding and is limited to aspects of life stories that individuals are

consciously aware of. In addition, it may be a concern whether self-reported self-event connections reflect deeply processed insights or merely superficial reactions to demand characteristics of the study (see Panattoni & McLean, this issue, for a more extensive discussion of limitations of self-report). However, self-reported properties of goals have been shown to predict important outcomes (e.g., Klug & Maier, 2015), and self-reported qualities of memories addressing their narrative qualities have been found to predict symptoms of psychopathology, even when controlling for personality traits (Rubin, Boals, & Hoyle, 2014). Hence, self-report is a well-established and valid method in other research areas and should be considered in life story research.

When using self-report questions, these should, of course, be examined for validity and reliability. We have conducted a number of studies using self-report questions of emotional tone and self-event connections and found that they correlate in predictable and theoretically meaningful ways with trait anxiety and depression (Thomsen et al., 2016), personality traits (Thomsen, Olesen, Schnieber, & Tønnesvang, 2014), personality traits and self-esteem (Thomsen & Pillemer, 2017), self-esteem and self-concept clarity (Steiner, Pillemer, & Thomsen, 2017), subjective well-being (Thomsen, Lind, & Pillemer, 2017; Thomsen, Panattoni, Allé, & Pillemer, in press), personality traits and well-being (Jensen et al., 2017), borderline personality disorder (Lind et al., 2017), schizophrenia (Holm, Thomsen, & Bliksted, 2016), bipolar disorder (Pedersen et al., 2017), and identity disturbance (Lind & Thomsen, 2017). Based on these results, we believe that self-report measures may be a useful way to examine emotional tone and self-event connections. We will return to the issue of self-report in the discussion.

### *Self-Event Connections in Life Stories, Self-Concept Clarity, and Dissociation*

Some researchers have pointed to the importance of establishing the incremental validity of life story measures, that is, to ensure that life story measures explain variance in outcomes beyond well-known predictors of these outcomes (Adler et al., 2016). We suggest that it is a strong test of the incremental validity of life stories, if self-report measures of life stories predict variance in outcomes beyond self-report measures of other aspects of personality (e.g., traits) because this approach does not confound method with psychological construct. In other words, using self-report methods to assess life stories when examining incremental validity ensures that it is not difference in the method (e.g., self-reported traits versus content-coded life stories), which results in incremental validity, but rather differences in psychological constructs (e.g., self-reported traits versus self-reported life stories). Thus, in order to examine whether self-reported measures of self-event connections in life stories play a unique role in relation to symptoms of psychopathology, it is important to consider other processes that

may be involved in self-unity. Here we focus on self-reported levels of self-concept clarity and dissociation because both are well-established concepts that tap into processes involved in self-unity and are related to symptoms of psychopathology (e.g., Campbell et al., 2003; Norton et al., 1990; Schwartz et al., 2011).

The self-concept includes knowledge about the self, for example, perceived personal attributes and evaluative components such as self-esteem (Markus & Wurf, 1987). Whereas knowledge and evaluations are understood as two types of content within the self-concept, self-concept clarity concerns the structural aspects of the self-concept as it refers to the extent to which content in the self-concept is perceived as “clearly and confidently defined, internally consistent, and temporally stable” (Campbell et al., 1996, p. 141). Thus, individuals with low self-concept clarity may feel that different aspects of their personality conflict with each other or that their self-beliefs often change, suggesting a lack of unity within their self-concept (Campbell et al., 2003; Pollock, Broadbent, Clarke, Dorrian, & Ryle, 2001).

Dissociation can be defined as a lack of normal integration of feelings, thoughts, and experiences in consciousness and memory (Bernstein & Putnam, 1986). It is a broad concept covering a range of different experiences, and it can alter the phenomenological experience of a unified self in different ways (Suszek, 2005). One example is dissociative amnesia, where the individual experiences memory loss for important personal events from the past or more generalized amnesia for the life story (Carlson & Putnam, 1993; Carlson et al., 1993; Soffer-Dudek, 2014). This type of dissociation can lead to an experience of discontinuation between the past and the present self, for example, “It feels like I have no future and no past” (Radovic & Radovic, 2002, p. 274).

There is compelling evidence that self-concept clarity and dissociation are related to symptoms of psychopathology. For example, higher levels of dissociation correlate positively with general psychopathology in nonclinical populations (Norton et al., 1990; Spindler & Elklit, 2003; van Ijzendoorn & Schuengel, 1996), and lower levels of self-concept clarity have been associated with neuroticism, depression, and anxiety (Campbell et al., 2003; Marloes et al., 2014; Schwartz et al., 2011).

In the present study, we predicted that less self-concept clarity and higher levels of dissociation would be associated with more symptoms of psychopathology. We also examined their relations with self-event connections and emotional tone. Previous research suggests that constructing a positive life story and experiencing a high degree of self-concept clarity and low levels of dissociation are related to fewer symptoms of psychopathology. It is possible that these three processes are related because they are all involved in maintaining a positive and unified sense of self, which may help protect against psychopathology (Adler et al., 2016; Campbell et al., 2003; Erikson, 1968; Fuentes & Desrocher, 2012; Suszek, 2005). Therefore, we hypothesized that higher ratings of negative and

lower ratings of positive self-event connections and emotional tone in life stories would be related to less self-concept clarity and higher levels of dissociation.

### ***The Present Study***

To summarize, we expected that higher ratings of negative and lower ratings of positive self-event connections and emotional tone would be associated with more symptoms of psychopathology. Furthermore, we examined whether ratings of positive and negative self-event connections in life stories would be related to symptoms of psychopathology when controlling for self-concept clarity and dissociation. Finally, we predicted that higher ratings of negative and lower ratings of positive self-event connections and emotional tone in life stories would be related to lower self-concept clarity and higher levels of dissociation.

We examined these issues in a group of young individuals. We focused on young adulthood because it represents a period in identity development where there is an increasing motivation to define the self (Erikson, 1968). Furthermore, during this period, the cognitive skills required to reason about the self in more complex ways are emerging and maturing (Harter, Bresnick, Bouchey, & Whitesell, 1997; Harter & Monsour, 1992). Both the interest in and the capacity to engage in complex thoughts about the self are necessary when establishing self-event connections in the life story (Köber et al., 2015). However, in young adulthood, heightened self-reflection may go together with symptoms of psychopathology, for example, depression and anxiety (Marloes et al., 2014), if, for instance, self-reflection co-occurs with self-uncertainty or negative self-evaluations. Therefore, it is relevant to examine how ratings of positive and negative self-event connections in life stories are related to symptoms of psychopathology in young adulthood.

## **Method**

### ***Participants***

Participants were 105 young adults from Denmark, 78 females and 27 males with a mean age of 17.99 years (range, 16–22 years,  $SD = 1.02$ ). Participants were recruited by contacting teachers from two high schools and one adult educational center in and around the city of Aarhus. Three teachers agreed to participate, and they informed the students about the study based on a written description they had received from the first author. Students were told that participation was voluntary and confidential. Parental consent was not obtained because, in a Danish context, it is not required for questionnaire studies if participants are above the age of 15 years. Participants did not receive any compensation for their participation.



**Table 1.** Questions for Chapters [Variable Labels].

Questions
Age: How old were you when the chapter started and ended? (mark if the chapter is ongoing) (Question 1)
Emotional tone of chapters: To what extent would you describe the chapter as positive/negative? (Questions 2 and 3) [positive/negative emotional tone]
Emotional quality of self-stability connections: Does the chapter highlight any positive/negative attributes that characterize who you are? (Questions 4 and 5) [positive/negative self-stability connection]
Emotional quality of self-change connections: Has the chapter changed who you are as a person in a positive/negative way? (Questions 6 and 7) [positive/negative self-change connection]

Note. Questions 2 to 7 were rated on a 7-point Likert scale ranging from *not at all* to *very much*.

## Measures

The questionnaire consisted of a life story part and scales measuring self-concept clarity, dissociation, and symptoms of psychopathology.

**Life story chapters.** Participants were asked to identify up to 10 important life story chapters (based on Thomsen & Berntsen, 2008). They were asked to give the chapters a meaningful title and to give their age at the beginning and the end of the chapter (or mark it as ongoing). They were also asked to answer several questions about the emotional tone of each chapter they identified and the emotional quality of self-event connections made in relation to each chapter (see Table 1). They rated questions on 7-point scales ranging from 1: *not at all* to 7: *very much*. We have used variations of these questions in the studies reviewed in the introduction. The versions used in the present study have shown results testifying to their validity (Jensen et al., 2017; Pedersen et al., 2017; Steiner et al., 2017). The participants' ratings for emotional tone and each type of self-event connections were averaged to derive life story variables for the analyses.

**Self-Concept Clarity.** The Self-Concept Clarity scale (Campbell et al., 1996) was translated into Danish by the first author and back-translated by the second author. The scale includes 12 questions measuring the extent to which the self is clearly defined, consistent, and stable over time (e.g., "On one day I might have one opinion of myself and on another day I might have a different opinion"). The questions were rated on 5-point scales ranging from 1: *strongly disagree* to 5: *strongly agree*. After the negatively phrased questions had been reversed, responses were summed to yield a total score ranging between 12 and 60, with

higher scores indicating more self-concept clarity. The internal reliability of the scale was good (Cronbach's  $\alpha = .86$ ).

**Dissociation.** The Dissociative Experience Scale contains 28 questions covering different types of dissociative experiences (Bernstein & Putnam, 1986). The scale is widely used to assess dissociation, and it has been used with Danish populations (e.g., Berntsen & Rubin, 2007; Hall & Berntsen, 2008; Spindler & Elklit, 2003). The frequency, with which each of the 28 dissociative phenomena is experienced, is rated on 11-point scales ranging from 0% to 100%, with 0 representing that the experience never happens, and 100 indicating that it happens all the time. Items scores were averaged for the analyses (ranging from 0 to 100). Cronbach's  $\alpha$  was .93 in the present study.

**Symptoms of psychopathology.** The Danish version of the symptom checklist was used to evaluate different symptoms of psychopathology (Derogatis, 1992). The scale has been validated in a Danish population (Olsen, Mortensen, & Bech, 2006) and applied in both clinical and nonclinical populations (Derogatis & Cleary, 1977; Derogatis & Fitzpatrick, 2004; Derogatis, Lipman, & Covi, 1973; Derogatis, Rickels, & Rock, 1976). It is a 90-item inventory covering nine symptom dimensions: depression, anxiety, phobic anxiety, somatization, obsessive-compulsive symptoms, interpersonal sensitivity, hostility, paranoid ideation, and psychoticism. Symptoms are rated on 5-point scales indicating the occurrence of the symptom within the past week (0: *none* to 4: *extreme*). A global severity index was calculated by averaging across responses, and this was used as our measure of symptoms of psychopathology. Cronbach's  $\alpha$  for the scale was .97 in the present study.

## Procedure

First, all participants received written information about the study, including confidentiality and voluntarism, and gave consent to participate in the study. Participants had 1.5 hours to complete the questionnaire, and most of the students did so in a group setting at their school ( $n = 88$ ). The remaining students ( $n = 17$ ) completed the questionnaire at home. The order of the different measures in the questionnaire was the same for all participants. First, they were asked to identify life story chapters and answer questions about the chapters (see Table 1). A life story chapter was defined as an "extended time period in your life that need not have a clear beginning or end," and three examples of chapters were given: school, teenage years, and a relationship. Participants were informed that the chapters identified should cover their entire life story and that they were allowed to include ongoing and overlapping chapters. Overlapping chapters were defined as occurring at the same time, and an example was given as an illustration: "It is possible to have a chapter concerning a part-time job

taking place at the same time as a chapter concerning a relationship.” After the life story part, participants were asked to rate self-concept clarity, dissociation, and symptoms of psychopathology.

### Results

Table 2 shows means for all measures. Overall, participants rated life story chapters positively with higher ratings of positive emotional tone and positive self-event connections as compared with negative emotional tone and negative self-event connections. As seen in previous studies, participants reported moderate levels of self-concept clarity (Campbell et al., 1996; Çili & Stopa, 2015; Diehl & Hay, 2011). Mean scores on dissociation were in the high end but within the range found in previous studies on dissociation in late adolescence (e.g., Carlson & Putnam, 1993; Rubin, Schrauf, & Greenberg, 2003). When examining participants’ mean scores on the SCL-90, it was evident that the students participating in the study were more symptomatic in comparison with adult norms (Olsen et al., 2006); this is consistent with previous findings (Derogatis, 1992; Todd, Deane, & McKenna, 1997). Below, we first report analyses examining whether gender and the setting of questionnaire completion were associated with the study variables. We then report correlations addressing relationships between the life story measures, symptoms, self-concept clarity, and dissociation. Finally, we describe the results of a hierarchical multiple regression testing the incremental validity of the life story measures by predicting symptoms from the life story measures, self-concept clarity, and dissociation.

**Table 2.** Descriptive Statistics for Life Story Ratings, Self-Concept Clarity, Dissociation, and Symptom Checklist Scores.

Variables	Min	Max	M	SD
Number of chapters	1.00	10.00	6.24	2.12
Positive emotional tone	3.14	6.60	4.80	0.84
Negative emotional tone	1.50	6.00	3.56	0.93
Positive self-stability	2.50	7.00	4.99	0.78
Negative self-stability	1.33	5.80	3.45	0.99
Positive self-change	2.75	7.00	4.96	0.82
Negative self-change	1.25	5.50	2.80	0.90
Self-concept clarity	19.00	57.00	37.66	9.67
Dissociation	0.71	68.93	22.02	14.14
Symptom checklist scores	0.04	2.81	0.93	0.60

### *Preliminary Analyses*

We conducted a series of *t*-tests in order to determine whether gender was related to the study variables. Only one gender difference was found for the life story ratings, where female participants gave higher ratings of positive self-stability connections  $M = 5.10$ ,  $SD = 0.71$  compared with male participants  $M = 4.67$ ,  $SD = 0.88$ ,  $t(103) = -2.57$ ,  $p < .05$ ,  $d = .54$ . There were no gender differences on self-concept clarity or dissociation. Overall, females scored higher than males on all symptom dimensions which was reflected in the Global Severity Index where females ( $M = 1.00$ ,  $SD = 0.59$ ) displayed a higher degree of symptom severity than males ( $M = 0.74$ ,  $SD = 0.58$ ). However, the difference just failed to reach significance ( $t(103) = -1.95$ ,  $p = .054$ ,  $d = .44$ ).

The participants completed the questionnaires in either a group setting or at home. To test whether study setting was related to the study variables, we conducted a series of *t*-tests. Students who completed the questionnaire in a group setting rated the emotional tone of chapters as more negative (group setting:  $M = 3.65$ ,  $SD = 0.92$ ; individually:  $M = 3.11$ ,  $SD = 0.84$ ,  $t(103) = 2.44$ ,  $p = .03$ ,  $d = .61$ ), and gave higher ratings of negative self-stability (group setting:  $M = 3.58$ ,  $SD = 0.96$ ; individually:  $M = 2.78$ ,  $SD = 0.87$ ,  $t(103) = 3.20$ ,  $p < .01$ ,  $d = .88$ ) and negative self-change (group setting:  $M = 2.90$ ,  $SD = 0.90$ ; individually:  $M = 2.25$ ,  $SD = 0.66$ ,  $t(103) = 2.80$ ,  $p < .01$ ,  $d = .81$ ). Furthermore, they experienced a higher degree of dissociation (group setting:  $M = 23.34$ ,  $SD = 14.54$ ; individually:  $M = 13.98$ ,  $SD = 7.30$ ,  $t(42) = 3.88$ ,  $p < .001$ ,  $d = .81$ ) and somatization symptoms (group setting:  $M = 0.85$ ,  $SD = 0.69$ ; individually:  $M = 0.52$ ,  $SD = 0.42$ ,  $t(35) = 2.63$ ,  $p < .05$ ,  $d = .58$ ; *t* values and degrees of freedom were adjusted since homogeneity of variance was violated).

Because both gender and study setting were related to the study variables, we controlled for these in the regression examining the relations between emotional tone, self-event connections, self-concept clarity, dissociation, and symptoms of psychopathology.

### *Relation Between Self-Event Connections, Self-Concept Clarity, Dissociation, and Symptoms of Psychopathology*

The overall emotional tone of the chapters was significantly related to severity of symptoms with more positive ratings being related to lower levels of symptoms and more negative ratings being related to higher levels of symptoms (see Table 3). As expected, giving higher ratings of negative self-change and self-stability connections and lower ratings of positive self-change connections were related to higher levels of symptoms. However, ratings of positive self-stability connections were not significantly related to severity of symptoms.

Higher self-concept clarity and lower dissociation were related to fewer symptoms of psychopathology. In addition, higher self-concept clarity was related to higher ratings of positive and lower ratings of negative self-event connections

**Table 3.** Correlations Between Life Story Ratings, Self-Concept Clarity, Dissociation, and Symptom Checklist Scores.

Variables	Self-concept clarity	Dissociation	Symptom checklist scores
Positive emotional tone	.38***	-.32**	-.45***
Negative emotional tone	-.39***	.38***	.47***
Positive self-stability	.24*	-.07	-.10
Negative self-stability	-.45***	.38***	.41***
Positive self-change	.26**	-.09	-.24*
Negative self-change	-.42***	.37***	.42***
Self-concept clarity		-.46***	-.56***
Dissociation			.67***

\**p* < .05.

\*\**p* < .01.

\*\*\**p* < .001.

and emotional tone. Reporting higher levels of dissociation was related to higher ratings of negative emotional tone, self-change, and self-stability and lower ratings of positive emotional tone.

The correlation analyses showed that the life story measures, self-concept clarity, and dissociation were all significantly related to symptom severity. However, it is unclear whether the life story measures explain variance in symptom severity when controlling for the effect of dissociation and self-concept clarity. To examine this question, we conducted a five-stage hierarchical multiple regression analysis with severity of symptoms as the outcome variable and dissociation, self-concept clarity, and the life story measures as the predictor variables. Because females tended to score higher than males on symptoms, we entered gender as a control variable at the first step of the regression (males = 0, females = 1). Furthermore, participants who completed the questionnaire in a group setting evaluated their life stories more negatively and reported higher levels of dissociation in comparison to participants who completed it individually. We therefore entered study setting (0 = group setting, 1 = individually) as a control variable in the second step of the analysis. Dissociation and self-concept clarity were entered at stages three and four, respectively. The life story measures were entered in the final step in order to examine whether they contribute to explaining variance in symptom severity above and beyond the previously entered variables. The life story measure that was not correlated with symptoms of psychopathology was excluded from the analysis (positive self-stability). The results are shown in Table 4. Of central interest, positive self-change connections significantly predicted variance in severity of symptoms when controlling for the other variables. However, the other life story measures did not significantly

**Table 4.** Hierarchical Regression Analysis Predicting Symptoms Checklist Scores From Life Story Ratings, Self-Concept Clarity, and Dissociation.

Variables	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$	Step 5 $\beta$
Gender	.18	.23*	.16*	.14	.12
Study setting (group/individually)		-.19	.02	.01	.03
Dissociation			.65***	.52***	.49***
Self-concept clarity				-.31***	-.22**
Positive emotional tone					-.09
Negative emotional tone					.01
Negative self-stability					.09
Positive self-change					-.17*
Negative self-change					-.04
Adjusted $R^2$	.02	.05	.45	.52	.55
$R^2$ change	.03	.03	.40***	.08***	.05

\* $p < .05$ .\*\* $p < .01$ .\*\*\* $p < .001$ .

contribute to explaining variance in symptoms, and the  $R^2$  did not increase significantly when entering the life story measures (contact first author for more details on the regression).

Because the number of variables was high, considering the relatively small sample size, and because the life story measures were highly correlated, we reran the regression analysis entering only positive self-change connections at the fifth step. In this analysis, positive self-change was also a significant predictor ( $\beta = -.20$ ,  $p < .01$ ) and adding positive self-change connections in the final step of the regression explained an additional 4% of the variance in symptom severity after controlling for the effect of the previously entered variables. This represented a significant improvement to the predictive power of the model ( $R^2$  change = .04,  $F(1, 93) = 8.20$ ,  $p < .01$ ).

## Discussion

The purpose of the present study was to examine how self-reported positive and negative self-event connections and emotional tone in life stories were related to symptoms of psychopathology and whether they explained variance in symptoms when controlling for other processes that tap into self-unity, namely, self-concept clarity and dissociation.

We found that individuals who rated their chapters as associated with less positive and more negative self-stability and self-change connections experienced

more symptoms of psychopathology, lower self-concept clarity, and more dissociation. When controlling for self-concept clarity and dissociation, positive self-change connections predicted significant variation in symptoms, whereas the other life story measures did not reach significance. In the following sections, we first discuss the relations between self-event connections and symptoms of psychopathology. We then turn to discussing the findings from the perspective of self-report methodology. Finally, we address associations between the three different measures of self-unity: self-event connections, self-concept clarity, and dissociation.

### *Relation Between Self-Event Connections in Life Stories and Symptoms of Psychopathology*

Individuals who gave higher ratings of positive self-stability, self-change, and emotional tone and lower ratings of negative self-change, self-stability, and emotional tone, in relation to life story chapters, experienced fewer symptoms of psychopathology. These findings are in agreement with previous studies that have coded narratives for positive and negative self-event connections (Banks & Salmon, 2013; Merrill et al., 2016) and contribute to a growing body of literature that emphasize the need to differentiate between positive and negative ways of constructing coherence and meaning. That viewing the self as valuable and growing is important to psychological health is not a new idea. Indeed, it is consistent with a broad array of theories and studies emphasizing that individuals are strongly motivated to see themselves positively and that a positive self-view is often related to psychological health (e.g., Sedikides & Gregg, 2008; Taylor & Brown, 1988).

Self-concept clarity and dissociation were, in agreement with previous studies, also related to severity of symptoms, confirming the idea that lack of self-unity is associated with psychopathology (e.g., Butzer & Kuiper, 2006; Campbell et al., 2003; Cicero, Martin, Becker, & Kerns, 2016; Marloes et al., 2014; Norton et al., 1990; Schwartz et al., 2011; Spindler & Elklit, 2003; Stopa, Brown, Luke, & Hirsch, 2010; van Ijzendoorn & Schuengel, 1996). The finding that all three measures of self-unity contributed to explaining variance in symptoms testifies to the importance of considering different aspects of self-unity in relation to psychopathology. However, many of the life story measures did not predict symptoms after controlling for dissociation and self-concept clarity. The only life story measure that predicted symptoms was positive self-change connections, suggesting that reasoning about past experiences in ways that allow the individual to construct a story of positive growth is adaptive. Although our measure of positive self-change does not presume that the change was perceived to be the result of a negative event, the finding is broadly consistent with previous findings on relations between narrative redemption and psychopathology (e.g., Adler et al., 2016; Bauer et al., 2008; McAdams, 2006; McAdams, et al., 2001).

It is possible that engaging in life story reflection is more closely related to symptoms of psychopathology during periods of change and less important during periods of stability. Reasoning about self-event connections may be related to symptoms when the unity of the self is challenged, as it may be during life transitions or when unexpected disruptive events occur (Habermas & Köber, 2015b). Life story reflection is a higher order mental activity that requires cognitive effort, and individuals may not engage in life story reflection on a daily basis. Even though young adulthood has been described as a phase where individuals go through substantial change (McAdams, 1996), the individuals participating in the present study probably had a stable day-to-day life, as they attended school where many aspects of their lives such as people, places, and activities were highly predictable. Thus, our finding that most life story measures were not predictors of psychopathology could be attributable to the stable daily life of the participants.

An alternative explanation of life stories being less strong predictors of symptoms could be that the three measures of self-unity included in the study are related to different aspects of psychological health. The concept of dissociation is part of a tradition evaluating psychological health primarily in relation to symptoms of psychopathology (see, e.g., Bernstein & Putnam, 1986; Soffer-Dudek, 2014; Spindler & Elklit, 2003). However, psychological health may also be conceptualized as meaning in life, personal growth, and self-acceptance (Ryff, 1989; Ryff & Keyes, 1995; Ryff & Singer, 2008). These aspects are closely tied to the process of life story construction, where meaning and purpose in life is established and personal development may be emphasized (Bauer et al., 2008). It is possible that self-event connections in life stories would have been stronger predictors of psychological health, had it been conceptualized in these terms.

### *Examining Self-Event Connections and Emotional Tone Using a Self-Report Method*

In the present study, we used newly developed self-report measures to examine self-event connections and emotional tone. The results were theoretically meaningful and, in combination with other studies reviewed in the introduction, they suggest that the questions measure self-event connections and emotional tone in a valid way. Only one of the measures predicted variance in symptoms of psychopathology when controlling for self-concept clarity and dissociation, and this may be viewed as a limitation. However, the two measures that we controlled for, self-concept clarity and dissociation, are longer scales that have good psychometric qualities and are well-established in the literature. The finding that a single-item self-report measure (aggregated across chapters) can explain variance beyond these measures in a relatively small sample could be perceived as promising.



In the present study, individuals who completed the questionnaire in a group setting at school rated the emotional tone of their life story chapters as more negative, and gave higher ratings of negative self-stability and self-change connections, in comparison to individuals who responded independently at home. This leads to the question of whether the setting during data collection influenced participants' responses. In general, participants' responses to questionnaires can be influenced by many factors, for example, the data collection setting, the motivation for participation, and the current mood of the participants (Schwarz, 2007). It is possible that completing the questionnaire at school, in the presence of peers, and within a restricted timeframe was a more stressful experience in comparison to completing it individually. Furthermore, even though participation was voluntary, the presence of the teacher and the experimenter might have made some individuals feel pressured to participate. All these elements could have primed more negative evaluations when answering life story questions in the group setting and are therefore important to consider when planning, undertaking, and analyzing a study that relies on questionnaires.

Although there are limitations of self-report measures (see Panattoni & McLean, this issue), and they may not be suitable for measuring all aspects of life stories, we suggest that self-report methods could have a place in life story research as a supplement to content coding of narratives. What is needed in order to further test and expand the use of self-report methods in research on life stories? First, developing more detailed self-report measures of self-event connections in life stories would be useful. The questions used in the present study were one-item ratings and more reliable measures would include several items measuring each dimension. Second, expanding self-report items to also include other aspects of life stories, such as themes of agency and communion, would be useful. Third, studies examining relations between self-reported and content-coded aspects of life stories are much needed (see also Panattoni & McLean, this issue).

### *Relations Between Measures of Self-Unity*

We found moderate relations between self-event connections in life stories, dissociation, and self-concept clarity. This could suggest that they capture different aspects of self-unity, as self-event connections and self-concept clarity relate to the unity of the conceptual self, whereas dissociation primarily relates to the unity of the phenomenological experience of the self. The findings are also consistent with the idea that self-unity may be supported by different but related processes (Bluck & Liao, 2012; Prebble et al., 2013).

Individuals who gave higher ratings of positive self-event connections experienced higher self-concept clarity, whereas individuals who gave higher ratings of negative self-event connections experienced lower self-concept clarity. At a first

glance, this may seem inconsistent with the conceptualization of self-concept clarity as referring to structural aspects of the self-concept, independently of evaluative aspects (Campbell et al., 1996). However, the findings are in agreement with previous studies showing that individuals who evaluate themselves more positively also give higher ratings of self-concept clarity (e.g., Campbell, 1990; Nezlek & Plesko, 2001). Thus, evaluative and structural aspects of the self-concept are not independent (Hoyle, 2006).

Interestingly, while both positive and negative self-event connections were related to self-concept clarity, only negative self-event connections were related to dissociation. Dissociation has been conceptualized as a defense toward negative emotions and a response to traumatic events (van der Kolk & Fisler, 1995; van der Kolk & van der Hart, 1995) and has not been tied to positive emotions. This finding thus highlights the need to measure positive and negative self-event connections on separate scales, since they are differentially related to other constructs.

## **Limitations**

There are a number of limitations. First, the study would have been strengthened by including content coding of self-event connections in chapters to test how coded self-event connections relate to self-reported self-event connections and the measures of psychopathology, self-concept clarity, and dissociation. Second, asking participants to identify chapters in their life stories and then rate these chapters on scales provided participants with a structure for their life stories and a less structured method may have yielded other findings. Third, the order of the questionnaires was the same across all participants, and we do not know whether this affected results. Fourth, the study was correlational in nature, preventing causal inferences about relationships between the constructs. Finally, the sample was young and predominantly female, and the present findings may not generalize to other groups.

## **Conclusion**

We found that higher ratings of negative self-stability and self-change connections and lower ratings of positive self-change connections in life stories were related to more symptoms of psychopathology and indicators of poorer self-unity measured as lower self-concept clarity and higher levels of dissociation. This finding emphasizes the need to consider the emotional aspects of self-event connections in life stories rather than viewing such connections as generally adaptive because they contribute to coherence. In addition, the results indicate that self-report methods may be a promising supplement to content coding of narratives.

## Acknowledgments

The authors are grateful to students and teachers for their participation and collaboration and to Annie Dolmer Kristensen for linguistic assistance. The authors would also like to thank researchers at the Center on Autobiographical Memory Research (CON AMORE) for giving feedback and advice in relation to the study.

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors are affiliated with CON AMORE, which is funded by the Danish National Research Foundation (DNRF) Grant DNRF89.

## References

- Addis, D. R., & Tippett, L. J. (2008). The contributions of autobiographical memory to the content and continuity of identity: A social-cognitive neuroscience approach. In F. Sani (Ed.), *Self continuity: Individual and collective perspectives* (pp. 71–84). New York, NY: Psychology Press.
- Adler, J. M., Dunlop, W. L., Fivush, R., Lilgendahl, J. P., Lodi-Smith, J., McAdams, . . . Syed, M. (2017). Research methods for studying narrative identity: A primer. *Social Psychology and Personality Science*, 8, 519–527.
- Adler, J. M., Kissel, E. C., & McAdams, D. P. (2006). Emerging from the CAVE: Attributional style and the narrative study of identity in midlife adults. *Cognitive Therapy and Research*, 30(1), 39–51.
- Adler, J. M., Lodi-Smith, J., Philippe, F. L., & Houle, I. (2016). The incremental validity of narrative identity in predicting well-being: A review of the field and recommendations for the future. *Personality and Social Psychology Review*, 20(2), 142–175.
- Banks, M. V., & Salmon, K. (2013). Reasoning about the self in positive and negative ways: Relationship to psychological functioning in young adulthood. *Memory*, 21(1), 10–26.
- Barsalou, L. W. (1988). The content and organization of autobiographical memories. In U. Neisser & E. Winograd (Eds.), *Remembering reconsidered: Ecological and traditional approaches to the study of memory* (Chapter 8, pp. 193–243). New York, NY: Cambridge University Press.
- Bauer, J. J., McAdams, D. P., & Pals, J. L. (2008). Narrative identity and eudaimonic well-being. *Journal of Happiness Studies*, 9(1), 81–104.
- Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disease*, 174(12), 727–735.
- Berntsen, D., & Rubin, D. C. (2006). The centrality of event scale. A measure of integrating a trauma into ones identity and its relation to posttraumatic stress disorder symptoms. *Behaviour Research and Therapy*, 44, 219–234.

- Berntsen, D., & Rubin, D. C. (2007). When a trauma becomes a key to identity: Enhanced integration of trauma memories predicts posttraumatic stress disorder symptoms. *Applied Cognitive Psychology, 21*(4), 417–431.
- Bluck, S., & Habermas, T. (2000). The life story schema. *Motivation and Emotion, 24*(2), 121–147.
- Bluck, S., & Liao, H. (2012). I was therefore I am: Creating self-continuity through remembering our personal past. *The International Journal of Reminiscence and Life Review, 1*(1), 7–12.
- Brown, N. R., Hansen, T. G. B., Lee, P. J., Vanderveen, S. A., & Conrad, F. G. (2012). Historically defined autobiographical periods: Their origins and implications. In D. Berntsen & D. C. Rubin (Eds.), *Understanding autobiographical memory. Theories and approaches* (pp. 160–180). New York, NY: Cambridge University Press.
- Butzer, B., & Kuiper, N. A. (2006). Relationships between the frequency of social comparisons and self-concept clarity, intolerance of uncertainty, anxiety, and depression. *Personality and Individual Differences, 41*(1), 167–176.
- Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology, 59*(3), 538–549.
- Campbell, J. D., Assanand, S., & Di Paula, A. (2003). The structure of the self-concept and its relation to psychological adjustment. *Journal of Personality, 71*(1), 115–140.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). “Self-concept clarity: Measurement, personality correlates, and cultural boundaries”: Correction. *Journal of Personality and Social Psychology, 70*(6), 1114.
- Carlson, E. B., & Putnam, F. W. (1993). An update on the dissociative experiences scale. *Dissociation: Progress in the Dissociative Disorders, 6*(1), 16–27.
- Carlson, E. B., Putnam, F. W., Ross, C. A., Torem, M., Coons, P., Dill, D. L., . . . Braun, B. G. (1993). Validity of the dissociative experiences scale in screening for multiple personality disorder: A multicenter study. *The American Journal of Psychiatry, 150*(7), 1030–1036.
- Cicero, D. C., Martin, E. A., Becker, T. M., & Kerns, J. G. (2016). Decreased self-concept clarity in individuals with schizophrenia. *Journal of Nervous and Mental Disease, 204*(2), 142–147.
- Çili, S., & Stopa, L. (2015). The retrieval of self-defining memories is associated with the activation of specific working selves. *Memory, 23*(2), 233–253.
- Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language, 53*(4), 594–628.
- Derogatis, L. R. (1992). *SCL-90-R: Administration, scoring and procedures manual-II for the revised version and other instruments of the psychopathology rating scale series* (2nd.). Towson, MD: Clinical Psychometric Research Inc.
- Derogatis, L. R., & Cleary, P. A. (1977). Confirmation of the dimensional structure of the SCL-90: A study in construct validation. *Journal of Clinical Psychology, 33*(4), 981–989.
- Derogatis, L. R., & Fitzpatrick, M. (2004). The SCL-90-R, the brief symptom inventory (BSI), and the BSI-18. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment: Instruments for adults* (Vol 3, 3rd ed., pp. 1–41). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

- Derogatis, L. R., Lipman, R. S., & Covi, L. (1973). The SCL-90: An outpatient psychiatric rating scale. *Psychopharmacology Bulletin*, 9, 13–28.
- Derogatis, L. R., Rickels, K., & Rock, A. F. (1976). The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *The British Journal of Psychiatry*, 128, 280–289.
- Diehl, M., & Hay, E. L. (2011). Self-concept differentiation and self-concept clarity across adulthood: Associations with age and psychological well-being. *The International Journal of Aging & Human Development*, 73(2), 125–152.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York, NY: W. W. Norton & Co.
- Fuentes, A., & Desrocher, M. (2012). Autobiographical memory in emerging adulthood: Relationship with self-concept clarity. *Journal of Adult Development*, 19(1), 28–39.
- Gallagher, S. (2000). Philosophical conceptions of the self: Implications for cognitive science. *Trends in Cognitive Sciences*, 4(1), 14–21.
- Greenhoot, A. F., & McLean, K. C. (2013). Introduction to this special issue. Meaning in personal memories: Is more always better? *Memory*, 21(1), 2–8.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126(5), 748–769.
- Habermas, T., & Köber, C. (2015a). Autobiographical reasoning in life narratives buffers the effect of biographical disruptions on the sense of self-continuity. *Memory*, 23(5), 664–674.
- Habermas, T., & Köber, C. (2015b). Autobiographical reasoning is constitutive for narrative identity: The role of the life story for personal continuity. *The Oxford handbook of identity development* (pp. 149–165). New York, NY: Oxford University Press.
- Hall, N. M., & Berntsen, D. (2008). The effect of emotional stress on involuntary and voluntary conscious memories. *Memory*, 16(1), 48–57.
- Harter, S., Bresnick, S., Bouchey, H. A., & Whitesell, N. R. (1997). The development of multiple role-related selves during adolescence. *Development and Psychopathology*, 9(4), 835–853.
- Harter, S., & Monsour, A. (1992). Development analysis of conflict caused by opposing attributes in the adolescent self-portrait. *Developmental Psychology*, 28(2), 251–260.
- Holm, T., Thomsen, D. K., & Bliksted, V. (2016). Life story chapters and narrative self-continuity in patients with schizophrenia. *Consciousness and Cognition: An International Journal*, 45, 60–74.
- Hoyle, R. H. (2006). Self-knowledge and self-esteem. In M. H. Kernis (Ed.), *Self-esteem issues and answers: A sourcebook of current perspectives* (pp. 208–215). New York, NY: Psychology Press.
- Jensen, R. A. A., Thomsen, D. K., O'Connor, M., & Mehlsen, M. Y. (2017). *Age differences in life stories and neuroticism mediate age differences in subjective well-being*. Manuscript submitted for publication.
- Kernberg, O. F. (1982). Self, ego, affects, and drives. *Journal of the American Psychoanalytic Association*, 30(4), 893–917.
- Klug, H. J. P., & Maier, G. (2015). Linking goal progress and subjective well-being: A meta-analysis. *Journal of Happiness Studies*, 16, 37–65.
- Kohut, H., & Wolf, E. S. (1978). The disorders of the self and their treatment: An outline. *The International Journal of Psychoanalysis*, 59(4), 413–425.

- Köber, C., Schmiedek, F., & Habermas, T. (2015). Characterizing life span development of three aspects of coherence in life narratives: A cohort-sequential study. *Developmental Psychology, 51*, 260–275.
- Lilgendahl, J. P., & McAdams, D. P. (2011). Constructing stories of self-growth: How individual differences in patterns of autobiographical reasoning relate to well-being in midlife. *Journal of Personality, 79*(2), 391–428.
- Lilgendahl, J. P., McLean, K. C., & Mansfield, C. D. (2013). When is meaning making unhealthy for the self? The roles of neuroticism, implicit theories, and memory telling in trauma and transgression memories. *Memory, 21*(1), 79–96.
- Lind, M., & Thomsen, D. K. (2017). *Functions of personal and vicarious life stories: Identity and empathy*. Manuscript submitted for publication.
- Lind, M., Thomsen, D. K., Bøye, R., Heinskou, T., Simonsen, S., & Jørgensen, C. R. (2017). *Personal and parents' life stories in patients with borderline personality disorder*. Manuscript submitted for publication.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology, 3*(5), 551–558.
- Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38*, 299–337.
- Marloes, P. A., Dijk, V., Branje, S., Keijsers, L., Hawk, S. T., Hale, W. W. III, & Meeus, W. (2014). Self-concept clarity across adolescence: Longitudinal associations with open communication with parents and internalizing symptoms. *Journal of Youth and Adolescence, 43*(11), 1861–1876.
- McAdams, D. P. (1996). Personality, modernity, and the storied self: A contemporary framework for studying persons. *Psychological Inquiry, 7*(4), 295–321.
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology, 5*, 100–122.
- McAdams, D. P. (2006). The redemptive self: Generativity and the stories Americans live by. *Research in Human Development, 3*(2–3), 81–100.
- McAdams, D. P., Reynolds, J., Lewis, M., Patten, A. H., & Bowman, P. J. (2001). When bad things turn good and good things turn bad: Sequences of redemption and contamination in life narrative and their relation to psychosocial adaptation in midlife adults and in students. *Personality and Social Psychology Bulletin, 27*(4), 474–485.
- McLean, K. C. (2005). Late adolescent identity development: Narrative meaning making and memory telling. *Developmental Psychology, 41*(4), 683–691.
- McLean, K. C. (2008). Stories of the young and the old: Personal continuity and narrative identity. *Developmental Psychology, 44*(1), 254–264.
- Merrill, N., Waters, T. E. A., & Fivush, R. (2016). Connecting the self to traumatic and positive events: Links to identity and well-being. *Memory, 24*(10), 1321–1328.
- Nezlek, J. B., & Plesko, R. M. (2001). Day-to-day relationships among self-concept clarity, self-esteem, daily events, and mood. *Personality and Social Psychology Bulletin, 27*(2), 201–211.
- Norton, G. R., Ross, C. A., & Novotny, M. F. (1990). Factors that predict scores on the dissociative experiences scale. *Journal of Clinical Psychology, 46*(3), 273–277.
- Olsen, L. R., Mortensen, E. L., & Bech, P. (2006). Mental distress in the Danish general population. *Acta Psychiatrica Scandinavica, 113*(6), 477–484.

- Pals, J. L. (2006). Narrative identity processing of difficult life experiences: Pathways of personality development and positive self-transformation in adulthood. *Journal of Personality, 74*(4), 1079–1110.
- Panattoni, K., & McLean, K. C. The curious case of the coding and self-rating mismatches: A methodological and theoretical detective story. *Imagination, Cognition, and Personality, (this issue)*.
- Pashler, H., & Wagenmakers, E.-J. (2012). Editors' introduction to the special section on replicability in psychological science: A crisis of confidence? *Perspectives on Psychological Science, 7*, 528–530.
- Pasupathi, M., Mansour, E., & Brubaker, J. R. (2007). Developing a life story: Constructing relations between self and experience in autobiographical narratives. *Human Development, 50*(2–3), 85–110.
- Pedersen, A. M., Straarup, K. N., & Thomsen, D. K. (2017). Narrative identity in female patients with remitted bipolar disorder: A negative past and a foreshortened future. *Memory*. Advance online publication. <http://dx.doi.org/10.1080/09658211.2017.1344250>
- Pollock, P. H., Broadbent, M., Clarke, S., Dorrian, A., & Ryle, A. (2001). The personality structure questionnaire (PSQ): A measure of the multiple self states model of identity disturbance in cognitive analytic therapy. *Clinical Psychology & Psychotherapy, 8*(1), 59–72.
- Prebble, S. C., Addis, D. R., & Tippett, L. J. (2013). Autobiographical memory and sense of self. *Psychological Bulletin, 139*(4), 815–840.
- Radovic, F., & Radovic, S. (2002). Feelings of unreality: A conceptual and phenomenological analysis of the language of depersonalization. *Philosophy, Psychiatry, & Psychology, 9*(3), 271–279.
- Rubin, D. C., Boals, A., & Hoyle, R. H. (2014). Narrative centrality and negative affectivity: Independent and interactive contributors to stress reactions. *Journal of Experimental Psychology: General, 143*, 1159–1170.
- Rubin, D. C., Schrauf, R. W., & Greenberg, D. L. (2003). Belief and recollection of autobiographical memories. *Memory & Cognition, 31*, 887–901.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719–727.
- Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies, 9*(1), 13–39.
- Schwarz, N. (2007). Cognitive aspects of survey methodology. *Applied Cognitive Psychology, 21*(2), 277–287.
- Schwartz, S. J., Klimstra, T. A., Luyckx, K., Hale, W. W. III, Frijns, T., Oosterwegel, A., . . . Meeus, W. H. J. (2011). Daily dynamics of personal identity and self-concept clarity. *European Journal of Personality, 25*(5), 373–385.
- Sedikides, C., & Gregg, A. P. (2008). Self-enhancement – food for thought. *Perspectives on Psychological Science, 3*, 102–116.
- Singer, J. A. (1995). Seeing one's self: Locating narrative memory in a framework of personality. *Journal of Personality, 63*(3), 429–457.

- Soffer-Dudek, N. (2014). Dissociation and dissociative mechanisms in panic disorder, obsessive-compulsive disorder, and depression: A review and heuristic framework. *Psychology of Consciousness: Theory, Research, and Practice*, 1(3), 243–270.
- Spindler, H., & Elklit, A. (2003). Dissociation, psychiatric symptoms, and personality traits in a non-clinical population. *Journal of Trauma & Dissociation*, 4(2), 89–107.
- Steiner, K. L., Thomsen, D. K., & Pillemer, D. B. (2017). Life story chapters, specific memories, and conceptions of the self. *Applied cognitive psychology*, 31(5), 478–487. <http://dx.doi.org/10.1002/acp.3343>
- Steiner, K. L., Pillemer, D. B., Thomsen, D. K., & Minigan, A. P. (2014). The reminiscence bump in older adults' life story transitions. *Memory*, 22, 1002–1009.
- Stopa, L., Brown, M. A., Luke, M. A., & Hirsch, C. R. (2010). Constructing a self: The role of self-structure and self-certainty in social anxiety. *Behaviour Research and Therapy*, 48(10), 955–965.
- Suszek, H. (2005). Self-pluralism and dissociation. *Psychological Reports*, 96(1), 181–182.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193–210.
- Thomsen, D. K. (2009). There is more to life stories than memories. *Memory*, 17(4), 445–457.
- Thomsen, D. K. (2015). Autobiographical periods: A review and central components of a theory. *Review of General Psychology*, 19(3), 294–310.
- Thomsen, D. K., & Berntsen, D. (2008). The cultural life script and life story chapters contribute to the reminiscence bump. *Memory*, 16(4), 420–435.
- Thomsen, D. K., Lind, M., & Pillemer, D. B. (2017). Examining relations between aging, life story chapters, and well-being. *Applied Cognitive Psychology*, 31, 207–215.
- Thomsen, D. K., Matthiesen, S., Frederiksen, Y., Ingerslev, H. J., Zachariae, R., & Mehlsen, M. Y. (2016). Trait anxiety predicts the emotional valence of meaning-making in life stories: A 10-year prospective study. *Personality and Individual Differences*, 102, 51–55.
- Thomsen, D. K., Olesen, M. H., Schnieber, A., & Tønnesvang, J. (2014). The emotional content of life stories: Is it positively biased and is it related to personality?. *Cognition and Emotion*, 28, 260–277.
- Thomsen, D. K., Panattoni, K., Allé, M. C., & Pillemer, D. B. *My story and my mother's story: Examining relations between personal life stories, vicarious life stories and well-being*, (in press).
- Thomsen, D. K., & Pillemer, D. B. (2017). I know my story and I know your story: Developing a conceptual framework for vicarious life stories. *Journal of Personality*, 85, 464–480.
- Todd, D. M., Deane, F. P., & McKenna, P. A. (1997). Appropriateness of SCL-90-R adolescent and adults norms for outpatient and nonpatient college students. *Journal of Counseling Psychology*, 44(3), 294–301.
- van der Kolk, B., & Fisler, R. (1995). Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study. *Journal of Traumatic Stress*, 8(4), 505–525.
- van der Kolk, B., & van der Hart, O. (1995). The intrusive past: The flexibility of memory and the engraving of trauma. In C. Cruth (Ed.), *Trauma: Explorations in memory* (pp. 158–182). Baltimore, MD: Johns Hopkins University Press.



van Ijzendoorn, M. H., & Schuengel, C. (1996). The measurement of dissociation in normal and clinical populations: Meta-analytic validation of the dissociative experiences scale (DES). *Clinical Psychology Review, 16*(5), 365–382.

### **Author Biographies**

**Tine Holm** is a postdoctoral researcher at the Psychosis Research Unit, Aarhus University Hospital. She finished her PhD in Psychology and Behavioural Science from Aarhus University in 2017. She is affiliated with a center of excellence in research on autobiographical memory (CON AMORE). Her research interest revolves around the reciprocal relationship between identity, memory, and psychological functioning. In particular, the way individuals with schizophrenia make sense of their past when constructing their life stories and how this influences their identity.

**Dorthe Kirkegaard Thomsen** is a professor at the Department of Psychology, Aarhus University, where she is affiliated with a center of excellence in research on autobiographical memory (CON AMORE). Her current research is focused on the interplay between autobiographical memory and life stories, vicarious life stories, and relations between life stories and mental health.