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Functions of Personal and Vicarious Life Stories: Identity and Empathy

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Abstract

The present study investigates functions of personal and vicarious life stories focusing on identity and empathy. Two-hundred-and-forty Danish high school students completed two life story questionnaires: One for their personal life story and one for a close other's life story. In both questionnaires, they identified up to 10 chapters and self-rated the chapters on valence and valence of causal connections. In addition, they completed measures of identity disturbance and empathy. More positive personal life stories were related to lower identity disturbance and higher empathy. Vicarious life stories showed a similar pattern with respect to identity but surprisingly were unrelated to empathy. In addition, we found positive correlations between personal and vicarious life stories for number of chapters, chapter valence, and valence of causal connections. The study indicates that both personal and vicarious life stories may contribute to identity.

Keywords: personal life stories; vicarious life stories; functions; identity; empathy

For several decades, researchers have emphasized that autobiographical memory serves important self and social functions (Bluck, 2003; Bluck & Alea, 2002; Bluck, Alea, Habermas, & Rubin, 2005; Hyman & Faries, 1992; McLean, 2005; Neisser, 1988; Nelson, 2003; Pillemer, 1992, 1998). With respect to the self-function, recalling an autobiographical memory may facilitate understanding of both self-continuity and self-change (Conway, Singer, & Tagini, 2004; Neisser, 1988). The social function involves retrieving memories in order to develop and maintain social bonds (Alea & Bluck, 2003; Bluck & Alea, 2011; Pillemer, 1998). For example, autobiographical memories may be retrieved to enhance intimacy in relationships (Alea & Bluck, 2007) and to support empathizing with other people (Bluck, Baron, Ainsworth, Gesselman, & Gold, 2013; Pohl, Bender, & Lachmann, 2005).

Life stories are based on autobiographical memory and refer to internalized stories of an individual's past, present, and future (McAdams, 2001). Most research on life stories focus on individuals' own life stories, their *personal life stories*. But recently, research has shown that individuals also construct stories for close others, such as intergenerational stories, where children know stories from their parents' and grandparents' youth (McLean, 2016; Merrill & Fivush, 2016). When stories about other individuals are organized to construct a temporally, causally, and thematically coherent accounts of their lives, we refer to the stories as *vicarious life stories* (Thomsen & Pillemer, 2016).

In the present study, we examined whether personal and vicarious life stories serve similar functions with respect to identity and empathy. We asked two-hundred-and-forty Danish high school students to describe chapters in their personal life story and the life story of a close other. Participants rated these chapters on emotional valence and causal connections and these measures were related to identity disturbance and empathy. We chose

to focus on adolescence because this is an important period for the development of autobiographical reasoning and identity (Habermas & Bluck, 2000; McLean & Breen, 2009; McLean & Pratt, 2006). Also, only few studies have examined autobiographical reasoning among adolescents, but since previous research indicate that adolescents may differ from adults (Alea, Bluck, & Semegon, 2004; Köber & Habermas, 2013; McLean, 2005; McLean & Pratt, 2006), this adds to the importance of studying narrative processes in adolescents. Below, we first introduce personal and vicarious life stories and second we present literature relating life stories to identity and empathy.

Personal and vicarious life stories

Life stories are internalized stories of the self that evolve over the lifespan (McAdams, 1996). Life stories are based on important memories of circumscribed events, such as turning points and self-defining memories (McAdams, 2001; Singer, Blagov, Berry, & Oost, 2013), and memory for extended periods, that serve as chapters in life stories (McAdams, 2001; Thomsen, 2009). Life story chapters are defined as important, temporally extended periods with perceived beginnings and endings that include information about the people, places, activities, and objects associated with that period, e.g. "*my time in primary school*" (Thomsen, 2009).

Material from autobiographical memory is organized and interpreted to construct temporally, causally, and thematically coherent life stories through the process of autobiographical reasoning (Habermas & Bluck, 2000; Habermas & Köber, 2015). Causal connections are of particular importance because they provide explanations for how the person has become who he/she is today and how he/she may have changed over time (Habermas & Bluck, 2000; McLean, Pasupathi, & Pals, 2007). Causal connections may vary in their emotional quality (Banks & Salmon, 2013; Lilgendahl & McAdams, 2011;

Lilgendahl, McLean & Mansfield, 2013; Thomsen et al., 2016). Exemplifying a positive causal connection, one of our participants explained: *"This chapter made me become a good friend. Now I navigate better in social situations, I am friendly and I don't judge other people just because they are different. It changed my moral in a good way"*. Another of our participants elaborated on a negative causal connection: *"I started perceiving myself as a person that no one wanted to hang out with, which lead to insecurity and a feeling of not being good enough"*. While positive causal connections support a coherent story focusing on positive meaning, negative causal connections indicate a life story focusing on negative and self-destructive meanings, which would imply a problematic identity.

While most research on life stories has focused on personal life stories, recent studies show that people also construct stories for close others, such as parents, grandparents, friends, and romantic partners (Lind et al., under review; McLean, 2016; Merrill & Fivush, 2016; Panattoni & Thomsen, under review; Zaman & Fivush, 2013). Several studies have shown that personal and vicarious life stories are related. Thus, individuals who describe their personal life stories with a positive emotional tone, focusing on themes of agency and communion describe vicarious life stories for their close others in similar ways (Panattoni & Thomsen, under review; Thomsen & Pillemer, 2016). Relations between personal and vicarious life stories probably reflect dual processes where individuals use other peoples' life stories to reflect on their personal life stories and construct vicarious life stories using their personal life stories as templates (Thomsen & Pillemer, 2016). Since personal and vicarious life stories are related, they may serve similar functions with respect to identity and empathy, and this was the focus of the present study. In addition, we wished to examine whether vicarious life stories would contribute to identity disturbance and empathy beyond personal life stories. We elaborate on these ideas below.

Identity, personal and vicarious life stories

Life stories have been suggested to be important to identity (McAdams, 1996, 2001; Pasupathi, Mansour, & Brubaker, 2007). A healthy identity refers to the experience of being whole, stable, continuous, and certain about personal beliefs, attitudes, and values whereas a disturbed identity refers to the experience of being unworthy, fragmented and uncertain about personal beliefs and values (Kaufman, Cundiff, & Crowell, 2015). Through the construction of temporal, causal, and thematic links between experiences and between experiences and the self, life stories bring about a sense of continuity across time and place (McAdams, 1996). McLean and Pratt (2006) also emphasized that creating connections between now and then strengthens awareness of personal values, attitudes, and beliefs, which are all elements central to identity.

Although the self-continuity function is most emphasized in the life story literature, individuals may also be motivated to construct life stories in ways that support a positive view of themselves (Thomsen & Pillemer, 2016). That is, an important aspect of a healthy identity includes a fundamental feeling of being valuable and significant as a person (Kaufman, Cundiff, & Crowell, 2015). By emphasizing positive events and positive interpretations of events, the self may be narrated as agentic, lovable, and growing and such stories may provide individuals with the optimism needed to prevail under times of stress (Sedikides & Gregg, 2008). Not surprisingly studies indicate that individuals with more positive life stories show healthier selves (Adler & Hershfield, 2012; McAdams et al., 2001). For example, individuals with redemption narratives, which refer to stories that begin negatively but are evaluated positively, show higher self-esteem (Adler, Kissel & McAdams, 2006; McAdams et al., 2001). In contrast, contamination sequences, referring to stories that start out positively but are evaluated as having negative outcomes, are associated with lower

self-esteem (Adler et al., 2006; Adler & Poulin, 2009; McAdams et al., 2001).

Vicarious life stories may also shape identity because individuals' understanding of who they are develops in an intricate web of other peoples' stories (Fivush, Bohanek, & Duke, 2008; McLean, 2016; Merrill & Fivush, 2016; Zaman & Fivush, 2013). In particular, knowledge of intergenerational family stories have been related to identity development in adolescents (Fivush, Bohanek, & Zaman, 2011; McLean, 2016; Merrill & Fivush, 2016). Such relations may occur because vicarious stories inspire reflection on personal stories. For example, if a mother constructs her life story with many positive causal connections in which personal attitudes, values, and life lessons are evaluated positively, she may inspire similar reflective processes in her daughter's personal stories. That is, the mother may inspire her daughter's stories to share a similar positive focus such that life experiences are interpreted as leading to personal growth and increase in self-esteem, which will then contribute to her daughter's healthy identity.

Based on the above, we reasoned that personal and vicarious life stories characterized by more positive chapters and more positive causal connections would both be related to a healthier identity and we examined whether vicarious life stories contributed to identity disturbance beyond personal life stories.

Empathy, personal and vicarious life stories

A growing body of research emphasizes relations between autobiographical memory and empathy (Alea & Bluck, 2007; Corcoran & Frith, 2003, 2005; Dimaggio, Salvatore, Popolo, & Lysaker, 2012b; Pohl et al., 2005; Spreng & Grady, 2010; Spreng & Mar, 2012; Spreng et al., 2009; Rabin, Gilboa, Stuss, Mar, & Rosenbaum, 2010; Reese, 2002). Researchers have defined empathy in various ways but in the present study, we use the conceptualization of empathy developed by Baron-Cohen and Wheelwright (2004) that

combines an affective approach with a cognitive approach. The affective approach refers to a person's ability to match the feeling of another person in a context sensitive, appropriate, and compassionate way. The cognitive approach to empathy refers to a person's ability to think or make inferences about another person's thoughts, intentions, and actions that is based on reasoning instead of feelings. Empathy is conceptually overlapping with mentalization, which refers to "*the capacity to understand ourselves and others in terms of intentional mental states, such as feelings, desires, wishes, attitudes and goals*" (Luyten & Fonagy, 2015, p. 366). However, while empathy is focused on the understanding of others, mentalization is a broader concept that encompasses both the understanding of self and others (Choi-Kain & Gunderson, 2008).

The studies relating autobiographical memory and empathy predominantly emphasize that the accessibility and vividness of personal autobiographical memories provide a basis for how to understand others' mental states (Corcoran & Frith, 2003, 2005; Pohl et al., 2005; Spreng & Grady, 2010; Spreng & Mar, 2012; Spreng et al., 2009; Rabin, Gilboa, Stuss, Mar, & Rosenbaum, 2010; Reese, 2002). For example, if a friend tells you that her boyfriend just broke up with her, you may retrieve similar memories from your personal past to better understand how she might feel.

In the present study we focused on positivity of personal and vicarious life stories in relation to empathy. A wide range of theories emphasize the close interaction between self and other understanding (Bateman & Fonagy, 2016; Dimaggio et al., 2008; McLean, 2016; Thomsen & Pillemer, 2016; Tomasello et al., 2005). Based on these ideas, a healthy identity would support better empathizing with others and vice versa. Given that a healthy identity includes perceiving the self as valuable and that this is fostered by life stories including positive chapters and positive causal connections, we should expect relations

between more positive life stories and better empathy. Thinking about personal and vicarious life stories in ways that include positive interpretations of negative events may make individuals better able to support other individuals in distress because there is an underlying belief in the value of one self and other individuals, even in the face of negative events. Note that this does not imply that compassionate responding to distress in other individuals is to immediately construct a story with positive meaning. Indeed this may be perceived as insensitive by the distressed individuals. Rather constructing stories with positive meaning may help individuals to not become overwhelmed with the negative emotions experienced by others and respond in a more other-directed, compassionate way. According to this reasoning, we should expect relations between more positive personal and vicarious life stories and better empathy.

The present study

The main goal of the present study was to examine functions of personal and vicarious life stories in adolescents. We hypothesized that more positive causal connections and more positive life story chapters in personal and vicarious life stories would be related to less identity disturbance and better empathy. In addition, we examined whether both personal and vicarious life stories contributed independently to identity disturbance and empathy. Finally, we expected to find positive relations between personal and vicarious life stories. That is, more positive chapters and causal connections in personal life stories would be related to more positive chapters and causal connections in vicarious life stories.

Life stories are often examined by asking participants to describe key scenes in their life stories and then have coders rate the descriptions for themes and meaning-making (e.g. Banks & Salmon, 2013; McAdams, 2001; McLean and Pratt, 2006). In the present study, we focused on life story chapters and asked participants to self-rate the emotional

valence of the chapters as well as the emotional valence of causal connections. Studies have shown that when individuals freely story their past, extended periods are frequently used (Barsalou, 1988; Thomsen, 2009) and thus examining chapters would seem in line with how individuals naturally think about life stories. The use of self-ratings is based on the widely held assumption, that life stories reflect individuals' subjective understanding of lives (e.g. Adler et al., 2016). Given this assumption, individuals are experts on their own life and hence able to assess the content of their stories. Confirming the validity and reliability of self-rating of life stories, studies using such self-ratings have yielded theoretically meaningful and replicable findings (Holm & Thomsen, in press; Steiner, Thomsen & Pillemer, in press; Thomsen, Lind, & Pillemer, 2017; Thomsen & Pillemer, 2016; Thomsen et al., 2014; Thomsen et al., 2016).

Methods

Participants

The participants were 240 Danish high school students, 174 women, 65 men, and one that did not indicate gender with a mean age of 17.94 years (range from 16-38; $SD = 1.70$) recruited from 14 classes in 5 different high schools in Denmark. The first author emailed teachers from different high schools and informed them about the study. Teachers, who indicated an interest in the study, were asked to help recruit their students. Approximately two weeks before the study, the teachers informed the students about the study and the students received written participant information, where it was clarified that participation was voluntary and confidential. The students then had time to consider whether they wished to participate.

Materials

Life story questionnaires. We used two life story questionnaires; one for the

participants' own life story and one for the close other's life story.

The participants were asked to complete a questionnaire with respect to their own life story using the following instruction: *"This part of the study is about your life story. I would like you to think about your whole life and identify life story chapters. Chapters are defined as periods in your life, which can last for months or even years. An example of a chapter could be: "my time in primary school". You will be asked to describe every chapter with some key sentences and give your age at the beginning and end of every chapter or mark "ongoing" if the chapter has not yet ended. You can include parallel chapters, that is, chapters that refer to the same period in your life."* The participants could identify up to 10 chapters.

For each chapter they were asked to answer the following three questions: 1) *"How would you describe this chapter emotionally?"*, rated on a 5-point scale with 1 = very negative, 2 = negative, 3 = mixed or neutral, 4 = positive, and 5 = very positive; 2) *"Has this chapter influenced how you perceive yourself?"*, rated on a 5-point scale with 1 = yes, in a very negative way, 2 = yes, in a negative way, 3 = not at all, 4 = yes, in a positive way, and 5 = yes, in a very positive way; and 3) *"Has this chapter influenced later life story chapters?"*, rated on a 5-point scale with 1 = yes, in a very negative way, 2 = yes, in a negative way, 3 = not at all, 4 = yes, in a positive way, and 5 = yes, in a very positive way. For question 2 and 3 the participants could elaborate on how the chapter had influenced them and/or later chapters. These questions have been used in previous studies where they correlated in meaningful ways with anxiety and depressive symptoms (Thomsen et al., 2016), personality traits (Thomsen & Pillemer, 2016), and distinguished patients with borderline personality disorder from healthy controls (Lind et al., under review). These results testify to the validity of the questions.

The participants were also asked to complete a life story questionnaire with

respect to a close other's life story. A close other was described as: "*a mother, father or another person who has known you from you were little, and with whom you have a special bond*". First, the participants were asked to note the type of close other they had selected (mother, father, friend etc.), the age of the close other, and for how long they had known the close other. Furthermore, they were asked to answer two questions regarding the quality of the relationship: "*Do you feel, that you know your close other well?*", rated on a 5-point scale with 1 = *not at all*, 2 = *not that well*, 3 = *somewhat*, 4 = *well*, and 5 = *very well* and "*How would you characterize your relationship with your close other?*", rated on a 5-point scale with 1 = *very negative*, 2 = *negative*, 3 = *mixed or neutral*, 4 = *positive*, and 5 = *very positive*. The close other's life story questionnaire was otherwise similar to the questionnaire they completed about their own life story. However, they were asked to imagine how the close other would think about her/his life story when identifying chapters and answering questions about the emotional tone and causal connections.

Based on the two life story questionnaire, we created composites for the statistical analyses. We summed the questions for valence and divided by the number of chapters rated on this question for personal and close other's life stories separately, yielding two measures: valence for personal life stories and valence for close others' life stories (labelled valence chapter and valence chapter vicarious). We then added the two questions on causal connections (questions 2 and 3) for all chapters for personal and close others' life stories separately and divided by the number of chapters rated, yielding two measures: Valence of causal connections in personal life stories and valence of causal connections in close others' life stories (labelled valence causal connections and valence causal connections vicarious).

The Self-Concept and Identity Measure (SCIM) (Kaufman et al., 2015). The SCIM is a 27-items questionnaire used to measure identity and disturbed identity including 3 subscales (disturbed identity, consolidated identity, and lack of identity). Participants rated how much they agreed or disagreed with the items using a 7-point scale ranging from: 1 = *strongly disagree* to 7 = *strongly agree*. The items for the subscale consolidated identity were reversed and a total score was calculated so that higher scores on SCIM indicated greater identity disturbance (ranging from 27-189). The SCIM has been shown to possess good validity and test-retest reliability (Kaufman et al., 2015). The questionnaire was translated into Danish using a translation back-translation procedure and showed good internal reliability (Cronbach's alpha of 0.88).

Empathy Quotient (EQ) (Baron-Cohen & Wheelwright, 2004). The EQ is a 60 items self-report questionnaire with 40 items assessing empathic abilities and 20 filler items. The items were rated using a 4-point scale ranging from 1 = *strongly agree* to 4 = *strongly disagree* with higher scores indicating better empathy. The EQ has been shown to possess good validity and reliability (Baron-Cohen & Wheelwright, 2004; Lawrence et al., 2004). The questionnaire was translated into Danish using a translation back-translation procedure and showed good internal reliability in the present sample (Cronbach's alpha of 0.82).

Procedure

The participants completed the SCIM and the EQ either at home or in class, but all participants completed the life story questionnaires in class (in counterbalanced order). The first author and the teacher were present throughout the procedure to answer questions. The participants were informed that they could contact the first author if they experienced any distress caused by participating in the study.

Results

Below, we present preliminary analyses on 1) the age distribution of personal and vicarious chapters and the content of these chapters; 2) descriptive data on the relationship with the close others and the knowledge of the close others' life stories; 3) differences between vicarious life stories for mothers, fathers, and other close others; and 4) gender differences in life stories, identity disturbance and empathy as well as analyses of whether gender moderated relationships between these variables. In the main analyses, we first report correlations between personal and vicarious life stories, identity disturbance, and empathy. Second, we present a path analysis examining whether both personal and vicarious life stories contribute independently to identity disturbance.

Preliminary analyses

The mean age for chapter beginnings in personal life stories was 10.37 years ($SD = 5.85$) and the mean age for chapter endings was 13.09 years ($SD = 4.81$). The beginning ages for chapters were distributed from birth to the present ages of the participants: 19.6% of the chapters started between the age of 0-4, 22.4% between the age of 5-9, 31.7% between the age of 10-15, and 26.3% started at the age of 16 or older. Likewise, the end ages for chapters were widely distributed: 5.0% of the chapters ended between the age of 0-4, 18.2% between the age of 5-9, 36.6% between the age of 10-15, and 40.2% at the age of 16 or older. The content of chapters in personal life stories primarily concerned kindergarten, primary school, high school, longer trips, sport, part-time jobs, and relationships. Based on these analyses it is clear that participants described chapters covering different content and from their whole life span.

The mean age for chapter beginnings in vicarious life stories was 19.92 years ($SD = 13.04$) and the mean age for chapter endings was 23.92 years ($SD = 13.14$). As for chapters in personal life stories, chapter in vicarious life stories were distributed from birth to

the present: 13.3% of vicarious chapters had their starting point between the age of 0-4, 11.6% between the age of 5-9, 11.6% between the age of 10-15, and 33.2% between the age of 16-25, 16.2% between the age of 26-36, and 14.1% at the age of 36 and older. Likewise, the end ages for vicarious chapters were widely distributed: 1.5% of vicarious chapters ended between the age of 0-4, 7.3% between the age of 5-9, 17.1% between the age of 10-15, and 39.6% between the age of 16-25, 15.6% between the age of 26-36, and 18.9% at the age of 36 and older. However, note that participants described many ongoing chapters for their close others and this may explain why fewer chapters end in the recent past. The chapters in vicarious life stories mostly concerned childhood, teenage years, primary school, high school, job, marriage, getting kids, career shifts, and divorce. The chapters in various life stories thus covered a range of contents and concerned both the childhood and adult lives of the close other.

On average, the participants' perceived knowledge of their close other was good ($M = 4.50$, $SD = .68$) as was the quality of the relationship ($M = 4.52$, $SD = .69$). When the participants were asked to describe a close other's life story, 55.8% chose mothers' life stories, 20.4% chose fathers' life stories, and 23.9% chose someone else, most often a sibling or a friend.

Previous research have found differences in the way adolescents elaborate on mothers' and fathers' stories (Zaman and Fivush, 2013). Based on this, we decided to examine whether vicarious life stories for mothers, fathers and other close others differed from each other in a series of one-way ANOVAs. The analyses showed no significant differences between the three types of vicarious life stories with respect to chapter valence ($F(2, 219) = .22$, $p > .05$) or valence of causal connections ($F(2, 219) = .29$, $p > .05$). However, a significant difference was found for number of chapters in vicarious life stories

($F(2, 223) = 3.98, p < .05$), where post hoc bonferroni tests revealed that participants described significantly more chapters in mothers' life stories ($M = 5.18, SD = 2.09$) compared to other close others' life stories ($M = 4.35, SD = 1.89; p < .05$; but note that other close others were also on average younger than mothers which may explain this difference), no significant differences were found for number of chapters in fathers' life stories ($M = 4.46, SD = 2.26$).

To examine whether the choice of person in vicarious life stories made a difference for the main analyses, we ran separate correlations between mothers' life stories, fathers' life stories, and other close others' life stories, and the main variables (contact first author for more details on these correlations). We found the same overall patterns regardless of the target of the vicarious life stories and thus decided to analyze all vicarious life stories together in the subsequent analyses.

Table 1 displays the means and standard deviations for the life story variables, identity, and empathy. We examined gender differences using a series of t-tests. As summarized in Table 1, girls identified significantly more chapters in both personal and vicarious life stories compared to boys (see also Fivush, Haden, & Adam, 1995; Merrill, Srinivas, & Fivush, 2017; Zaman & Fivush, 2013 for similar gender differences). Girls also scored significantly higher than men on empathy, which is consistent with previous findings (Baron-Cohen & Wheelwright, 2004; Lawrence et al., 2004). No other gender differences were found.

To examine whether gender moderated relationships between the main variables, we conducted correlations between personal life stories, vicarious life stories, identity disturbance, and empathy separately for girls and boys. Although correlation coefficients varied somewhat for boys and girls, we could discern no clear overall pattern

(contact first author for more details on these correlations). Hence, we collapsed data for both genders in the subsequent analyses.

Main analyses

We first examined relations between number of chapters in personal and vicarious life stories and the main variables. The only significant correlations were that a higher number of personal' life story chapters were related to a higher number of chapters in the vicarious life stories ($r(238) = .37, p < .01$) and a higher number of vicarious chapters were related to more positive causal connections in personal life stories ($r(230) = .15, p < .05$); all other correlations were non-significant (r s below .11 or $-.11, p$ s $> .05$). Because number of chapters were not related to identity disturbance and empathy, they are not included in our main analyses.

To examine the relations between life stories, identity disturbance, and empathy, we ran a series of correlations (see Table 2). As hypothesized, a more disturbed identity was related to less positive causal connections in both personal and vicarious life stories. In addition, more identity disturbance was related to less positive chapters in personal life stories but not in close others' life stories.

Higher empathy was related to more positive causal connections in personal life stories. Surprisingly, no significant correlations were found between empathy and vicarious life stories (see Table 2). Since empathy only correlated with 1 out of 4 life story variables we did not attempt to model relationships between empathy, personal and vicarious life stories using more complex analyses.

Consistent with expectations, personal and vicarious life stories were positively related, such that describing more positive chapters and more positive causal connections in

personal life stories were related to describing vicarious life stories in similar ways (see Table 2).

The above analyses show that personal and vicarious life stories were related to identity disturbance in similar ways and were positively correlated with each other. In order to examine whether both personal and vicarious life stories contributed independently to identity disturbance, we conducted a path analysis (see Figure 1) using AMOS (Arbuckle, 2006). We used the two separate personal life story variables as indicators of overall personal life story valence, because the correlation showed that they were closely related. Likewise, we used the two vicarious life story variables as indicators of overall valence of the vicarious life story. The goodness-of-fit indices CFI (0.968) indicated an acceptable fit between our model and the data. The TLI (0.839) was close to acceptable but the $\chi^2(3) = 12.01, p < .01$, and RMSEA (0.112) indicated a less acceptable fit (Hu & Bentler, 1999). The path from personal life story to identity disturbance was statistically significant. Thus, a more positive personal life story was associated with less identity disturbance. The path between personal and vicarious life stories was also significant but the path from vicarious life stories to identity disturbance did not reach significance (see Figure 1). These results imply that vicarious life stories do not directly contribute to identity, but may shape personal life stories, which then support identity.

Discussion

The aim of the present study was to examine functions of personal and vicarious life stories. The correlations showed that young individuals who constructed more positive chapters and more positive causal connections in both their personal and vicarious life stories showed less disturbed identity. Also, positive relations were found between personal and vicarious life stories for both life story measures. Modelling these relationships

in a path analysis revealed that while vicarious life stories were related to personal life stories only personal life stories were directly related to identity disturbance. Regarding empathy, individuals with more positive causal connections in their personal life stories showed higher empathy, but surprisingly empathy was not related to the way individuals thought about close others' life stories. Finally, positive relations were found between personal and vicarious life stories for both life story measures. Below we discuss these findings focusing first on identity and second on empathy.

Identity, personal and vicarious life stories

The finding that more positive chapters and more positive causal connections in personal life stories were related to lower identity disturbance is consistent with the view that life stories constructed to support positive self-understanding are important to a healthy identity. Other studies have also found relations between higher identity disturbance and more negative life stories (Jørgensen et al., 2012). It is possible that the relationship between positive life stories and less disturbed identity simply reflects that individuals have experienced more positive events and therefore construct both more positive life stories and a healthier identity (Jørgensen et al., 2012). However, it is likely that interpretation of events also play a role, since positive causal connection and positive identity conclusions may be possible even in the face of negative events (McAdams, et al., 2001).

In general, vicarious life stories showed a pattern of results that was very similar to personal life stories. These findings are consistent with studies showing that intergenerational stories shape identity development in adolescents (Fivush et al., 2011; McLean, 2016; Merrill & Fivush, 2016). Although the correlational nature of the study does not allow conclusions about causality, one possible explanation for these findings is that adolescents internalize stories from their parents, siblings, and friends and use these stories to

reflect on events from their own lives. If the stories these close others tell are characterized by many positive causal connections, emphasizing positive events and positive aspects of the self, they allow individuals greater opportunity to construct similar stories of their own lives, thereby supporting a healthy identity. As the path analyses showed, vicarious life stories did not contribute to identity disturbance beyond personal life stories, but the path between personal life stories and vicarious life stories was significant. This may suggest that the effects of vicarious life stories on identity are indirect, such that they only shape identity through their effect on personal life stories. However, more research is needed before stronger conclusions can be made, especially because the fit of the model was less than recommended.

Leading researchers in the field stress that identity takes the form of a life story (McAdams, 1996, 2001). In the present study, the correlations between identity disturbance and life stories were small to medium, which suggest some degree of independence. This is consistent with a previous study, which also found only modest relations between life stories and identity status (McLean & Pratt, 2006). The researchers concluded that while there is some convergence in these two approaches to identity, there is also a significant degree of divergence. Dunlop and Walker (2013) suggested that when attempting to establish an identity, individuals not only think of themselves within a narrative framework but also in a more essentialist manner. Essentialist thinking about identity refers to the existence of a core essence, like a physical characteristic or personological property that remains unchanged or “outside of time” (Chandler et al., 2003). The findings in the present study seem most consistent with the view that both personal and vicarious life stories may support identity, but that identity encompasses other aspects as well. However, it is possible that examining other

aspects of life stories, such as themes of agency and communion, as well as overall coherence would yield stronger correlations between life stories and identity.

Empathy, personal and vicarious life stories

As predicted, individuals with more positive causal connections in the personal life story reported better empathy (see Tani, Peterson, & Smorti, 2014 for related findings). Also consistent with this finding, studies have shown that patients with personality disorders, who have poor understanding of mental states in others, often struggle with negative self-representations (Dimaggio et al., 2012a). The present study extend existing research showing that autobiographical memory and the understanding of other peoples' minds are related, by focusing on valence of causal connections in life stories rather than vividness and accessibility (Alea & Bluck, 2007; Corcoran & Frith, 2003, 2005; Dimaggio et al., 2012b; Spreng & Grady, 2010; Spreng et al., 2009; Rabin et al., 2010; Reese, 2002; Soucie, Lawford, & Pratt, 2012). As suggested in the introduction, personal life stories characterized by positive meaning may be conducive to empathizing with other people, because such stories may prevent individuals from becoming overwhelmed by negative emotions. However, researchers have also suggested that the ability to understand mental states in others is essential for establishing a coherent, healthy self (Bateman & Fonagy, 2016). Hence, it is possible that individuals with higher empathy develop more healthy life stories characterized by positive meaning-making. The design of the study does not allow any determinations on cause-effect relations.

We were surprised that better empathy did not correlate significantly with any of the characteristics of close other's life story, especially because both measures share a focus on understanding other people's mind. However, a prior study did not find a relation between empathy and aspects of vicarious life stories (Thomsen & Pillemer, 2016), which

could indicate that general abilities to empathize with others and reasoning about a specific person's life story are unrelated processes. Bluck and colleagues argue that we use our own life experiences as models that allow us to understand close others' minds (Bluck & Alea, 2009; Bluck et al., 2013). Based on these studies it is possible that personal life stories are used to understand close others' mental states, even though we could use our knowledge of their life stories to understand their mental states. It might be that personal life stories are more accessible and more detailed than our life stories for other people, which would make them more useful for on-the-spot empathizing about other peoples' mental states. Our knowledge about vicarious life stories may only be utilized for other individuals that we know intimately and when more sophisticated reasoning is necessary.

Relation between personal and vicarious life stories

We also found relations between more positive chapters and more positive causal connections in the personal life stories and more positive chapters and causal connections in the vicarious life stories. This is consistent with previous studies showing relations between personal and vicarious life stories on emotional tone, causal connections, and themes (Panattoni & Thomsen, under review; Thomsen & Pillemer, 2016). We speculate that these relationships may reflect dual processes whereby individuals listen to, remember, and interpret other individuals' stories through the lens of their personal stories as well as use their knowledge of close others' stories to inspire reflection on their personal stories. The finding that personal and vicarious life stories were related to identity disturbance emphasize that they may serve similar functions. However, the correlations between personal and vicarious life stories were in the low end suggesting that although personal and vicarious life stories are related and both may be used to support identity, they are still distinct. As addressed above, the relations between personal and vicarious life stories on the one hand,

and empathy on the other hand, differed, with only personal life stories showing significant associations. Future studies should address the social functions of vicarious life stories by examining whether vicarious life stories are related to relationship qualities with the person that the vicarious life story is about.

More broadly, the correlations between personal and vicarious life stories, identity and empathy emphasize that self and other understanding is related (Dimaggio et al., 2008; Dimaggio et al., 2012b). Researchers from a variety of disciplines have made this point, although they vary in the exact relationship and the aspects of self and other understanding that are emphasized. Some theories argue that people use their own minds as models for how other individuals' minds work (Dimaggio et al., 2008; Tomasello, Carpenter, Call, Behne, & Moll, 2005). Similar to this idea, researchers have suggested that we use our own life experiences to construct models that allow us to understand the inner world of others (Bluck & Alea, 2009). Other researchers emphasize that the ability to understand mental states in others is important for establishing self-continuity (Bateman & Fonagy, 2016). Along the same lines, Reese (2002) suggested that understanding mental states in others may be a prerequisite for developing autobiographical memories and later use these to construct a life story. To examine the intricate relations between self and other understanding, prospective studies of children encompassing measures of different aspects of self and other understanding are needed.

Limitations

There are several limitations to the present study. Most importantly, the present study was based on a self-report measure of empathy and one could argue that participants are not able to assess their ability to perceive other individuals' mental states accurately. Thus, future studies may consider including alternative measures of empathy. The study only

included emotional tone and causal connections in life stories and other aspects, such as overall coherence, themes, and perspective taking in vicarious life stories should also be examined in relation to identity and empathy. Furthermore, the study is correlational and we cannot determine cause-effect relations between life stories, identity, and empathy. Some theories describe these relations as reciprocal such that the ability to understand others contribute to better self-understanding and vice versa (Bateman & Fonagy, 2016). These dynamics should be examined in future studies. In addition, future studies may assess general narrative style in order to examine to what extent the findings reflect general narrative style rather than characteristics of specific life stories. Finally, the participants were high school students and because previous studies show that young people differ from older adults in some aspects of life stories (Alea, Bluck, & Semegon, 2004; Köber & Habermas, 2013; McLean, 2005) the results may not generalize to adults. Thus, future studies should examine relations between life stories, identity, and empathy in individuals of different ages as well as individuals from different cultural backgrounds, and with and without psychiatric disorders.

Conclusion

The present study investigated functions of personal and vicarious life stories focusing on identity and empathy. The findings show that both personal and vicarious life stories are related to identity, but vicarious life stories may primarily contribute to identity through their effects on personal life stories. In addition, individuals with more positive causal connections in their personal life stories but not vicarious life stories reported better empathizing with other people. The results highlight that self and other understanding are related processes and invite more detailed analyses of how the processes involved in the construction of life stories may be involved in understanding oneself as well as other people.

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Table 1

Means (*SD*) and gender differences for the life story variables, identity, and empathy

	All students	Women	Men	Differences
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i> -values
Valence chapter	3.71 (0.71)	3.66 (0.71)	3.86 (0.66)	1.92
Valence causal connections	7.35 (1.28)	7.29 (1.25)	7.51 (1.36)	1.18
Number of chapters	5.44 (2.04)	5.76 (1.84)	4.66 (2.25)	-3.53**
Valence chapter vicarious	3.63 (0.81)	3.64 (0.82)	3.63 (0.79)	-.07
Valence causal connections vicarious	7.30 (1.37)	7.32 (1.42)	7.26 (1.23)	-.29
Number of chapters vicarious	4.58 (2.32)	4.90 (2.31)	3.77 (2.11)	-3.60***
SCIM	72.93 (20.07)	72.74 (20.46)	73.94 (18.87)	.41
EQ	44.97 (10.04)	46.80 (9.58)	39.84 (9.62)	-4.93***

** $p < .01$, *** $p < .001$

Table 2

Correlations among main study variables

	1	2	3	4	5	6
1. Valence chapter	-	.60**	.32**	.34**	-.23**	.09
2. Valence causal connections	-	-	.24**	.37**	-.39**	.28**
3. Valence chapter vicarious	-	-	-	.61**	-.07	-.02
4. Valence causal connections vicarious	-	-	-	-	-.25**	.02
5. SCIM	-	-	-	-	-	-.31**
6. EQ	-	-	-	-	-	-

** $p < .01$

Figure 1. Path analysis between personal life stories, vicarious life stories, and identity disturbance