Abstract

Autobiographical reasoning is closely related to the development of normative ideas of life as measured by the cultural life script. The acquisition of a life script is an important prerequisite for autobiographical reasoning, because children learn through the life script which events are expected to go into their life story, and when to expect certain events in life. Thus, the cultural life script does not only help organize autobiographical memories, but it also guides expectations for our future life stories. Therefore, the cultural life script should be considered the overarching principle of organizing autobiographical memories across the life span.

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Normative ideas of life and autobiographical reasoning in life narratives

“When I had just learned how to walk and I had my tongue out and then I fell and my tongue was bitten in half, so I had to go to the hospital, and then the day I came home I did not like to use my pacifier any more and I still have a scar.” (Frederik, 9 years old)

Why start a chapter on normative ideas of life and autobiographical reasoning in life narratives with a young boy’s account of a negative experience from his past? The answer is that this is not simply the boy’s memory of a negative event, but his life story, according to himself. It was produced in response to the task of writing his life story, with explicit instructions to write about “what has happened in your life since you were born and up to now” (Bohn & Berntsen, 2008, p.1139).

The story conveys information, is easy to follow and temporally coherent. It can be considered a reasonably coherent narrative of an autobiographical event for a 9 year-old boy. However, the story cannot be called a coherent life story: It reports a single, surely dramatic, incident from the life of this boy, but it conveys nothing about his life from birth and until now. Why did he not write his life story, as he had been asked to? In this chapter, I will argue that he lacks the ability of autobiographical reasoning, i.e. the ability to create coherence between remembered autobiographical events, and thus, to turn them into a meaningful life story (Habermas & Bluck, 2000). Further, I will argue that the ability of autobiographical reasoning is closely related to the development of normative ideas about life as measured by the cultural life script (Berntsen & Rubin, 2002; 2004; Rubin & Berntsen, 2003), and that the cultural life script
should be considered the overarching organizational principle of autobiographical memories across the life span.

Researchers on autobiographical memory have generally emphasized the cultural component playing a role in the formation of both autobiographical memory (see Nelson & Fivush, 2004 for an overview) and life narratives. For example, Reese and Fivush (2008) proposed that the development of autobiographical memory from the beginning is affected by the social and cultural context surrounding the child. Life narratives are thought to be formed by individuals in close interaction with their social and cultural environments (e.g. Habermas & Bluck, 2000; Habermas & Paha, 2001; McAdams, 2001). McAdams defines life stories as “psychosocial constructions, coauthored by the person himself or herself and the cultural context within which that person’s life is embedded and given meaning.” (p.100). Thus, life narratives are made up of autobiographical memories that are selected and combined by the individual through the process of autobiographical reasoning to form a coherent personal narrative in the framework of a given cultural context. From this definition of life narratives, two questions are relevant to ask: How do children learn to tell a life story that is personal and at the same time adheres to the culturally defined framework? And how can this cultural framework be measured empirically?

Life Story Coherence

In order to discuss the influence of cultural norms on the ability to engage in autobiographical reasoning and thus, to tell a coherent life story, the concept of life story coherence needs to be described. Following Habermas and Bluck (2000), a coherent life story is based on four different kinds of coherence. Agreeing with the definition of life narratives as being personal narratives within a given cultural framework, Habermas and Bluck describe three types of linguistic or narrative coherence, and one type of cultural coherence, also called the cultural
concept of biography. The three types of narrative coherence are temporal, thematic, and causal coherence. In a coherent life narrative, the temporal sequence of events needs to be respected, i.e. it would be incoherent to mention a job promotion before mentioning getting a job. Thematic coherence refers to the ability to create overarching themes in a narrative and to establish thematic similarities between various (life) events. Through causal coherence, one adds reason and meaning to a life narrative. Causal coherence is necessary in order to explain how one has become the person that one is. Cultural coherence is specific to the life story and is “used to form a basic, skeletal life narrative consisting of an ordered sequence of culturally defined, major life events” (Habermas & Bluck, p. 750). The cultural concept of biography is the background and backbone on which the individual life narrative is built. A life narrative should explain – if necessary – deviations from the culturally agreed upon expected life course. Habermas (2006; 2007) has since broadened the definition of the cultural concept of biography to not only include the temporal order in which major life events should occur, but also criteria such as the appropriate beginning and ending of life stories, the handling of less well remembered events, and the goal of telling one's life story.

Together, these four types of coherences are involved in the process of autobiographical reasoning, which eventually leads to the establishment of a life story schema (Bluck & Habermas, 2000), which again is used for autobiographical reasoning. While the three types of linguistic coherence can be measured within a life narrative (Habermas & Paha, 2001; Habermas & de Silviera, 2008), only some aspects of the cultural concept of biography can be measured within a life narrative by for example looking at the development of beginnings and endings of life stories (Habermas, Ehlert-Lerche, & de Silveira, 2009). A more direct way to measure those aspects of the cultural concept of biography concerned with the temporal order of major life events is the cultural life script, introduced by
Berntsen and Rubin (2002; 2004; Rubin & Berntsen, 2003). The cultural life script is the overarching cognitive structure that has been shown to organize life story recall (Collins, Pillemer, Ivcevic & Gooze, 2007; Glück & Bluck, 2007; Rubin, Berntsen & Hutson, 2009; Thomsen & Berntsen, 2008; for a more detailed description of these studies, see Bohn, in press), and to be a prerequisite of the development of global life story coherence (Bohn & Berntsen, 2008).

The cultural life script

The cultural life script combines the concept of story scripts (Schank & Abelson, 1977) with the idea of an age segmentation of the life span and culturally sanctioned age norms for salient life events (for an overview, see Berntsen & Rubin, 2002; 2004; Neugarten, Moore & Lowe, 1965). However, cultural life scripts are different in two important ways from story scripts and research on age norms. Firstly, life scripts are not learned by experiencing an event (as one learns the script for eating at a restaurant by eating repeatedly at a restaurant, according to Schank and Abelson, 1977)). Rather, life scripts are semantic knowledge learned within one’s culture. Secondly, measures of cultural life scripts are attempted to be free of researcher bias, because participants are not asked to rate lists of events pre-chosen by the researcher on salience and age norms, in contrast to what has been done most frequently in research on age norms. Instead, life scripts are measured by asking participants to imagine a newborn child of their own gender in their own culture and to list the most important life events that they think will happen in the newborn’s life, and also to estimate at what age the newborn will experience these events. Therefore, the outcome of the life script task is an empirical measure of the type of life events that different populations in different cultures consider as important in life. This makes the life script task an ideal way to measure both the notion of cultural life scripts as well as the related notion of the cultural concept of biography, because the instructions for
the life script task make this measure at the same time (relatively) bias-free and culture-sensitive.

A cultural life script consists of a series of culturally important transitional events that are expected to take place in a specific order in specific time slots in a prototypical life course within a given culture. The life script is conceptually different from the life story. Life stories are made up of autobiographical memories as they are remembered, reconstructed and combined by an individual. Cultural life scripts consist of semantic knowledge that is learned detached from personal experience, i.e. young people are able to nominate such events as “getting married” or “retirement” as life script events, even though they have not experienced these events themselves. Life scripts refer to the culturally shared representations of an idealized life. A life script can be described as a series of predominantly positive important transitional events which are expected to happen in a certain order (e.g. “getting married” before “having children”), while the order of life story events is dictated by the life a person has lived (e.g. a single teenage mother who gets married later in life). Also, in a person’s life, certain life script events might be “missing”, for example, a person might have remained single. Still, people would be expected to report reasons for the missing life script event “getting married” in their life story, because “missing” an event is a deviation from the life script. Each event is allocated a specific time slot in the life course, referring to the age at which the event is normatively expected to take place (e.g., “getting married” around age 27), while in an individual life, the timing of such life events can be “off”, and therefore might need to be accounted for in the personal life story (e.g. “we got married when we were 21, because we just knew we would always stay together”).

The cultural life script being semantic knowledge has implications not only for the organization of our past life story, but also for the expectations...
concerning our future life story. With the acquisition of the cultural life script, children do not only acquire a template for the organization of their life story as lived until now, they also acquire a template for what to expect for their future lives within their culture. Empirical findings support this strong future dimension of the cultural life script. Berntsen and Jakobsen (2008) found that when imagining future events, the number of events mapping onto the cultural life script increased with the distance of years the events were imagined to be from the present, i.e. participants seemed to rely on their life script knowledge when imagining events farther into the future. In another study, we found that when participants were asked to recall past or to imagine future important events, the majority (71%) of all events recalled or imagined were life script events. However, when participants were asked to remember or imagine events to cue words, only few of the recalled or imagined events (20-25%) mapped onto the life script. Importantly, also in this study the relation between temporal distance and frequency of life script events was found for all types of events (Berntsen & Bohn, in press). Other studies have shown that when people are asked to nominate important past life events or to think about possible future life events, people tend to nominate events agreeing with the cultural life script (for an overview, see Bohn, in press). Thus, when relating past and future important events to their current selves and identity (a form of autobiographical reasoning), adults use the cultural life script as frame of reference. Considering the central role the life script plays when adults engage in autobiographical reasoning, it is important to trace the development of this concept in childhood and to tease apart the role of the narrative types of life story coherence (temporal, thematic, and causal) from the role that the concept of cultural biography plays for the development of a coherent life story.

Methodologically, the concept of the cultural life script makes it possible to measure the cultural concept of biography separately from the life story. The
The advantage of this method is that it makes it possible to disentangle the development of “ordinary” narrative coherence (temporal, causal, and thematic) from the development of life story coherence, which by definition, includes cultural coherence, while other narratives do not (Habermas & Bluck, 2000). Dorthe Berntsen and I conducted a study concerned with the development of these two different types of coherences (Bohn & Berntsen, 2008; Berntsen & Bohn, 2008). Frederik’s life story in the beginning of this chapter stems from this study. In the following, I will briefly describe our study and its results. The main purpose of the study was to investigate at what age children develop an adultlike, normative life script, at what age children develop a coherent life story, and whether the acquisition of a cultural life script is related to the development of life story coherence. Participants in our study were 120 Danish school-aged children with a middle-class background, consisting of three groups of children with an average age of 9.5 years, 12 years, and 14.5 years. The groups consisted of about equally many boys and girls. The children were asked 1) to write a story about their recent fall vacation, 2) to write their life story, and 3) to generate a cultural life script. An adult norm for the life script was established by collecting cultural life scripts from 111 young adults with a mean age of 28 years.

Data collection took place during regular school lessons over a period of three weeks. The fall vacation stories were collected to establish a baseline measure of narrative coherence in single event stories. The rationale behind collecting a baseline story was that, if indeed cultural coherence is specific to the life story, as hypothesized by Habermas and Bluck (2000), then the acquisition of an adultlike life script should play much less of a role for the development of story coherence in the single event stories.
Just like Habermas & de Silviera (2008) in their study on oral life stories, we found that overall life story coherence increased significantly with age. Children became better across age groups at beginning and ending their life stories in a more normative way, i.e. older children were more likely to begin their life stories with their birth, and to finish their life stories in the present. Including normative beginnings and endings in a life story can be interpreted as a sign of cultural coherence (Habermas et al., 2009). In line with this, we found that children whose life narratives had a more mature temporal macrostructure (i.e., who started their life stories with or even before their birth, and ended it in the present) had more normative life scripts ($r=.25, p<.01$ for beginning of life stories and $r=.35, p<.001$ for the ending of life stories, controlled for age).

We also found that the narrative coherence of the fall vacation stories improved with age. However, interestingly, we found no relationship between the children’s ability to create a coherent story of a single event and their ability to create a coherent life story. Further, even when statistically controlling for the age of our participants, we found that there was a significant correlation between how normative or adultlike the cultural life scripts of the children were and their ability to produce a coherent life story. On the other hand, there was no relationship between the normativity of the children’s life scripts and their ability to tell a coherent story about a single autobiographical event. The results suggest that the development of narrative coherence and global life story coherence follow different pathways, and it provides evidence for Habermas’ and Bluck’s (2000) claim that the cultural concept of biography as measured by the cultural life script is specific to the ability to engage in autobiographical reasoning and thus, to produce a coherent life story.

The case of the boy Frederik illustrates our findings. Frederik was able to tell a reasonably coherent story from his fall vacation, but he was not able to
write a coherent life story. Importantly, Frederik generated a life script that deviated extremely from the adult norm (see Table 1; for other examples of children’s life scripts, see Berntsen & Bohn, 2009). The results from our study suggest that children acquire a cultural life script across childhood and into adolescence.

These findings agree with findings from a study on the development of age norms for salient life events (Habermas, 2007). However, both studies were cross-sectional. To extend our findings, I have begun to collect longitudinal data on the children who were in 3rd grade at the time of the study reported here, and who are in 6th grade today. One of the children participating was Frederik. Though very preliminary and qualitative, Frederik’s current life script and life story can highlight the interplay between the cultural life script, autobiographical reasoning and the development of the narrative coherences. To recapitulate, in third grade Frederik produced an extremely non-normative life script (Table 1). His life script contained only two events that are also part of the adult life script (retirement and death), but otherwise it consisted of idiosyncratic events. Clearly, he had not yet acquired a life script that could help him anchor the events of his own life within the culturally expected life course within his culture. Consequently, he wrote a life story that described only a single, very memorable episode from his life: an accident at a very young age that involved a visit to the hospital. Table 1 also presents Frederik’s current life script.

Following is Frederik’s current life story:

“It all started when I was born at the University Hospital. When I was two months old, my mother went to something where she met another mother who had had a baby in the same room as she had. She was called Lene and her child was named Bo. Me and Bo have gone to daycare and kindergarten together and go in the same grade now.
We are best friends now, and have been thinking that we will go on skiing holiday together next year. He’ll be snowboarding and I’ll be skiing.

When I just had learned to walk, I ran with my tongue out of my mouth and fell. When I fell, I bit my tongue in half and when I was at the emergency room, the doctor said she could not sew a tongue because a tongue is a muscle. She also said that the only way it could grow together again was by leaving it in peace. From that day I have never used a pacifier again.

When I started in kindergarten, I coughed and could not breathe so we went to the doctor again. We were told that I had asthma and I was going to a special doctor every three months. I still have asthma but do not suffer from it because I’ve got the right medicine.”

At age 12, Frederik’s life story has become more of a life story. He now begins his life story with his birth, and his place of birth is related to the meeting of his first and best friend, Bo. Frederik includes life script related activities such as going to day care, kindergarten, and school in his life story. He tells about the time that he learned about his chronic disease, and he ends his life story in the present with something that resembles what Habermas et al. (2009) called a global evaluation: He relates his disease to his present self and evaluates the situation (positively). Clearly, Frederik has developed the ability of autobiographical reasoning. He relates events from his past to his present self (how he met his best friend Bo, and that they still are friends), and even envisions plans for activities with his friend that extend beyond the next few months (going on a ski vacation together “next year”).

If the acquisition of an adultlike cultural life script is related to the development of autobiographical reasoning, as argued in this chapter, then Frederik’s current life script should mirror this by being more normative than his life script at the age of 9. An inspection of his current life script presented in
Table 1 supports this hypothesis. The majority of events in his life script are now events that are also part of the adult cultural life script. For most events, his age estimates are within the normative timeslot. However, his life script still lacks complete chronological order, i.e. events are not (yet) mentioned in the order at which he expects them to occur. This jumping back and forth between timeslots is also apparent in Frederik’s life story. After he has told the reader about his birth and meeting his best friend, and about their joint experiences and plans for the future, he returns to an incident that happened to him when he must have been approximately one year old (“when I just had started to walk”–passage in italics).

This part of Frederik’s life story is interesting for various reasons. Firstly, his life story at age 9 consisted solely of this incident. In agreement with theory (Habermas & Bluck, 2000; Berntsen & Rubin, 2002; 2004) Frederik includes an important event from his life that is deviant from the cultural life script in his life story. Of course, it could be that Frederik included this incident in his new life story because he remembered having written about it three years earlier. Other (preliminary) data from the longitudinal study speak against this: There is some evidence that children who wrote single event life stories at age 9 only include these events in their current life story if they had been traumatic (such as getting lost on the beach or getting hit by a car). Children who wrote single event life stories about mundane events (like going on vacation or shopping) at age 9 did not write about these events again at age 12. But Frederik’s new description of his accident as a (presumably) one-year-old is also intriguing when seen in relation to other cultural and social influences on the life story beyond the cultural life script. Clearly, his description of the accident as a 12-year-old mirrors that this accident must have been talked about repeatedly in the family. Possibly, his accident might have been a topic of dinner time narratives,
as described by Fivush, Bohanek and Zaman (this volume). Frederik’s current
description of the incident is about 40% longer than his original account. He now
includes information that he could not possibly remember from the original event
(the physician’s statement that the tongue is a muscle and can only heal by leaving
it alone). This new information seems to be a combination of things he has heard
his family tell about the event, and things that he might have learned in school
(that the tongue is a muscle). The development of Frederik’s report about his
accident illustrates nicely, I think, that autobiographical memory and life stories
are developed through the interplay between the individual and the social and
cultural surroundings of the individual, especially when considering Frederik’s
extremely young age at the time of the accident. It might well be that he doesn’t
actually have a memory of the event, but has heard stories about this accident so
often, that he has made his family’s memory into his own.

Though based on preliminary qualitative results, Frederik’s case supports the
claim that children need to acquire a fairly normative cultural life script in
order to engage in autobiographical reasoning. It seems that children need to have
an idea about how a typical life is ideally to be lived within their culture in
order to select from the events in their own life those events that can be woven
into a coherent life story. Further, the life script teaches children what to
expect for their future life within their culture. It is this anchoring of the
individual in his/her culture that goes beyond the two prerequisites of
autobiographical reasoning (being able to narrate a story, and having a sense of
self) identified by researchers (Habermas & Bluck, 2000; Pasupathi & Mansour,2006)
and makes autobiographical reasoning possible. As pointed out by many researchers
on autobiographical memory (e.g. Nelson & Fivush, 2004), the development of
autobiographical memory is closely interwoven with social and cultural
interactions. In a life narrative perspective, this means that life stories cannot
be told without the narrator being able to anchor his/her story within his/her culture. It is the cultural life script that provides the narrator with a guideline as to which events to include in the life story, and, if necessary, to explain the deviations from the life script in this story – both concerning the type of events narrated, and the timing of the events.

Theoretical implications

The cultural life script is semantic knowledge that is acquired across the childhood years and adolescence. It is semantic knowledge about an entire lifespan within a culture. Thus, the knowledge of the life script includes a strong future dimension. This differentiates the cultural life script from other models on the organization of autobiographical memory, like the life story schema which is formed “as a residue of repeated speaking, thinking, and reasoning about the events of one’s past through which events are related to one another and to the self” (Bluck & Habermas, 2000, p.127).

In the life story schema, the cultural concept of biography is seen as one type of life story coherence on the same level as the three types of linguistic coherence. However, as the results presented in this chapter suggest, the acquisition of the cultural life script is an important prerequisite for the ability of autobiographical reasoning, because it facilitates the connection between the self and the culture beyond the individual life story. Further, children and adolescents are able to tell temporally, causally and thematically coherent stories of single events independent of their life script abilities. However, their ability to tell a coherent life story is not independent of their life script abilities. Therefore, it seems, the cultural life script is the frame that holds life stories together: Cultural life scripts teach children which events are expected to go into their life story, and when to expect certain events in life. It seems that the life script provides the “plot” of one’s life story.
Having a plot makes it much easier to tell a coherent life story, where one thing leads to another, and events are neatly tied together through the process of autobiographical reasoning. Therefore, the cultural life script should be considered the overarching organizational principle of autobiographical memories across the life span.

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Table 1.

Example of the development of the cultural life script from age 9 to 12

<table>
<thead>
<tr>
<th>Frederik’s life script at age 9</th>
<th>Age at Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>He is ill</td>
<td>0</td>
</tr>
<tr>
<td>He becomes famous</td>
<td>1</td>
</tr>
<tr>
<td>He moves to England</td>
<td>10</td>
</tr>
<tr>
<td>And then he moves to Denmark</td>
<td>20</td>
</tr>
<tr>
<td>And he's rich</td>
<td>30</td>
</tr>
<tr>
<td>He becomes famous</td>
<td>35</td>
</tr>
<tr>
<td>And he becomes a famous football player</td>
<td>15</td>
</tr>
<tr>
<td>And then he retires</td>
<td>36</td>
</tr>
<tr>
<td>And then he dies</td>
<td>70</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frederik’s Life Script at age 12</th>
<th>Age at Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting school</td>
<td>7</td>
</tr>
<tr>
<td>Highschool.</td>
<td>21</td>
</tr>
<tr>
<td>He gets good grades in 9th grade</td>
<td>15</td>
</tr>
<tr>
<td>He makes new friends</td>
<td>20</td>
</tr>
<tr>
<td>He begins drinking and partying</td>
<td>16</td>
</tr>
<tr>
<td>Gets a job</td>
<td>21</td>
</tr>
<tr>
<td>Wife and children</td>
<td>26</td>
</tr>
<tr>
<td>He gets a career</td>
<td>30</td>
</tr>
<tr>
<td>Time of retirement</td>
<td>60</td>
</tr>
<tr>
<td>Death</td>
<td>100</td>
</tr>
</tbody>
</table>