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My Family Matters: Past and Future Life Stories in Adolescents with Refugee Background

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Abstract

Throughout adolescence, the ability to remember one's personal past and imagine one's personal future in the form of a coherent life story develops. This study explored adolescents' life stories in a group of adolescents with refugee background compared to community controls. In the refugee group, one or both parents had PTSD. Adolescents aged 10 to 18 narrated their past and future life stories and generated cultural life scripts. Contrary to expectations, refugee youth narrated past life stories that were as coherent and positive as community controls'. Interestingly, the refugee group imagined positive future life stories that were more coherent than the control group's. The refugee group mentioned important life themes of family of origin, own feelings, achievements and helping others. These themes were evident in both the cultural life script and the personal life stories, which might have contributed to more positive and coherent life stories in the refugee group.

Keywords: adolescents, refugees, past and future life stories, emotional tone, coherence, cultural life script

There is empirical evidence that community based adolescents are able to combine narratives of individual autobiographical memories into a coherent past life story (Bohn & Berntsen, 2008; Habermas & de Silveira, 2008) and to imagine a coherent future life story (Bohn & Berntsen, 2013). However, little is known about how adolescents with an unusual family history and psychological disorders in the family remember their past and imagine their personal future. In this study, the past and future life stories of refugee children of traumatized parents are compared to life stories of community controls. Investigating past life stories and especially expectations for the future in refugee children is highly important, because the population of forcibly replaced individuals is currently worldwide at a record high, and children under the age of eighteen make up 51 percent of these refugees – a much higher percentage than the estimated 31 percent children making up the world population (UNHCR). Little is known of the psychological impact of a traumatic family history, forced replacement, and the insecure situation of being an asylum-seeker on children's and adolescents' view on their personal past and possible future. This study seeks to start filling this gap in the literature.

The ability to remember the personal past and to imagine the personal future has been proposed to serve important functions, such as developing a coherent sense of self and maintaining identity, developing and maintaining social relations, and future planning (e.g., Bluck & Alea, 2008; Bohn & Berntsen, 2008; Conway & Pleydell-Pearce, 2000; Habermas & Bluck, 2000; McLean & Pasupathi, 2006). Research suggests that the social and cultural context surrounding the child affects the development of autobiographical memory (Reese & Fivush, 2008), meaning that life narratives are thought to be formed by individuals in close interaction with their social and cultural environments (e.g., Bohn & Berntsen, 2008; Habermas & Bluck, 2000; Habermas & Paha, 2001; McAdams, 2001). In this context, the family and its cultural background provides a powerful

frame for children and adolescents to understand their own experiences (Fivush, Bohanek, & Zaman, 2011) and their life narratives (Reese et al., 2014; Reese et al., 2017a).

The present study examines how a group of adolescents with a minority cultural background and an unusual family history remember their past and imagine their future life stories. Children of refugees do not only represent a cultural minority group, a high proportion of them also have parents who have been diagnosed with post-traumatic stress disorder (PTSD). How might having traumatized parents and an uncertainty of citizenship influence the way children of refugees see their past and imagine their personal future? For example, will their outlook on the future be more negative than that of Danish controls? Will refugees' families play a special role in their life stories? These are some of the questions that will be investigated in this study.

Refugees are individuals who have been forcibly displaced outside their native countries (Fazel, Wheeler & Danesh, 2005). A Danish study (Masma et al., 2008) found that 45% of asylum seekers had been exposed to torture before arriving to Denmark and that 63% of torture survivors fulfilled the criteria for post-traumatic stress disorder (PTSD). Other studies have found the prevalence of PTSD at about 9% for refugees resettled in Western host countries indicating that these are about ten times more likely to have PTSD than the general population (Fazel et al., 2005; Gerritsen et al., 2006; Rousseau, Pottie, Thombs, Munoz & Jurcik, 2011). PTSD and PTSD symptoms therefore constitute a major health problem amongst refugees and their children worldwide. Generally, children of traumatized parents have been found to experience more symptoms of anxiety, depression and post-traumatic stress and to be less psychologically well adjusted as well as to have higher levels of peer problems compared to children of non-traumatized immigrants and Danish peers (e.g., Daud, Klintberg & Rydelius, 2008; Leth, Niclasen, Ryding, Baroud & Esbjørn, 2014). Thus, children of traumatized refugees represent a minority group in their host country with an unusual family history and an uncertain future for the family. At the same

time, they are also at greater risk for psychological distress due to parental PTSD and difficult life circumstances, all of which might affect the way they view their past and especially how they imagine their future lives. In the current study, children and adolescents between 10-18 years of age with one or both parents diagnosed with PTSD participated. The group is referred to as *the refugee group*.

Life Stories

Personal life stories are mental representations of temporally, thematically, causally and culturally coherent accounts of one's own life (Habermas & Bluck, 2000; Bohn, 2010). Life stories are made up of memories of personally significant life events (both positive and negative), and their meaning in the context of the person's life. A coherent life story integrates the past with the present self and provides a sense of meaning and purpose for the person (e.g., Habermas & Bluck, 2000; McAdams, 2001; Pals, 2006). Research has shown that it is not until late middle childhood and adolescence that youths develop the ability to produce a coherent past life story (Bohn & Berntsen, 2008; Habermas & de Silveira, 2008; Köber & Habermas, 2017; Köber, Schmiedek & Habermas, 2015) and to imagine a coherent future life story (Bohn & Berntsen, 2013; Ramsgaard & Bohn, in prep.).

Findings from studies examining the influence of depressive symptoms, trauma and anxiety on autobiographical memory and future orientation in adolescents suggest that psychological distress might affect the ability to tell coherently and positively about both the past and when imagining the future. For example, Reese et al. (2017a) found a link between negative expressivity and depressive symptoms in adolescents across cultural groups. Regardless of culture, adolescents who expressed more negativity in their narratives also experienced more depressive symptoms, suggesting that higher levels of psychological distress are evident in the emotionality of life narratives in adolescents. In line with this, prior studies on both community based adolescents and

adolescents exposed to political violence have found that positive expectations for the future tended to decrease with increasing PTSD symptoms (Ruchkin et al., 2005; Solomon & Lavi, 2005). In another study, (Evans & Oehler-Stinnett, 2006), children that had been traumatized by a tornado one year prior to the study were asked to imagine positive future events like '*getting married*' and '*having children*'. One third of the children showed difficulties in imagining their future life measured by these events. Both '*getting married*' and '*having children*' are important cultural life script events (Berntsen & Rubin, 2004) and the most frequently mentioned events when children are asked to imagine their personal futures (Bohn & Berntsen, 2011, 2013; Ramsgaard, Bohn & Thastum, 2019), indicating that traumatized adolescents may have more difficulty envisioning cultural life script events in their personal future.

Despite the relation between the level of PTSD symptoms and having more negative perceptions of the future Solomon and Lavi (2005) still found that in general traumatized youths in Israel had a relatively positive future orientation. This was counter to their expectations and points to the fact that protective environmental factors might lessen the influence of trauma on imagining a positive future. One of those factors might be that the adolescents lived relatively normal lives having homes, food and getting an education, which supports positive expectations for the personal future (Solomon & Lavi, 2005). In line with this, in a study in Denmark, Leth et al. (2014) found that factors like education/school and prosocial behavior and a stable and supportive family life had a positive influence on the mental health of refugee children, including those with traumatized parents.

Generally, people of all ages spontaneously talk about their parents when recounting their personal life stories (Köber & Habermas, 2018). Researchers have underscored the importance of understanding one's own life story in the context of family with shared family stories and intergenerational narratives, i.e., narratives of the parents' life before the child was born (e.g.,

Fivush, 2008; Reese et al., 2017b). Shared family stories and intergenerational narratives offer the child a look into the parents' life story, which may impact values and life lessons and express family identity, thus facilitating interpersonal connectedness and understanding of others, and contributing to the child's identity and psychosocial well-being (e.g. Fivush & Merrill, 2016; Fivush, et al., 2011; Reese et al., 2014, Reese et al., 2017b). Research suggests that knowledge of shared family stories and intergenerational narratives might be especially important for the child in families with an unusual or traumatic family history. Several studies have found that war memories are transmitted across generations (e.g. Stone, van der Haegen, Luminet & Hirst, 2014; Svob, Brown, Takšić, Katulić & Žauhar, 2016; Tschuggnall & Welzer, 2002), and that war-related memories had a higher impact on identity and life decisions of the second generation than non-war related memories (Svob et al., 2016).

Family as a social unit is of course not isolated but rather embedded in a wider cultural context. In relation to this, previous research has shown that there is a strong socio-cultural influence on life story coherence in life narratives (e.g., Bohn & Berntsen, 2008, 2013; Habermas, 2007; Habermas & Bluck, 2000; Ramsgaard & Bohn, in prep.). Research suggests that knowledge of one's cultural group's expectations to how a life ideally is lived – represented by cultural life scripts (Berntsen & Rubin, 2004) - affects how adolescents tell their life story (Bohn & Berntsen, 2008, 2013; Ramsgaard & Bohn, in prep.).

Cultural life scripts are culturally shared assumptions as to the order and timing of important life events (Berntsen & Rubin, 2004). Through the acquisition of a cultural life script, adolescents learn what is expected of them in the future (Bohn & Berntsen, 2013) and to view both their personal past and future in an understanding of the culture they live in (Bohn & Berntsen, 2008, 2013; Habermas, 2007; Ramsgaard & Bohn, in prep.). The cultural life script has been examined across different cultures (e.g., Erdoğan, Baran, Avlar, Taş & Tekcan, 2008; Ottsen & Berntsen, 2014; Zaragoza

Scherman, Salgado, Shao & Berntsen, 2017) but to our knowledge, only one study has looked at cultural life scripts in an immigrant group in Western countries. Hatiboglu and Habermas (2016) investigated the cultural life script in a second generation of Turkish immigrants compared to native Germans. They found that migrants had a more normative cultural life script than native Germans. However, native Germans showed a greater overlap between important life events in their personal life story and cultural life script events than second generation immigrants. In the current study, participants will be asked for a cultural life script. However, unlike Hatiboglu and Habermas, we cannot compare the refugee groups' life scripts to life scripts from their cultures of origin, because no studies on these cultures' life script exist. The cultural life scripts generated in the refugee group will therefore only be compared to the Danish cultural life script. Still, this will be the first study to investigate how close refugee children's life scripts are to the life scripts of a Danish community sample.

Emotional Tone

The literature suggest that children of traumatized parents experience higher levels of distress, and that distress and trauma may be related to emotionality in narratives and the ability to imagine a positive future. One way to measure emotion in life stories is to count the number of positive and negative events in the stories, i.e. to measure the valence of the events (Bohn & Berntsen, 2008, 2013). Another way is to measure the overall emotional tone of the stories (McAdams et al., 2004). Emotional tone goes beyond the specific events, the valence of specific events and themes included in the narratives, in that emotional tone of a story has been found to be related to both the interpretation of events and individual differences (McAdams et al., 2004, 2006; Thomsen & Pillemer, 2017). In a recent study with community based adolescents (ranging from 10 to 17 years) we looked at the overall emotional tone of both past and future life stories across adolescence (Ramsgaard & Bohn, in prep). Results showed that the majority of past life stories had

a mixed emotional tone, whereas the vast majority of future life stories was positive in emotional tone. The results from the study support the notion that remembering the past positively, and especially imagining a positive future is related to maintaining a positive self-image (Grysmen, Prabhakar, Anglin & Hudson, 2013; Rasmussen & Berntsen, 2013; Özbek, Bohn & Berntsen, 2017). In a second study, Ramsgaard et al. (2019) found that adolescents diagnosed with an anxiety disorder produced past life stories with a negative emotional tone compared to community controls, who had emotionally mixed past life stories, even though both groups mentioned equally many negative events in their past life stories. Even though anxious adolescents told future life stories that were overall positive, their stories were still less positive than the control groups'. Further, anxious youths wrote less coherent life stories than the control group. Thus, having an anxiety disorder seems to have a detrimental impact on the ability to remember the personal past coherently and, importantly, to imagine one's personal future as positively and coherently as community controls. In the current study, we will investigate whether this also is the case in children of refugees diagnosed with PTSD.

The Present Study

The present study involved children of refugees (10 to 18 years of age) where one or both parents were diagnosed with PTSD, compared to a community control group. The age group corresponded well with previous studies on past (Bohn & Berntsen, 2008; Habermas & de Silveira, 2008; for review see Habermas & Paha, 2001; Habermas & Reese, 2015) and future life story abilities (Bohn & Berntsen, 2013; Ramsgaard & Bohn, in prep.). We used the same method as in prior studies on life stories and cultural life scripts (Bohn & Berntsen, 2008, 2013; Ramsgaard & Bohn, in prep.; Ramsgaard et al., 2019). Participants were asked to write their life stories and to imagine their future lives in an open-ended manner. Further, participants were asked to write about

a single autobiographical event of their last weekend as a baseline measure of general narrative ability.

Hypotheses

On the basis of the literature reviewed above, we had the following hypotheses. 1) Based on findings that life story coherence differs from general narrative coherence (Bohn & Berntsen, 2008, 2013; Ramsgaard et al., 2019), we expected both groups to produce single event stories that were equally coherent. 2) Based on the findings in anxious adolescents (Ramsgaard et al., 2019) we expected past life stories of adolescents in the refugee group to be less coherent, to contain more negative events and to have a more overall negative tone than life stories in the control group. 3) We expected the refugee group to have difficulty imagining a coherent and positive future compared to community controls. In relation to content in life stories, based on the literature above 4) we expected children of refugees to include fewer cultural life script events (measured by the Danish cultural life script) when remembering their pasts and imagining their futures. Further, we expected family to play an important role in the personal life stories in adolescents and especially in adolescents with a refugee background. 5) We therefore hypothesize more life themes of family of origin in the refugee group in personal life stories. 6) In relation to the past and future dimension, we expected to replicate differences between past and future life stories across groups (Bohn & Berntsen, 2013; Ramsgaard & Bohn, in prep.; Ramsgaard et al., 2019). Specifically, we expected future life stories to be less coherent, to contain more cultural life script events and more positive events, and to have a more positive overall emotional tone than past life stories in both groups. 7) Finally, we expected the refugee group to have less typical cultural life scripts (compared to a Danish adult life script) than community controls.

Method

Participants

Thirty-four children of traumatized refugees diagnosed with PTSD (14 boys; $M_{\text{age}} = 13.09$, $SD = 2.49$) and 34 community based adolescents matched on age and gender (14 boys, $M_{\text{age}} = 13.12$, $SD = 2.52$) participated. The adolescents' age ranged from 10 to 17 years with one participant in the refugee group being 18 years old. The refugee group were all either born in Denmark or arrived in Denmark below the age of 5 years. All attended Danish comprehensive schools and were fluent in Danish. One or both parents were diagnosed with PTSD due to war and/or imprisonment. The families were recruited from the *Center for Trauma and Torture Victims* (CTTV) from a midsized town in Denmark. The participants in the refugee group did not receive any treatment themselves, but either both or one of their parents attended a two year treatment program for PTSD. The refugee group participants came from Somalia ($n = 13$), Iraq ($n = 6$), Kosovo ($n = 4$), Afghanistan ($n = 3$), Kuwait ($n = 3$), Palestine ($n = 3$) and Bosnia ($n = 2$). Due to ethical considerations and agreements with the CTTV, we could not include any measures of PTSD in the questionnaire, and we did not have any access to the journals or information about the parents. The control group consisted of community volunteers with Danish background recruited at a comprehensive school. The study was approved by the Danish Data Protection Agency and the Scientific Ethical Committee of Region Midtjylland.

Procedure

The families in the refugee group were contacted by a family counsellor from CTTV. During the initial contact, the counsellor handed out an information sheet and told the family about the study. If the families were interested in participating, a date for participation was arranged. The families were informed at the initial contact that the study was in collaboration with CTTV, but that it was not part of the treatment and that participation/non-participation in the study would not affect

treatment. All parents received written information and signed an informed consent form and a separate form allowing the use of citations from the stories. All information was translated if the parents were not fluent in Danish. The family counsellor and the experimenter made sure that parents were well informed and understood the instructions. Data collection took place in the family's home or at CTTV.

The 34 participants in the control group were part of a larger sample of 162 participants (aged 10-17 years) recruited from a comprehensive school (Ramsgaard & Bohn, in prep.). Parents signed an informed consent form, and a separate form allowing citations from the stories. Data collection took place during regular school classes in each class grade. The 34 participants in the control group were selected based on their match on age and gender with the participants in the refugee group. If several participants in the control group matched a participant in the refugee group, selection was made randomly. All participants received a cinema ticket for participation.

Instructions

Participants in the refugee group met with the experimenter or one of two trained psychology students individually. We met with the participants individually either at the family home or at CTTV due to logistics, and to make sure the atmosphere was comfortable. In the control group, the study was conducted in a classroom setting during normal school hours by the first author. All participants were asked to fill in a front page with name and age before conducting the study. Participants were informed that their data would be anonymized and their names used only to match the different data sets. The investigator read the instructions from the questionnaire for all four parts aloud. Participants were informed that participation was voluntary and that they could stop at any point. Participants were told not to worry about handwriting or spelling when writing the stories, and that neither parents nor teacher would see their responses. They could either write on a computer, tablet or by paper and pencil method. In the refugee group, but not in the control group,

an audio version was also possible. The difference in method was to make participation in the study easy and comfortable for participants who might find a written assignment intimidating or might find it difficult to express themselves in writing (see Ramsgaard et al., 2019). Sixteen participants in the refugee group chose to use the audiotaped version. There were no statistical differences between participants using the audio versus the written condition, and data are therefore analyzed together in the following analyses. In all conditions, the investigator was present during the study to answer questions and read aloud the instructions for the tasks.

Measures

Based on previous work (Bohn & Berntsen, 2008, 2013; Ramsgaard et al., 2019) the following data were collected in the two groups. (1) A report about the past weekend (single event story); (2) a past life story; (3) a future life story; and (4) a cultural life script. The order of the four tasks was fixed with the cultural life script task presented last to prevent it from influencing answers on the other three tasks (Bohn, 2010). All four tasks were completed within one session and the session took approximately 1 to 2 hours. For the first task, participants were asked to write/tell about an event that had happened during the past weekend. These single event stories functioned as a baseline measure of narrative coherence to compare the ability to coherently write about a single autobiographical memory in the two groups (Bohn & Berntsen, 2013; Ramsgaard et al., 2019).

For *past life story* the instruction was: "Think about what has happened in your life since you were born and up to now. You can for example write about the most important things in your life, or what changes have happened in your life since you were born and up to now. Imagine that you are writing the story of your life to someone who would like to know something about you and the things that have happened in your life." (Bohn & Berntsen, 2013, p. 1235).

For *future life story* the instruction was: "Think about what could happen in your life from now and until you'll die. You can for example write about the most important things that will

happen in your life, and what changes that will happen in your life from now on and until you'll die. Imagine that you are writing the story of your future to someone who would like to know something about you and the things that you think will happen in your future" (Bohn & Berntsen, 2013, p. 1235).

For *cultural life scripts* participants were asked to imagine an ordinary newborn of their own gender and write down the ten most important events they thought would happen in the newborn's life across the life span. Participants were also asked to report the expected age at the event (Berntsen & Rubin, 2004). Participants were told that there were no right or wrong answers.

Scorings

Weekend stories. The single autobiographical event stories (weekend stories) were coded for general narrative coherence using Bohn and Berntsen's scale (2008) which is an adapted version of Peterson and McCabe's (1983) scale for measuring single narratives' coherence. Scorings were 0 = *Disoriented pattern*: the narrative is too confused or disoriented for the listener to understand; 1 = *Chronological pattern*: the narrative is a simple description of successive events ("and then, and then"); 2 = *Chronological, interesting pattern*: the narratives describes successive events in detail and interestingly (use of adjectives, adverbs, and subordinate clauses); 3 = *Classic pattern*: the narrative builds to a high point, evaluative dwells on it, then resolves it (Bohn & Berntsen, 2008). Story length was measured by word count. Weekend stories were also coded for overall emotional tone on a 5-point Likert scale based on McAdams et al. (2001, 2004, 2006). Scorings were -2 = *very negative*, -1 = *negative*, 0 = *mixed (neutral)*, 1 = *positive* and 2 = *very positive*. Forty-eight percent of the weekend stories were scored by two raters. Interrater agreement were satisfactory to high with inter-class correlations for weekend stories: coherence; .78 and emotional tone; .85. Disagreements were resolved by discussion, and the remaining stories were scored by one rater.

Past and Future Life Stories

Coherence. Global life story coherence in past and future life stories was measured by the scale developed by Bohn and Berntsen (2008). The scores were 0 = *life story consist of a single episode*; 1 = *several episodes, loosely ordered chronologically*; 2 = *chronological order, episodes are tied together chronologically*; 3 = *evaluative narrative*. Story length was measured by word count.

Emotional tone. Like the weekend stories, past and future life stories were coded for overall emotional tone on the 5-point Likert scale described above. Two raters scored all past and future life stories. Interrater agreement was satisfactory to high with an intra-class correlation of .84 for past and .78 for future. Disagreements were solved by discussion.

Cultural life script events in life stories. The number of life script events mentioned in the past and future life stories was scored by counting events that corresponded to one of the 41 life script event categories in the adult norm defined in earlier research with Danish adults (Bohn & Berntsen, 2008). All life story events were rated on emotional valence (positive, negative and neutral). All events, also non-life script events, were counted to get the number of total events included in the life stories. Two raters scored all variables in sixty-one percent of the past and future life stories. Interrater agreement was high with intra-class correlations for past life stories between .85 and .97 and for future between .89 and .99. Disagreements were resolved by discussion. The remaining stories were scored by one rater.

Cultural life scripts. Bohn and Berntsen (2008) established an adult norm for life script typicality. One hundred eleven Danish adults wrote down the ten most important events they thought would happen in an average newborn's life of the same gender and estimated the age of the events as well. Events had to be mentioned by at least 4% of participants to fulfill the requirement for a life script category. This resulted in an adult life script norm consisting of 41 event categories

(Bohn & Berntsen, 2008). In the present study, life scripts were classified according to the 41 event categories in the established adult norm from 2008. Two raters scored all cultural life scripts. Cohen's κ was run to determine agreement between the two raters. There was high agreement between the two raters, $\kappa = .90$, $p < .001$. Disagreements were solved by discussion.

To measure the typicality of the life script events mentioned by the participants, the life scripts were scored using the *typicality score* (Bohn & Berntsen, 2008). The typicality score was based on how often a life script event had been mentioned by an adult. For example, *having children* was mentioned by one hundred of the one hundred eleven adult participants in Bohn and Berntsen (2008). Thus, this event has the typicality score of 100. Typicality scores for all 10 events were summed up to make up the final typicality score. The higher the youth scored on the typicality score, the more typical or normative his or her life script was considered to be (Bohn & Berntsen, 2008, 2013; Ramsgaard et al., 2019).

Results

One participant in the refugee group did not produce a single event story. Therefore, we ran all analyses with the corresponding data (one single event story) from the matched control removed, so number of participants were the same for both groups in all analyses, but smaller than the total number of participants in single event stories. First, results comparing the refugee and control group will be presented, then, results on comparisons of past and future life stories.

Statistical Analyses

Independent sample t-tests were conducted to examine differences between the refugee group and the control group in single event stories and life script typicality. In order to examine differences between the refugee group and control group in past and future life stories, repeated-measures analyses of variance (ANOVAs) were conducted. Paired sample t-tests were hereafter conducted to examine coherence in past and future life stories.

To examine the distribution of coherence scorings and contents of past and future life stories chi-square analyses were conducted.

Refugee Group vs Control Group

General narrative coherence. There were no differences between the refugee group and the control group on word count ($M_{refugee} = 76.73$, $SD = 86.51$; $M_{control} = 79.42$, $SD = 66.15$, $t(64) = -.14$, $p = .89$, $d = 0.04$), coherence ($M_{refugee} = 1.21$, $SD = .48$; $M_{control} = 1.45$, $SD = .56$, $t(64) = -1.87$, $p = .07$, $d = 0.46$) and emotional tone ($M_{refugee} = .94$, $SD = .75$; $M_{control} = .97$, $SD = .77$, $t(64) = -.16$, $p = .87$, $d = 0.04$), in single event stories. Thus, there were no differences in general narrative ability between the two groups, supporting our first hypothesis.

Life Stories. Table 1 shows the means, standard deviations (SD), main effects and interactions of life story variables and effect sizes in the two groups for past and future conditions with time (past vs. future) as a within-subject factor and group (refugee vs. control) as a between subject factor. There was a main effect of group (refugee vs control) on percentages of life script events and percentages of positive events with the refugee group overall including a lower percentage of life script events and positive events in both past and future life stories than the control group.

Counter to our predictions (hypotheses 2 and 3), the refugee group did not report a higher percentage of negative events and did not have a more negative emotional tone in their life stories. Further, there was no main effect of group on life story coherence, but an interaction between time and group. Interestingly, paired t-tests showed that, in the refugee group, participants were as good at coherently imagining their personal future as they were at remembering a coherent past life story ($t(33) = .90$, $p = .38$), whereas in the control group, future life stories were significantly less coherent than past life stories ($t(33) = 5.15$, $p < .001$).

Life Story contents. Tables 2 and 3 show life script and non-life script events mentioned by both groups in past and future life stories. Data is reported in percentages of the total number of participants mentioning the events in each group rank ordered by the refugee group. Categories mentioned by less than four participants are not included. In line with hypothesis 4, the refugee group mentioned fewer life script events in both the past and future condition than the control group (see Tables 2 and 3). Both concerning life script and non-life script events, the categories mentioned in the two groups generally overlapped to a high degree, and for only one life script category in past life stories there was a significant difference. '*Other's death*' was mentioned by 35.2% of participants in the control group and only 2.9% (one participant) in the refugee group, ($\chi^2(1) = 11.51, p = .001$, Cramer's $V = .41$). Death of grandparents covered this category in both groups.

Non-life script events mentioned were mostly concerned with *own well-being*, *school*, *friends* and *family situation* in both groups (see Table 2). However, in the refugee group, life events of the parents and older siblings, including the flight to Denmark and the uncertainty and risk of repatriation, were mentioned. Both groups often mentioned the well-being of parents. In the refugee group, this was usually related to *PTSD* and *physical well-being* in relation to the disorder, whereas in the control group *cancer*, *psychological well-being* and *substance abuse* of parents were mentioned in this category.

Table 3 shows that also in future life stories, there was a high degree of overlap and only few significant differences between the two groups in how often life script categories were mentioned. The refugee group mentioned *career* ($\chi^2(1) = 4.30, p = .04$, Cramer's $V = .25$) significantly more often than the control group, and the control group mentioned *adult relationship*, ($\chi^2(1) = 5.10, p = .02$, Cramer's $V = .27$) significantly more than the refugee group. Also in the non-life script categories in future life stories both groups focused on many of the same topics, but the refugee youth were more likely to focus on *family*, ($\chi^2(1) = 8.17, p = .004$, Cramer's $V = .35$) and

helping others, ($\chi^2(1) = 3.98$, $p = .05$, Cramer's $V = .24$) in their future life stories than controls, supporting hypothesis 5.

In line with previous findings (Bohn & Berntsen, 2013; Ramsgaard & Bohn, in prep.) and hypothesis 6, there were main effects of time on length, coherence, percentages of life script events and percentages of positive and negative events in the life stories (see Table 1). In both groups, past life stories were longer, and contained a lower percentage of life script events than future life stories. Negative events were more prominent in past than future life stories in both groups, and the future was overall viewed as more positive than the past (Bohn & Berntsen, 2013; Ramsgaard et al., 2019).

Cultural Life Script. As expected (hypothesis 7), the refugee group had a less typical life script than the Danish control group ($M_{refugee} = 180.53$, $SD = 122.78$; $M_{control} = 284.88$, $SD = 138.19$, $t(66) = -3.29$, $p = .002$, $d = 0.8$). More than half of the events (50.9%) mentioned by the refugee group were categorized as 'other' compared to only 17.8% of 'other' events in the control group ($\chi^2(1) = 69.63$, $p < .001$, Cramer's $V = .35$). We scored 'other' events into new categories if at least 4% of participants mentioned this event, and found nine overarching categories. Table 4 shows the percentages, mean age and standard deviations of cultural life script categories mentioned in the two groups and the additional coding of 'other' categories.

Discussion

This study is, to our knowledge, the first to investigate past and future life stories in youths with traumatized refugee parents, providing first evidence that children of traumatized refugees do not seem to have difficulties producing meaningful past and future life stories. Counter to our expectations, the refugee group did not produce less coherent and more emotionally negative life stories than the community controls. Interestingly, the refugee group, but not the control group, produced future life stories that were as coherent as their past life stories, whereas the control group

produced more coherent past than future life stories. The differences in life story coherences between the two groups are all the more interesting, as there were no group differences in general narrative ability as measured by single event story coherence. The refugee group mentioned fewer positive life events and fewer cultural life scripts events (based on a Danish life script) in both past and future life stories than the control group. As expected, the refugee group also generated a less normative Danish cultural life script than the control group. The refugee group more often included important life themes of family, friends, helping others and achieving dreams in their life stories indicating that family as a context for developing is central and important to life story and identity, and maybe more important in families with an unusual background or uncertain family situation.

Life Stories

We did not find the expected negative emotional tone and difficulties in producing coherent life stories in the refugee group, as was found in a group of adolescents diagnosed with anxiety (Ramsgaard et al., 2019). Past life stories in the two groups were similar in that they contained both positive and negative events and that the overall emotional tone was mixed or slightly positive. The future life stories in the two groups were highly positive and contained few negative events. However, the refugee group mentioned fewer positive events in both past and future life stories compared to the control group. The finding is in line with findings from PTSD patients, with patients reporting fewer positive events (Sutherland & Bryant, 2005). Interestingly, the lower number of positive events did not go together with a less positive emotional tone in the life stories of the refugee group.

The refugee group did not show the expected difference in coherence between past and future life stories. One explanation for this might be the themes evident in both past and future life stories in the refugee group. In the refugee group's life stories, there were important themes of family, friends and school/career in both past and future. This might indicate that refugee youths

place their own life story more within the frame of a family (e.g., Fivush, 2008; Fivush et al., 2011; Fivush & Merrill, 2016; Reese & Fivush, 2008), and that placing their own life stories within a strong family context provided context and direction for the personal life story to unfold; possibly contributing to more coherent and overall positive life stories. This is in line with studies providing evidence for the importance of maternal scaffolding in adolescents when discussing emotional events (McLean & Mansfield, 2012) and studies showing that parental involvement and support during adolescence has a long-term impact on emerging adults' ability to integrate personal low points meaningfully into their life stories (Dumas, Lawford, Tieu & Pratt, 2009). Further, studies have shown that people showed a positivity bias when imagining their own personal future and that of a close friend, but not a distant friend (Gryzman et al., 2013), and when imagining their own personal future and the future of their families (Shrikanth, Szpunar & Szpunar, 2018). These findings provide some evidence that including one's family when thinking about the future might lead to a more positive outlook on the future.

An example of the importance placed on family in the refugee group was the descriptions of events from parents' or siblings' life stories. Many emphasized positive aspects of being part of the family, but in some of the personal life stories of refugee youths the imprisonment and flight of the parent were described, even though the adolescent had not yet been born at the time or was too young to have any personal memories of the events. The descriptions of parents' stories seem to indicate that as in the study with second-generation post-war Croatians, in the refugee group there was an awareness of parents' stories and important negative events from the parents' life (Svob et al., 2016). Inclusion of parental narratives and negative events may indicate that for some of the participants, intergenerational narratives might function as a frame for beginning their own life story, contributing to the formation of the life narrative and identity of the adolescent. Interestingly, negative accounts from a parent's life story did not color the emotional tone of the personal life

stories of the adolescents more negatively. Thus, one might speculate that parental PTSD did not seem to affect the ability to evaluate, structure and tell coherently and positively about the personal life in the refugee group.

The status of being a refugee and the uncertainty of the future (e.g. obtaining permanent residency/citizenship) has an influence of the daily life and the identity of the individual, the family and the cultural group. Several event categories in the refugee life stories were uniquely tied to being refugees and living in a host country. In past life stories, the refugee group participants mention events related to refugee status such as *immigration denied*, *separated from parents*, *escape from war*, *prior housing* (e.g. asylum centers), *parental illness (PTSD)* and *being happy about living in Denmark*. In future life stories *family of origin* (parents and siblings) was often mentioned along with *helping others* and *live in country of origin*, which point to the concerns and importance of the family in the future. The refugee group was also occupied with themes of *career*, *being successful in what I do* and *achieving dreams*, representing personal goals that will most likely have a positive influence on the family. To illustrate, one adolescent wrote: “*My family is amazing, that they believe that I can become a doctor. My entire family believes in me*”. Even though family was also important in the control group, there was a greater emphasis on family of origin in the refugee group, especially in future life stories.

The finding that the refugee group imagined positive personal futures is in line with findings in the study of traumatized youths in Israel. Solomon and Lavi (2005) found that adolescents had an overall positive future orientation. They explained this surprising finding with the fact that the adolescents had stability in family and home and the opportunity to go to school. Daud et al. (2008) also proposed that having a supportive family and adequate relations to peers and others are main protective factors for children of traumatized refugees, and that these protective factors further facilitate the children's social competence. In the current study, school, family and friends were

important themes in the life stories of both groups, maybe pointing to important protective factors in the ability to tell a positive life story of the past and, even more so, imagining a positive future.

Results from the current study suggest that parental trauma and an unusual family history do not necessarily negatively affect children's ability to tell a coherent and meaningful past and future life story and did not result in a more negative emotional tone when remembering the past and, most importantly, when imagining the future.

Cultural Measure of Coherence

The finding that refugee youths told as coherent life stories as community based adolescents might also be partly understood through the way coherence was measured in the current study. Reese et al. (2017a) have argued that measures of causal coherence in life narratives may be biased toward European, independently oriented individuals, and that thematic coherence comprises a broader range of narrative coherence skills, which provides a culturally fairer measure of narrative coherence. Thematic coherence may be especially useful for tapping narrative coherence in interdependently oriented individuals and cultures (Reese et al., 2017) or in cultural groups where the family history seems especially important for both the present family situation and the future in these families, like refugees. In the coding of life stories in this study, there was an emphasis on content of life stories, and on how the adolescents evaluate, structure and tell coherently about life events. The interest was on the global coherence of life stories and it could therefore be argued that the way life stories were scored for coherence here captured both the thematic and causal coherence in life stories, which might partly explain why we do not find a difference in coherence between the two groups.

Cultural Life Script

In both the refugee group and community controls, future life stories consisted mainly of cultural life script events. This supports the hypothesis that imagining the future relies on script-like

and semantic knowledge, and that the acquisition of a cultural life script is important for the ability to imagine and take responsibility for the personal future within the culture one lives (Bohn & Berntsen, 2013; Ramsgaard & Bohn, in prep.). Results from the current study show that also for adolescents of traumatized refugee parents the cultural life script plays an important role for the ability to make sense of one's personal past and, importantly, to imagine one's personal future positively and coherently. As in the study by Hatiboglu and Habermas (2016), we did find that refugee youths mentioned fewer life script events in both past and future life stories compared to the control group.

In line with our expectations, we found that the refugee group had less normative cultural life scripts than the control group, compared to a Danish life script. One possible explanation might be related to the status of being a refugee with a different cultural family background. Hatiboglu and Habermas (2016) hypothesized that the state of being a migrant requires integration of two different prototypical life courses, and that this combination might lead to less normative life scripts in second generations of immigrants. One could expect that this also applies to refugee groups and might explain the difference in normativity. However, Hatiboglu and Habermas (2016) did not find support for this hypothesis in their sample of second generation immigrants in Germany. When we compare the infrequent or idiosyncratic categories mentioned in the cultural life scripts in the refugee group to cultural life scripts collected in earlier studies, like in Erdogan et al. (2008) and Ottsen et al. (2014) the adolescents in the refugee group do not mention religious events or other event types specifically related to the cultural background of the parents. We did find clusters of event types focusing on *school*, *family*, *own feelings* and *good life*.

In line with this observation, additional coding of the 'other' categories in the cultural life script revealed eight overarching categories. The eight categories were in line with the dominant themes and events found in the personal life stories of the refugee group. The eight additional

categories in the cultural life script were *go to school, family, mid-life adulthood, own feelings, travels, driver's license, good life* and *friends/friendships*. We have not generated a separate cultural life script for the refugee group as the sample size is small but one might expect, that including the eight additional categories in the life script as cultural life script events would result in a more normative life script in the refugee group.

Limitations

The sample size in the study is relatively small and our study included several different ethnic groups. However, both the number and the age group in the present study correspond to other studies of traumatized refugees and their children (e.g., Daud et al., 2008; Leth et al., 2014) and to studies of youths with clinical disorders (Ramsgaard et al., 2019). The parents in the families were in therapy for PTSD and the therapeutic approach was highly family oriented. The parents had complicated PTSD, but we do not know if only families participated who, considering their circumstances, were well functioning and involved in the well-being of their children. We had no access to information about the participating families nor the non-responders, except that all had at least one parent diagnosed with PTSD, i.e. our participants might all come from relatively well-functioning families.

Implications and Future Research

Reese et al. (2017) found that narrative identity was uniquely relevant for all aspects of adolescent well-being across cultures. The same might be the case for refugee youths with a negative and unusual family history and parental psychopathology. In the current study we found that the refugee group was good at telling coherent and meaningful life stories of both past and future and that life stories were positive. It could be interesting to conduct a longitudinal study to investigate whether the refugee group in the study will be able to fulfill their ideas about the future with achievements like careers and living in harmony with their family of origin - or whether there

will be discrepancies between the imagined future and reality, and how this will affect the adolescents later in life. Further, an interesting question to disentangle in future studies is whether the strong themes in the cultural life script in the refugee group is evident because the participants have a refugee background or because the participants originally come from different countries and cultures. Future studies including a larger and more homogenous sample might be able to disentangle this question. Other interesting aspects to investigate in future studies will be to look at family characteristics such as family stories or importance and sharing of intergenerational narratives in traumatized and non-traumatized refugee families.

Conclusion

The current study provided evidence that children of traumatized refugee parents produce past and future life stories that are as coherent and positive as those of community controls'. Interestingly, refugee youths had strong themes of family in both past and future life stories, which might have contributed to their life stories being more coherent and positive. The adolescents in the refugee group were able to imagine a positive future indicating that parental psychopathology did not influence the children's ability to imagine a positive future for themselves. Only longitudinal studies can shed light on, whether this optimism and hopefulness will become a reality in the refugees' lives.

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References

- Bluck, S., & Alea, N. (2008). Remembering being me: The self-continuity function of autobiographical memory in younger and older adults. In F. Sani (Ed.), *Self-continuity: Individual and collective perspectives*, (pp. 55-70). New York: Psychology Press.
- Berntsen, D., & Rubin, D. C. (2004). Cultural life scripts structure recall from autobiographical memory. *Memory & Cognition*, 32, 427-442. doi: <https://doi.org/10.3758/BF03195836>
- Bohn, A. (2010). Normative ideas of life and autobiographical reasoning in life narratives. In T. Habermas (Ed.), *The development of autobiographical reasoning in adolescence and beyond: New directions for child and adolescent development* (Vol. No. 131, pp. 19-30). San Francisco, Wiley Periodicals, Inc. Wiley Company.
- Bohn, A., & Berntsen, D. (2008). Life story development in childhood: The development of life story abilities and the acquisition of cultural life scripts from late middle childhood to adolescence. *Developmental Psychology*, 44(4), 1135-1147. doi: 10.1037/0012-1649.44.4.1135
- Bohn, A., & Berntsen, D. (2011). The reminiscence bump reconsidered: Children's prospective life stories show a bump in young adulthood. *Psychological Science*, 22(2), 197-202. doi: 10.1177/0956797610395394
- Bohn, A., & Berntsen, D. (2013). The future is bright and predictable: The development of prospective life stories across childhood and adolescence. *Developmental Psychology*, 49(7), 1232-1241. doi: 10.1037/a0030212
- Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, 107(2), 261-288. doi: 10.1037/0033-295X.107.2.261
- Daud, A., Klinteberg, B., & Rydellius, P. A. (2008). Resilience and vulnerability among

refugee children of traumatized and non-traumatized parents. *Child and Adolescent Psychiatry and Mental Health*, 2(7). doi: 10.1186/1753-2000-2-7

Dumas, T. M., Lawford, H., Tieu, T., & Pratt, M. W. (2009). Positive parenting in adolescence and its relation to low point narration and identity status in emerging adulthood: A longitudinal analysis. *Developmental Psychology*, 45(6), 1531-1544. doi: 10.1037/a0017360

Erdoğan, A., Baran, B., Avlar, B., Taş, C. A., & Tekcan, A. İ. (2008). On the persistence of positive events in life scripts. *Applied Cognitive Psychology*, 22(1), 95-111. doi: 10.1002/acp.1363

Evans, L. G., & Oehler-Stinnett, J. (2006). Structure and prevalence of PTSD symptomology in children who have experienced a severe tornado. *Psychology in the Schools*, 43(3), 283-295. doi: <https://doi.org/10.1002/pits.20150>

Fazel, M., Wheeler, J., & Danesh, J. (2005). Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *The Lancet*, 365(9467), 1309-1314. doi: 10.1016/S0140-6736(05)61027-6

Fivush, R. (2008). Remembering and reminiscing: How individual lives are constructed in family narratives. *Memory Studies*, 1(1), 49-58. doi: 10.1177/1750698007083888

Fivush, R., Bohanek, J. G., & Zaman, W. (2011). Personal and intergenerational narratives in relation to adolescents' well-being. *New Directions for Child and Adolescent Development*, 131, 45-57. doi: <https://doi.org/10.1002/cd.288>

Fivush, R., & Merrill, N. (2016). An ecological systems approach to family narratives. *Memory Studies*, 9(3), 305-314. doi: 10.1177/1750698016645264

Gerritsen, A. A. M., Bramsen, I., Deville, W., van Willigen, L. H. M., Hovens, J. E., & van der Ploeg, H. M. (2006). Physical and mental health of Afghan, Iranian and Somali asylum seekers and refugees living in the Netherlands. *Social Psychiatry Psychiatric Epidemiology*, 41(1), 18-26. doi: <https://doi.org/10.1007/s00127-005-0003-5>

- Grysmann, A., Prabhakar, J., Anglin, S. M., & Hudson, J. A. (2013). Self-enhancement and the life script in future thinking across the lifespan. *Memory*, 23(5), 774-785. doi: 10.1080/09658211.2014.927505
- Habermas, T. (2007). How to Tell a Life: The development of the cultural concept of biography. *Journal of Cognition and Development*, 8(1), 1-31. doi: /10.1080/15248370709336991
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126(5), 748-769. doi: 10.1037/0033-2909.126.5.748
- Habermas, T., & de Silveira, C. (2008). The development of global coherence in life narratives across adolescence: Temporal, causal and thematic aspects. *Developmental Psychology*, 44(3), 707-721. doi: 10.1037/0012-1649.44.3.707
- Habermas, T., & Paha, C. (2001). The development of coherence in adolescents' life narratives. *Narrative Inquiry*, 11(1), 35-54. doi: 10.1075/ni.11.1.02hab
- Hatiboglu, N., & Habermas, T. (2016). The normativity of life scripts and its relation with life story events across cultures and subcultures. *Memory*, 24(10), 1369-1381. doi: 10.1080/09658211.2015.11111389
- Köber, C., & Habermas, T. (2017). Development of temporal macrostructure in life narratives across the life span. *Discourse Processes*, 54(2), 143-162. doi: <https://doi.org/10.1080/0163853X.2015.1105619>
- Köber, C., & Habermas, T. (2018). Parents' traces in life: When and how parents are presented in spontaneous life narratives. *Journal of Personality*, 86(4), 679-697. doi: <http://dx.doi.org/10.1111/jopy.12350>
- Köber, C., Schmiedek, F., & Habermas, T. (2015). Characterizing lifespan development of three aspects of coherence in life narratives: A cohort-sequential study. *Developmental Psychology*, 51(2), 260-275. doi: 10.1037/a0038668

- Leth, I., Niclasen, J., Ryding, E., Baroud, Y., & Esbjørn, B. H. (2014). Psychological difficulties among children and adolescents with ethnic Danish, immigrant or refugee background. *Scandinavian Journal of Child and Adolescent Psychiatry and Psychology*, 2(1), 29-37.
- Masma, T. N., Møller, E., Buhmann, C., Bunch, V., Jensen, J. H., Hansen, T. N., Jørgensen, L. M., Kjær, C., Mannstaedt, M., Oxholm, A., Skau, J., Theilade, L., Worm, L., & Ekstrøm, M. (2008). Asylum seekers in Denmark. *Torture*, 18(2), 77-86.
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, 5(2), 100-122. doi: 10.1037/1089-2680.5.2.100
- McAdams, D. P., Anyidoho, N. A., Brown, C., Huan, Y. T., Kaplan, B., & Machado, M. A. (2004). Traits and stories: Links between dispositional and narrative features of personality. *Journal of Personality*, 72(4), 761-784. doi: <https://doi.org/10.1111/j.0022-3506.2004.00279.x>
- McAdams, D. P., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, K., White, K. W., & Pals, J. L. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality*, 74(5), 1371-1400. doi: 10.1111/j.1467-6494.2006.00412.x
- 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. doi: 10.1177/0146167201274008
- McLean, K. C., & Mansfield, C. D. (2012). The co-construction of adolescent narrative identity: Narrative Processing as a function of adolescent age, gender, and maternal scaffolding. *Developmental Psychology*, 48(2), 436-447. doi: 10.1037/a0025563

- McLean, K. C., & Pasupathi, M. (2006). Collaborative narration of the past and extraversion. *Journal of Research in Personality*, 40(6), 1219-1231. doi: 10.1016/j.jrp.2005.11.006
- Ottson, C. L., & Berntsen, D. (2014). The cultural life script of Qatar and across cultures: Effects of gender and religion. *Memory*, 22(4), 390-407. doi: 10.1080/09658211.2013.795598
- Özbek, M., Bohn, A., & Berntsen, D. (2017). Imagining the personal past: Episodic counterfactuals compared to episodic memories and future projections. *Memory and Cognition*, 45, 375-389. doi: <https://doi.org/10.3758/s13421-016-0671-2>
- 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), 1080-1109. doi: 10.1111/j.1467-6494.2006.00403.x
- Peterson, C., & McCabe, A. (1983). *Developmental psycholinguistics: Three ways of looking at a child's narrative*. New York, NY: Plenum Press.
- Ramsgaard, S. B., & Bohn, A. (in preparation). The development of past and future life stories across adolescence: Overall emotional tone, coherence and life script events.
- Ramsgaard, S. B., Bohn, A., & Thastum, M. (2019). Past and Future Life Stories in Adolescents with Anxiety Disorders: A Comparison with Community Controls. *Memory*. doi: 10.1080/09658211.2019.1595660
- Rasmussen, A. S., & Berntsen, D. (2013). The reality of the past versus the ideality of the future: Emotional valence and functional differences between past and future mental time travel. *Memory and Cognition*, 41(2), 187-200. doi: 10.3758/s13421-012-0260-y
- Reese, E., & Fivush, R. (2008). The development of collective memory. *Memory*, 16(3), 201-212. doi: 10.1080/09658210701806516

Reese, E., Chen, Y., McAnally, H. M., Myftari, E., Neha, T., Wang, Q., & Jack, F. (2014).

Narratives and traits in personality development among New Zealand Māori, Chinese, and European adolescents. *Journal of Adolescence*, 37(5), 727-737.

doi: 10.1016/j.adolescence.2014.02.005

Reese, E., Myftari, E., McAnally, H. M., Chen, Y., Neha, T., Wang, Q., Jack, F., & Robertson, S.

(2017a). Telling the tale and living well: Adolescent narrative identity, personality traits, and well-being across cultures. *Child Development*, 88(2), 612-628. doi: 10.1111/cdev.12618

Reese, E., Fivush, R., Merrill, N., Wang, Q., & McAnally, H. (2017b). Adolescent's

intergenerational narrative across culture. *Developmental Psychology*, 53(6), 1142-1153.

doi: 10.1037/dev0000309

Rousseau, C., Pottie, K., Thombs, B. D., Munoz, M., & Jurcik, T. (2011). Appendix 11: Post

traumatic stress disorder: evidence review for newly arriving immigrants and refugees.

CMAJ. doi: 10.1503/cmaj.090313

Ruchkin, V., Schwab-Stone, M., Jones, S., Cicchetti, D. V., Koposov, R., & Vermeiren, R. (2005).

Is posttraumatic stress in youth a culture-bound phenomenon? A comparison of symptom trends in selected U.S. and Russian communities. *American Journal of Psychiatry*, 162(3), 538-544. doi: 10.1176/appi.ajp.162.3.538

Shrikanth, S., Szpunar, P. M., & Szpunar, K. K. (2018). Staying positive in a dystopian future: A

novel dissociation between personal and collective cognition. *Journal of Experimental Psychology, General*, 147(8), 1200-1210. doi: 10.1037/xge0000421

Solomon, Z., & Lavi, T. (2005). Israeli youth in the second intifada: PTSD and future orientation. *J.*

AM. ACAD. Child Adolescence Psychiatry, 44(11), 1167-1175. doi:

10.1097/01.chi.0000161650.97643.el

- Stone, C. B., van der Haegen, A., Luminet, O., & Hirst, W. (2014). Personally relevant vs. nationally relevant memories: An intergenerational examination of World War II memories across and within Belgian French-speaking families. *Journal of Applied Research in Memory and Cognition*, 3(4), 280-286. doi: 10.1016/j.jarmac.2014.08.002
- Svob, C., Brown, N. R., Takšić, V., Katulić, K., & Žauhar, V. (2016). Intergenerational transmission of historical memories and social-distance attitudes in post-war second-generation Croats. *Memory & Cognition*, 44(6), 846-855. doi: 10.3758/s13421-016-0607-x
<https://doi.org/10.1348/014466505X64081>
- 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(4), 464–480. doi: 10.1111/jopy.12253
- Tschuggnall, K., & Welzer, H. (2002). Rewriting memories: Family recollections of the national socialist past in Germany. *Culture & Psychology*, 8(1), 130-145. doi: 10.1177/1354067X02008001625
- UNHCR (2017). Global trends – forced displacement in 2016. Retrieved from <http://www.unhcr.org/5943e8a34.pdf>
- Zaragoza Scherman, A., Salgado, S., Shao, Z., & Berntsen, D. (2017). Life script events and autobiographical memories of important life story events in Mexico, Greenland, China and Denmark. *Journal of Applied Research in Memory and Cognition*, 6(1), 60-73. doi: 10.1016/j.jarmac.2016.11.007

Table 1

	Refugee				Control				Main effects				Interaction	
	Past (n = 34)		Future (n = 34)		Past (n = 34)		Future (n = 34)		Time		Group		Time x Group	
Dependent variable	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	η_p^2	<i>F</i>	η_p^2	<i>F</i>	η_p^2
Life length	221.79	192.74	132.62	157.43	230.91	177.22	75.97	66.50	51.17***	.44	.49	.05	3.71	.05
Life coherence	2.15	0.96	2.00	0.85	2.38	0.82	1.68	0.94	15.90***	.19	.06	.00	6.83*	.09
% LS in life	12.71	12.76	45.69	28.45	27.07	18.72	52.86	20.65	70.27***	.52	8.08**	.11	1.05	.02
% neg in life	36.35	28.47	3.20	10.02	26.95	18.16	.41	1.65	100.49***	.61	3.61	.05	1.23	.02
% pos in life	44.10	28.22	90.42	14.22	55.39	19.93	94.72	8.10	162.34***	.72	5.46*	.08	1.08	.02
Emotional tone	0.09	0.90	1.00	0.60	0.15	0.74	1.15	0.61	111.63***	.63	.47	.01	.24	.00

Note. Life length = number of words in life stories; Life coherence = global coherence of life stories; % LS in life = percentage of life script events in stories, % neg in life = percentage of negative events in life stories; % pos in life = percentage of positive events in life stories; Emotional tone = overall emotional tone in life stories.

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

Results from overall ANOVAs on Life Story Variables comparing Time and Group

Table 2

Life Script and Non-Life Script Events in Past Life Stories (in Percentages; Rank Ordered by Refugee Group)

Life Script events	Refugees (n = 34)	Control (n = 34)
Own birth	38.24	58.82
Begin school	32.35	26.47
Begin hobby/sports	23.53	44.12
Siblings	17.65	35.29
Begin day care (3 +)	11.76	29.41
Go to high school	11.76	2.94
Career	11.76	2.94
Parent's divorce	11.76	26.47
Parent's death	5.88	--
College/secondary education	2.94	2.94
Begin day care (0.5 +)	2.94	8.82
Get a job	2.94	2.94
First friend	2.94	2.94
Puberty	2.94	--
Other's death	2.94	35.29**
Finish ninth grade	2.94	--
Fall in love	--	2.94
Confirmation	--	14.71
Long trip	--	8.82
Special birthday	--	5.88
Continuation school	--	5.88
Leave home	--	2.94
Baptism	--	2.94
Non-Life Script events		
Friends/ class mates	32.35	29.41
Happy about school	23.53	17.65

Holidays	23.53	38.24
Happy about family	23.53	17.65
Personally feeling bad	23.53	14.71
Do poorly in school	23.53	14.71
Parents ill	20.59	14.71
(physically/psychologically)		
Prior house/area	17.65	--
Good childhood (ordinary)	11.76	26.47
Happy about current house	11.76	2.94
Happy about Denmark	11.76	--
Immigration denied	11.76	--
Separated from parents (due to imprisonment or war)	11.76	--
The escape from war	11.76	--
Problems in the family	8.82	17.65
Experiences with family	2.94	17.65
Sports club	2.94	11.76
Teased in school	--	11.76
Mourning over grandparents	--	11.76

Note. Asterix means that the two percentages on the same row are significantly different from each other. * $p < .05$; ** $p < .01$

Table 3

Life Script and Non-Life Script Events in Future Life Stories (in Percentages; Rank Ordered by Refugee Group)

Life Script events	Refugees (n = 34)	Control (n = 34)
Career	79.41	55.88*
College/Secondary education	35.29	38.24
Children	32.35	35.29
Marriage	26.47	23.53
Get a job	23.53	8.82
Go to high school	20.59	23.53
Finish high school	11.76	5.88
Own house	11.76	11.76
Finish ninth grade	11.76	--
Leave home	8.82	11.76
Begin hobby/sports	8.82	17.65
Long trip	5.88	11.76
Own death	2.94	14.71
Adult relationship (18+)	2.94	20.59*
Grandchildren	--	11.76
Continuation school	--	8.82
Confirmation	--	5.88
Retirement	--	5.88
Second child	--	5.88
Live in retirement home	--	5.88
First job	--	2.94
Non-Life Script events		
My family (parents, siblings)	38.24	8.82**
Having a good life	29.41	20.59
Achieve my dreams	26.47	8.82

Earn (a lot of) money	17.65	14.71
Helping others	17.65	2.94*
Be successful in what I do	14.71	2.94
Traveling	14.71	11.76
Live in the country of family origin	11.76	--
My own children (e.g. grow up)	8.82	17.65
Old age	--	14.71
Have pets	--	14.71
Achieve something in sports	2.94	11.76
Exciting experiences	2.94	11.76

Note. Asterix means that the two percentages on the same row are significantly different from each other. * $p < .05$; ** $p < .01$

Table 4

Relative Frequencies (%) and Mean estimated age-of-event for Life Script Event and Non-Life Script Event Categories Rank Ordered by the Refugee Group

Event	Refugee group			Control group		
	%	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>
Begin school	55.88	6.47	1.31	44.12	5.93	0.46
Daycare (3 – 6 yrs.)	32.35	3.50	0.90	35.29	3.17	0.83
Marriage	29.41	25.64	3.64	41.18	28.36	5.83
College	26.47	21.67	3.08	23.53	21.30	3.09
Go to high school	26.47	18.00	3.02	17.65	17.33	1.21
Children	23.53	29.88	3.17	55.88**	27.15	2.69
Puberty	17.65	13.71	1.70	8.82	14.00	1.73
Begin to walk	17.65	1.20	0.45	5.88	1.50	0.71
Daycare (½ - 3 yrs.)	14.71	2.00	1.22	20.59	2.00	1.00
Get a job	14.71	23.20	5.76	20.59	26.83	8.26
Career	14.71	24.38	7.63	14.71	26.60	7.77
Go to hobbies/activities	11.76	5.75	1.71	23.53	7.80	4.24
Finish school	11.76	15.75	0.50	20.59	16.29	1.25
Finish high school	11.76	21.00	3.46	17.65	19.00	1.79
Own birth	8.82	0.00	0.00	32.35*	0.00	0.00
Begin to talk	8.82	1.67	0.58	5.88	2.50	0.71
Own death	5.88	88.00	11.31	52.94***	85.95	26.40
Parent's divorce	5.88	11.50	9.19	-	-	-
Grandchildren	2.94	61.50	4.95	20.59*	55.71	5.31
Retirement	2.94	55.00	-	20.59*	67.43	5.22
Parent's death	2.94	40.00	-	5.88	57.67	5.03
Siblings	2.94	3.00	-	5.88	4.00	1.41
First job	2.94	15.00	-	11.76	15.25	3.30
Adult relationship	2.94	28.00	-	8.82	21.67	1.53
First friend	2.94	6.00	-	5.88	3.50	0.71

Empty nest	2.94	-	-	2.94	45.00	-
Other's death	2.94	23.00	-	2.94		
Continuation school	2.94	16.00	-	2.94	16.00	-
Confirmation	-			47.06	13.63	0.50
Fall in love	-			26.47	13.38	3.16
Special birthdays	-			20.59	24.13	17.56
Baptism	-			14.71	0.20	0.45
Leave home	-			11.76	19.50	0.58
Long trip	-			5.88	20.00	0.00
Own house	-			5.88	31.00	0.00
Divorce	-			5.88	48.50	9.19
Serious disease	-			5.88	35.50	6.36
Second/last child	-			2.94	25.00	-
Retirement home	-			2.94	84.00	-
Non-life script events mentioned by more than four participants.						
Go to school	44.12	11.83	3.76	26.47	10.61	2.12
Family	32.35	12.32	9.88	8.82*	18.33	6.11
Mid-life adulthood	29.41	32.27	2.57	-	-	-
Own feelings	26.47	12.17	2.28	8.82	26.00	20.81
Travels	20.59	24.29	9.14	23.53	10.06	10.48
Driver's license	17.65	17.92	0.20	26.47	18.06	0.17
Good life	17.65	31.50	19.95	23.53	27.94	31.21
Friends/friendships	14.71	11.60	4.83	-	-	-

Note. Asterix means that the two percentages on the same row are significantly different from each other.

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