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Birth narratives as indicators of psychosocial functioning in adolescents and
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Abstract

Narratives reflect a great deal about who we are as individuals. Countless studies have shown that the way we write and speak about our past reveals valuable information about our identity and well-being. Birth narratives have remained largely unstudied, especially from the perspective of the child. It was proposed in this study to look at a collection of birth narratives from adolescents between the ages of 14 and 16 to examine variables such as elaboration, coherence, internal states, and connectedness within the narratives and to assess their relationship to outcome variables such as self-esteem and family functioning. Previous studies have shown that the way narratives are discussed and written pertains to psychological well-being, and it was predicted that more coherent and elaborative birth narratives, as well as those revealing more connectedness and internal states language, would relate to higher psychosocial functioning on both the individual and familial levels. There was some evidence for these relations. Gender differences along these narrative variables were also predicted, and the evidence was very strong in support of these. Limitations, applications, and suggestions for future research are discussed.

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Birth narratives as indicators of psychosocial functioning in adolescents and families

Along with name and place, the birth date is a critical and ubiquitous piece of information for biographical identity (Habermas et al., 2009). The story of one's birth, though often unacknowledged as such, contains invaluable data related to identity and functions as a highly evocative factor in the life story (Carter & McGoldrick, 1980; Fiese & Winter, 2009; Oppenheim, Wamboldt, Gavin, & Renouf, 1996; Palkovitz & Sussman, 1988; Reese, 1996). Defined as knowledge accumulating from narrative memories throughout one's lifespan (Bluck & Habermas, 2000; Habermas & Bluck, 2000; Singer, 2004), life stories are part of a burgeoning literature in narrative psychology, a field which has received increasing attention over the past couple of decades (Habermas & Bluck, 2000; Singer, 2004). As both empirical construct and explanatory paradigm, narratives represent a running commentary of our lives and experiences, and we use them to make sense of our lives within the larger social and cultural context (Baerger & McAdams, 1999; Bruner, 1987; Gergen & Gergen, 1987; Howard, 1991; Polkinghorne, 1991; Sarbin, 1986). Whereas narratives have been described as the form that this commentary takes, stories are its contents (Fiese & Sameroff, 1999).

Out of various types of narrative, the life story has emerged as particularly significant in many studies due to the valuable information it yields about the development of individual identity and perspective (Baerger & McAdams, 1999; Bruner, 1987; Conway & Pleydall-Pearce, 2000; Fivush, 2001; Labov, 1982;

McAdams, 1985, 1987, 1992, 1993, 2001; McLean, Pasupathi, & Pals, 2007; Somers, 1994). These narratives also take place within the larger context of social interaction (Fivush, Haden, & Reese, 1996; Gergen, 1994; Gregg, 1991; Hermans, 1996; Pasupathi, 2001). Autobiographical narratives like the life story represent both the process and product of meaning-making for us (Fivush, Sales, & Bohanek, 2008b; McLean, Pasupathi & Pals, 2007; Ricoeur, 1991), and resonate with the way we understand and regulate our emotional lives (Cohler, 1991; Fivush & Sales, 2006; Howard, 1991; Pennebaker, 1997). Indeed, variations in the life story have been illustrative of a wide variety of psychosocial factors (Baerger & McAdams, 1999) including self-esteem (Allen et al., 1994; Bohanek, Marin, & Fivush, 2008; Marin, Bohanek, & Fivush, 2008; McAdams, Reynolds, Lewis, Patten, & Bowman, 2001; McLean & Breen, 2009), externalizing disorders (Fivush & Sales, 1006; Sales & Fivush, 2005), and internalizing disorders (Frattaroli, 2006; McAdams et al., 2001; Pennebaker & Chung, 2007; Sales & Fivush, 2005), as well a general sense of well-being (Baerger & McAdams, 1999; Fiese & Marjinsky, 1999; Fiese & Sameroff, 1999; Fivush, Marin, Crawford, Reynolds, & Brewin 2007).

Psychosocial outcomes have been measured not only for individuals in narrative studies, but also for families (Fiese, Hooker, Kotary, Schwagler, & Rimmer, 1995; Fivush, 2006; Fivush, Berlin, Sales, Mennuti-Washburn, & Cassidy, 2003a; Kellas, 2005; Sherman, 1990). The co-construction of narratives in families is critical not only to the development of an individual's ability to learn to narrate the story of his/her life through adult-child interactions

(Fivush, 1994; Nelson, 1988; Reese, 1996; Singer, 2004), but also to the maintenance of the psychological health of both the individual and the family in general (Eden, 1988; Fiese & Marjinsky, 1999; Fivush & Vasudeva, 2002; Fivush, Marin, McWilliams, & Bohanek, 2009; Oppenheim et al., 1996). For example, studies have shown that family narratives are associated with general well-being in children (Fiese & Sameroff, 1999; Fiese & Marjinsky, 1999), as well as more specific factors in children such as developing self-esteem and emotional and behavioral adjustment (Bohanek et al., 2008). Furthermore, narratives constructed together also contribute to an overall sense of satisfaction and functioning in the family as a whole (Kellas, 2005). The conversations that transpire between multiple members of a family have been shown to have significant effects on child development in a multitude of studies (Gottman, 2001; Hooven, Gottman, & Katz, 1995; Kreppner, 2002; McHale & Grolnick, 2004). The familial context is essential for the development of identity and for an understanding of the self as continuous in time (Fivush et al., 2008a; Nelson & Fivush, 2004; Norris, Kuiack, & Pratt, 2004; Pratt & Fiese, 2004).

Narratives are told to and about children early on in their lives (Fiese & Marjinsky, 1999; Miller, Mintz, Hoogstra, Fung, & Potts, 1992), even before they develop language abilities (Fiese et al., 1995). A child's ability to talk about the past and the related ability to narrate stories begins almost as soon as s/he begins talking (Nelson & Ross, 1980; Sachs, 1983). Parental reminiscing is often credited for the development in children of autobiographical memory (Farrant & Reese, 2000; Fivush & Nelson, 2006; Fivush & Reese, 2002; Fivush et al.,

1996), which has been defined by Nelson and Fivush (2004) as an explicit memory of personal events occurring in a specific time and place. Reminiscing by parents has also been cited as crucial for a child's emotional development and burgeoning sense of self (Fivush, 2006). The act of reminiscing not only leads to better storytellers and theory-builders (Ochs et al., 1992), but also creates a shared past for relating to others in meaningful ways (Fivush et al., 1996; Fivush, Hayden, & Reese, 2006). In the case of birth narratives, parental reminiscing is of special importance, since the stories of our birth are told to us more often than not by our parents.

The theoretical significance of autobiographical narratives is underscored by Vygotskian social-development theory (1978)—where language-based and socially-mediated interaction form the basis of learning and development— and by the more contemporary social cultural developmental theory espoused by Nelson and Fivush (2004) consisting of three major tenets: 1) Autobiographical skills are theorized as emerging gradually across the pre-school years; 2) language is theorized as the fundamental social and cultural tool in the development of autobiographical memory; and 3) autobiographical memory evidences cultural, gender, and individual differences.

These theories are significant for the present work as it is within and through social relationships that one develops story-making capacities, illustrated by the example of parental reminiscing discussed above. Research shows that preschoolers, for example, learn to reminisce about the past through memory talk with adults (Haden, Haine, & Fivush, 1997). Furthermore, there is a continuous

dialectical relation between our experiences and how we understand and recall those experiences (Conway, Singer, & Tagini 2004), and this relationship occurs in the context of social interaction (Gergen, 1994; Hermans, 1996). Again, we are reminded that socialization of narrative processes is particularly salient in birth narratives where we depend on others to tell us the details of how we were born.

Great variation exists amongst individuals in the way that stories are told. For example, gender differences in the type of and way that stories are told have been cited in studies examining co-constructed narratives within the family: Mothers and fathers divulge more information about past shared events to daughters than sons and have daughters who likewise evidence more information in their own narratives by the age of three (Reese, 1996; Reese & Fivush, 1993; and Reese, Haden, & Fivush, 1996). Parents have also been shown to demonstrate a more evaluative and elaborative reminiscing style with their daughters (Fivush et al., 2003a; Reese & Fivush, 1993). Daughters, unsurprisingly, then evidence more engagement in conversation about the past as well as more evaluative and elaborative descriptions of the past than sons by their middle childhood (Buckner & Fivush, 2000; Ross & Holmberg, 1990). Furthermore, females generally tend to adopt a more relational view of self and others (Gilligan, 1982; Harter, 1989) and endorse more relational themes in their stories (McLean & Breen, 2009), whereas boys tend to emphasize other values such as autonomy and individuality more often (Harter, 1989). Therefore, it is unsurprising that social events, emotions, and relationships are discussed less

often with sons than with daughters (Fivush, 1989; Fivush & Buckner, 2003; Fivush et al., 2003a; Fivush, Brotman, Buckner, & Goodman, 2000; Kuebli & Fivush, 1991), the latter of whom evidence more of these themes in their own narratives as they develop (Buckner & Fivush, 2000; Fivush & Buckner, 2003). The gendered reminiscence style evidenced from childhood has been shown to persist into adolescence (Fivush, Brotman, Buckner, & Goodman, 2000; Thorne & McLean 2002), an important idea to keep in mind when examining adolescents' narrative descriptions of their births.

Age differences are also apparent in narrative style and abilities.

Narrative skills progress rapidly during the preschool years (Nelson & Fivush, 2004), a time period noted for the development of the idea of self as extended in time with a past and a future (Fivush & Nelson, 2006) and for the ability to narrate past experiences not shared with the listener (Nelson & Fivush, 2004). Towards the end of the preschool years, narrative skills such as coherence and detail recollection increase (Fivush, Haden, & Adam, 1995; Fivush & Haden, 1997). By the age of 5 or 6, children have developed the ability to narrate personal experiences and fictitious stories, and these skills continue to improve through the end of grade school (Peterson & McCabe, 1983).

Although preadolescent children show significant development in autobiography and the notion of self (Habermas & Bluck, 2000; McAdams, 1985, 1993, 2001), it is not until later in adolescence, however, that the narrative process begins to cohere (Habermas & Bluck, 2000; Habermas & Paha, 2001) and that memories are integrated into a more complex and mature sense of self

(Harter, 1999; Pillemer, 1998). Adolescence has long been identified by developmental psychologists as a key time for identity exploration (Erikson, 1968), and has also been cited as a crucial time for the development of skills necessary for autobiography and the creation of adult identities (Erikson, 1959; Habermas & Bluck, 2000; Harter, 1999; Kroger, 2000; McAdams, 1992). It is during this time that individuals are better able to integrate the perspective of others into their own narratives (Fivush, Haden, & Reese, 2006; Harter, 1999) and to increase their abilities to discuss the past. Narrative abilities such as autobiographical reasoning and global coherence skills increase during adolescence (Habermas, Ehlert-Lerche, & de Silveira, 2009). Furthermore, adolescence is the time period when individuals indicate the ability to discuss history predating their personal recollection along with the ability to interpret and reconstruct the past (Habermas & Paha, 2001).

Age differences are also present in the reception of narratives. For example, in one study, mothers told more interpersonally-oriented stories to their younger children (Reese, 1996).

There are a variety of methods for coding different aspects of narratives that have been explored in the literature. Variables such as coherence, defined as how well an individual is able to construct and organize a story (Foa, Molnar, & Cashman, 1995), have been related to a wide variety of outcome measures throughout studies (e.g. Anderson & Goolishian, 1988; Baerger & McAdams, 1999; Conway et al., 2004; Fiese et al., 1999; Fiese & Sameroff, 1999; Flax, 1990, 1993; Foa et al., 1995; Hoffmann, 1990; Linde, 1993; Marcus, 1985;

McAdams, 1993; Pennebaker, 1997; and Schafer, 1981). Other common narrative variables examined in the literature include the elaboration of description and detail within stories (Farrant & Reese, 2000; Fivush et al., 2006; McCabe & Peterson, 1991; Reese, Haden, & Fivush, 1993), internal states language (Bauer, Stennes, & Haight, 2003; Fivush & Baker-Ward, 2005; Fivush & Nelson, 2006) such as descriptions of how one is feeling, and temporal coherence (Bluck & Habermas, 2000) or the chronological ordering of narrative events, which all reveal important information about autobiographical memory and psychosocial functioning.

Chronological coherence is especially pertinent to the present work since we often begin with our birth when asked to recount the story of our life (Linde, 1993). The birth story in many ways sets the tenor and provides an anchoring foundation for the life story and, until recently, has received sparse attention in the literature despite researchers who urge its importance (e.g. Reese, 1996; Soparkar, 1998).

Furthermore, the story of our birth represents a particularly unique form of narrative in that it depends upon the knowledge and story-telling of others. Because it is not possible to remember the events of our birth (see Fivush & Hudson, 1990 or Bauer, 2006 for more details on infantile/childhood amnesia), we rely on others' (generally family members' and most often mothers') reports of this event; therefore, the potential for social shaping of this particular experience is vast. In other words, the way children relate the details of their birth would almost exclusively depend on their interpretation of the birth story which was told

to them, so the opportunity for familial/social shaping of this particular narrative should in theory be extensive. Therefore, the birth story is not only critical because of its positioning as the beginning of the life story, but it is an inherently appropriated narrative emerging out of a social context (e.g. a mother tells her child the story of his/her birth) due to a lack of autobiographical memory for this event (Reese, 1996). We know from previous research that narratives told by adults to children about their own early experiences (especially those during their first year of life) are often good indicators of the kind of stories that adults consider important for their child to know about his/her own experience, in some cases forming the basis of an opportunity through which to instruct the child to behave (Reese, 1996). The re-telling of these narratives by the child, such as the birth story, will have therefore originated from previous hearings of these types of narratives as told by another (Reese, 1996). The birth story as appropriated narrative can therefore be helpful in revealing the transition from biography to autobiography (Reese, 1996). Hence, it is at the nexus of social, interactional story-telling, which we know from other studies reveals valuable information about family functioning and health (e.g. Fiese, Sameroff, Grotevant, Dickstein, & Wamboldt, 1995; Kellas, 2005; Sherman, 1990).

In closing and before advancing hypotheses for this particular study, I would be remiss if I did not acknowledge the wide range of voices within the birth narratives literature. Speculation about the significance of birth narratives hails from a variety of disciplines (spanning psychological, sociological, and literary fields) as well as cultures in countries like China (Kartchner & Callister, 2003),

The Netherlands (Johnson, 2007), New Zealand (Reese, 1996), Ghana (Wilkinson & Callister, in press), Guatemala (Callister & Vega, 1998), Iceland (Olafsdottir, 2006), and South Africa (Dodson & Haden, 2008) among others. One Ghanaian woman, for example, has been recounted as describing the birth process as, “When a woman goes to give birth, she stands in the middle of life and death” (Callister & Khalaf, 2009). There is a rich oral and written history of women making meaning out of their pregnancies and birth, and a host of wonderful and idiosyncratic birth stories can be found among these narratives (such as a Chinese woman’s prescription that an unhappy attitude during pregnancy will dictate a “strange character” for the baby or a Guatemalan woman’s conclusion that if a baby is born with a cleft lip and palate then the mother undoubtedly saw an eclipse during pregnancy, Callister & Khalaf, 2009). While analyzing narratives such as these falls outside the scope of this topic, they are included here in brief as an indicator of the vast and largely untapped field of literature relating to birth. The present work as such will hope to stake a modest claim in this novel territory (with the advent of looking at little-examined birth narratives as described from the perspective of adolescents) in the hopes of prompting further inquiry into the multitude of extant birth narratives.

Therefore, the purpose of this paper is to extend the underdeveloped corpus of writing on psychological outcomes associated with the style and telling of birth narratives and to look at these within the context of the family. Based upon findings from similar studies, hypotheses specified for this study are that:

Hypothesis 1: Among narrative variables, the following relations are hypothesized:

- a. The three types of coherence should not correlate, based upon research showing these as distinct dimensions**
(Reese et al., in press)
- b. As linked in Reese et al. (in press), it is predicted that the dimensions of contextual and thematic coherence will significantly correlate with elaboration** (other studies where these constructs are linked include McAdams et al., 2001; Reese, 2008; Reese, Yan, Jack, & Hayne, 2010; Reese et al., in press)
- c. Elaboration and internal states should correlate** (due to previous research linking more elaborative narratives to narratives that are more evaluative, a component of internal states, e.g. Bauer & Burch, 2004; Fivush & Vasudeva, 2002) **to narratives containing more descriptions of emotion,** (e.g. Zaman & Fivush, in press)
- d. Internal states language should correlate with thematic coherence, based on research demonstrating that affect is frequently found in thematic coherence** (e.g. Reese et al., in press)

- e. **As an exploratory hypothesis, it is predicted that connectedness and internal states should correlate (because of studies linking perspective-taking, a component of connectedness, to emotional understanding, a construct related to internal states), (e.g. Tingling, 2008).**

Hypothesis 2) It is predicted that female participants will score higher on all of the narrative variables not only on the basis of previous research where these relations were found in other types of narrative (see below for specific citations), but also on the exploratory idea that birth narratives, as an inherently relational kind of narrative (at least mother and child and, more often than not, other social agents are implicated in birth narratives), will be told in more descriptive detail and most often by mothers to their daughters.

- a. **Based upon research on other types of narratives where female participants had more coherent narratives than males (e.g. Fivush, Bohanek, Zaman & Grapin, accepted), it is predicted that female participants will evidence more coherent birth narratives.**
- b. **Furthermore, female adolescents will have birth narratives with more internal states language than males as based upon other types of narratives revealing a similar effect (e.g. Bauer, Stennes & Haight, 2003; Buckner & Fivush, 1998; Fivush, Brotman,**

Buckner & Goodman, 2000; Fivush & Buckner, 2000, 2003; Fivush, Haden & Adam, 1995; Fivush et al., 1995; Fivush et al., 2000; Haden et al., 1997; Thorne & McLean, 2002; Zaman & Fivush, in press).

- c. **Female adolescents will evidence birth narratives with more connectedness than males as based upon research revealing more relational themes in other types of narratives among females** (e.g. Buckner & Fivush, 2000; Fivush et al., 1995; Fivush, Bohanek, Zaman & Grapin, accepted; Fivush & Buckner, 2003; and McLean and Breen, 2009).
- d. **Lastly, female adolescents will evidence more elaborate birth narratives than males as based upon other types of narratives that showed similar gender differences for elaborativeness** (e.g. Buckner & Fivush, 1998; Fivush et al., 1995; Fivush et al., 2000; Fivush & Buckner, 2003; Fivush et al., 2003; Niedzwienska, 2003; Thorne & McLean, 2002; Zaman & Fivush, in press).

Hypothesis 3: The following relations between narrative variables and outcome

measures are predicted:

- a. **Adolescents with more coherent birth narratives** (as operationalized by the tridimensional coding scheme for coherence developed by Reese et al., in press) **will demonstrate increased**

self-concept (operationalized by the *Self-perception Profile for Children (SPPC)* scale), **based upon similar research with other types of narratives** (e.g. McAdams et al., 2001) **and higher levels of familial functioning, higher levels of familial communication, and more familial knowledge** (operationalized as scores on the *Family Functioning Scale (FFS)*, the *Family Expressiveness Scale Total (FEQ)*, the *Inventory of Parent and Peer Attachment Revised (IPPA-R)*, the *Revised Inventory of Parent Attachment (RIPA)*, and the *Do You Know....? (DYK)* scales respectively) **based upon extant research demonstrating similar findings with other types of narratives** (e.g. Baerger & McAdams, 1999; Fiese & Sameroff, 1999; Fiese & Winter, 2009). **These relations are also predicted on the exploratory hypothesis that adolescents who can tell a more coherent story of their birth also have more of a foundation for their life story, (which studies have shown is fundamental for identity), and therefore function better as individuals and family members.**

- b. **In addition to extant research showing relationships between elaboration and various outcome measures of well-being** (e.g. Fivush et al., 2006), **it is hypothesized that those adolescents who recount the stories of their birth in richer detail are most likely to have parents who have shared stories with them—a protective factor in individual and familial health. Thus, it is predicted that**

elaboration will also significantly correlate with the following measures, The *Self-perception Profile for Children (SPPC)* scale, the *Family Functioning Scale (FFS)*, the *Family Expressiveness Scale Total (FEQ)*, the *Do You Know....? (DYK)* scale, the *Inventory of Parent and Peer Attachment Revised (IPPA-R)*, and the *Revised Inventory of Parent Attachment (RIPA)*), **based upon research with different types of narratives showing similar findings** (e.g. Ross & Holmberg, 1990).

- c. **Adolescents who use more internal states language** (as operationalized by the internal states coding adapted from the scheme developed by Bauer, Stennes & Haight, 2003) **within their birth narratives will evidence higher individual psycho-social functioning** (as operationalized as scores on the *Rosenberg Self-Esteem (RSE)* scale, the *Ego Identity Scale (EIS)*, the *Self-perception Profile for Children (SPPC)* scale, the *Youth Self-Report (YSR)* scale, the *Child Behavior Checklist (CBCL)* measures), **similar to findings in Pennebaker (1997) and Marin et al. (2008)**. **Although primarily exploratory in nature, adolescents with more internal states language are also predicted to evidence stronger relationships with other family members** (operationalized by scores on the *Inventory of Parent and Peer Attachment Revised (IPPA-R)*, the *Revised Inventory of Parent Attachment (RIPA)*, the *Family Expressiveness Scale (FEQ)*, and the *Family Functioning Scale (FFS)*),

and the *Do You Know....?* (DYK) as based upon research of similar constructs from previous research (e.g. Duke et al., 2008; Fivush et al., 2008a) and the idea that adolescents who recall birth stories with more emotions (that they themselves could not possibly have had or remembered) are more likely to have parents who share more with them, one predictor of familial health.

- d. It is also predicted that adolescents with more connected (as operationalized by the connectedness coding scheme adapted to birth narratives) birth narratives will evidence higher individual psychosocial functioning (as operationalized as scores on the *Rosenberg Self-Esteem (RSE)* scale, the *Ego Identity Scale (EIS)*, the *Self-perception Profile for Children (SPPC)* scale, the *Youth Self-Report (YSR)* scale, the *Child Behavior Checklist (CBCL)* measures) and stronger relationships with other family members (operationalized by scores on the *Inventory of Parent and Peer Attachment Revised (IPPA-R)*, the *Revised Inventory of Parent Attachment (RIPA)*, the *Family Expressiveness Scale (FEQ)*, and the *Family Functioning Scale (FFS)*, and the *Do You Know....?* (DYK) scales) not only on the basis of similar research (e.g. Tingling, 2008; Zaman & Fivush, in press), but also on the more exploratory idea that adolescents who tell birth stories that place importance on the thoughts and interactions of significant others are most likely to be those who are also more connected to their families in general.

Because the age range is small for the sample (14-16-year old adolescents), significant age differences for the narrative variables (such as those found in McLean & Breen, 2009) are not predicted for the current study and therefore age will not be tested as a variable.

Method

Participants

The birth narratives analyzed were culled from a larger study conducted by the Fivush laboratory at Emory University on the impact of family narratives where 65, heterosexual, two-parent families with a child between the ages of 14 and 16 were interviewed, 61 of which were used for the present data analysis (the data for the 4 adopted children were not used). Out of these, 59 identified as traditional families (with 4 adopted children among these), and the other 6 families were blended. Forty-six families were White/Caucasian, 16 were African-American, 2 were of mixed ethnicity, and 1 was Indian. The sample was highly educated, with 2 fathers indicating some high school education; 3 mothers and 4 fathers with a high school degree; 15 mothers and 10 fathers with some college education; 28 mothers and 26 fathers with a college degree; 17 mothers and 19 fathers with a post-graduate degree (2 mothers and 4 fathers did not report their level of education).

Families were recruited through local institutions like church and school. They were informed that the purpose of the study was to examine what parents and children remembered about their past and the types of stories they would

use to recall these experiences. All mothers signed an informed consent sheet approved through the Emory University Institutional Review Board and were compensated with \$25 for each of two home visits in the study. Adolescent children signed an assent form and were given two movie tickets for their first home visit and a \$25 gift certificate at the second home visit.

Procedure

Home visits were conducted by one to two of eight research assistants, and the interviews were audio-recorded and transcribed. During the first visit, the research assistant conducted an interview with adolescent participants separately, soliciting narratives including the story of their birth.

Measures

The *Inventory of Parent and Peer Attachment-Revised (IPPA-R*; Armsden & Greenberg, 1987) is a self-report scale used by adolescents to assess relationship quality and consists of 25 items measuring the following dimensions of attachment in both parent and peer relationships: communication, trust, and alienation. For the purposes of the present study, only adolescents' ratings of their parents were used. Examples of the 10 items assessing communication include, "I like to get my mother's point of view on things I'm concerned about;" examples of the 9 trust items include "My mother trusts my judgment;" and, finally, examples of the 6 alienation items include "My mother doesn't understand what I'm going through these days." All items are measured on a 5-point Likert Scale from "almost never" to "almost always or always true," yielding a total of

three attachment scores. Reliability estimates for the *IPPA-R* include a Cronbach's alpha of .87, and good construct validity has been shown (Armsden & Greenberg, 1987).

The *Revised Inventory of Parent Attachment (RIPA)*; Johnson et al., 2003) is a similar scale for parents to complete regarding the same three attachment dimensions with their child, also yielding three scores. Examples of the alienation dimension (5 items) include "I am constantly yelling and fighting with my child," and examples of the communication dimension (10 items) include "I talk to my child about my difficulties." Reliability is also high for this scale with Cronbach's alphas between .72 and .95 for the 3 dimensions. Additionally, convergent validity is also robust.

Ego Identity Scale (EIS); Tan, Kendis, Fine, & Porac, 1977). Consisting of 12 forced-choice items, the EIS measures ego identity, examples of which include "I have doubts as to the kind of person my abilities will enable me to become OR I try to formulate ideas now, which will help me achieve my future goals."

The *Rosenberg Self-esteem Inventory* (Rosenberg, 1965) consists of 10 items measuring an individual's overall sense of self-esteem. All items are measured from 1 to 4, with 40 as the highest possible total score, indicating the highest level of self-esteem. Estimates of reliability for this measure are strong (e.g. a Cronbach's alpha of .85).

The *Self-perception Profile for Children (SPPC)* (Harter, 1985) consists of 36 items measuring a child's general self-concept in 6 domains and includes an additional score for global self-worth, the latter of which was used for this study. Examples of the 5 items used to compute global self-worth include "Some teenagers don't like the way they are leading their life BUT Other teenagers do like the way they are leading their life," each of which the participant rates as either "like me" or "not like me" followed by rating the statement as either "really true for me" or "sort of true for me." Each item is computed on a 1-4 scale where 1 represents a low self-concept and 4 represents a high self-concept. Internal consistency for the scale is high with Cronbach's alphas ranging from .71 to .86.

Do You Know...? (DYK) (Duke, Lazarus, & Fivush, 2008). The *Do You Know...?* scale is made up of 20 yes/no questions that ascertain a child's knowledge of their family history, such as where their parents grew up. The *DYK* scale's relation to other scales measuring well-being in child and family functioning suggest that it taps similar constructs in support of its validity.

The *Youth Self-Report Child Behavior Checklist (YCBCL)* (Achenbach & Rescorla, 2001) is used to assess the presence of internalizing (31 items) behaviors such as depression and externalizing (32 items) behaviors such as impulsivity, where higher scores indicate increased frequency. Examples of internalizing items include "I feel worthless or inferior," and examples of externalizing items include "I get in many fights." Reliability estimates are .90 for internalizing items and .93 for externalizing items.

The *Child Behavior Checklist (CBCL)* (Achenbach, 1991) is used to assess parental reports of children's externalizing and internalizing behavior but is otherwise identical in item content, scoring, and reliability estimates to the *YSR*.

Family Functioning Scale (FFS) (Tavitian, Lubiner, Green, Grebstein, & Velicer, 1987). This 40-item measure taps five dimensions of family functioning including communication, conflict, affect, and overall functioning and is used to assess how well each corresponds to the adolescent's view of his/her family on a scale of 1 (never) to 7 (always). Examples of items include "People in my family listen when I speak" and "My family accepts me as I am." Reliability estimates are good with internal consistency ratings ranging from .74 to .90.

The *Family Expressiveness Questionnaire (FEQ)* (Halberstadt, 1986) measures family styles of emotional expression and consists of 40 written scenarios that tap emotional expression across the dimensions of power and affect (4 subscales with 10 items each), an example of which is "Thanking family members for something they have done," which participants would endorse on a 1 (*not at all frequently in my family*) to 9 (*very frequently in my family*) scale. Test-retest reliability as well as internal consistency ratings have been high for this instrument with well-documented discriminant validity.

Coding

After the tapes were transcribed, they were checked for accuracy before coding by staff in the Fivush lab. Coherence and internal states language had already been pre-coded before the present work by members of the Fivush lab,

and elaboration and connectedness were coded by the present author and research assistants from the Fivush lab. All coding schemes were based upon existing methods in the literature and are discussed in detail below:

Length. Overall word count of the narrative was assessed via the word count feature in Microsoft word.

Coherence. Based upon the scheme developed by Baker-Ward, Bauer, Fivush, Haden, Ornstein, and Reese (2007), coherence in the narratives was assessed along three separate dimensions including context (information situating the narrative events in time and/or place), theme (specific topic addressed in the narrative), and chronology (temporal sequencing within the narrative). See Appendix A for further detail.

Elaboration. Adapted from Fivush, Brotman, Buckner and Goodman (2000), elaboration was measured by the extent to which detailed descriptions of the events in the narrative were provided by the adolescent and were scored on a 4 point scale ranging from 0 (no elaboration) to 3 (highly elaborative). See Appendix B for further detail.

Internal states content. Similar to the scale developed by Bauer, Stennes, and Haight (2003), each narrative was assessed along the dimensions of internal states including emotional states (e.g. “I felt sad about that”; general expressions of affect regardless of the use of a specific emotion word, e.g. “That was hard for me”, were also counted), and cognitive states (specific words related to thoughts like “I understood” will be counted). The instance of each type of internal state

(emotion or cognition) was counted and tallied in a frequency table, with examples of this type of scheme found in Appendix C.

Connectedness. Coding for this variable was adapted by the present author and a co-researcher for birth narratives according to the degree of connectedness with persons outside of self. Scores ranged from 0 (no connectedness) to 3 (strong connectedness). This coding scheme can be found in Appendix D.

Reliability

Twenty five percent of the transcripts coded by the present author were randomly selected and coded independently by a research assistant to measure reliability. Interclass correlations were used to assess inter-rater reliability, and coefficients exceeding 0.70 for Cohen's kappa were found for all coding schemas.

Results

The results section is organized in order of hypothesis: The first section addresses the question of correlations between narrative variables across all participants both with and without word count controlled for as a covariate to determine how much unique variance can be ascribed to narrative variables excluding the length of the birth narrative. The following section addresses gender differences among narrative variables both with and without word count controlled for as a covariate because of the logic described above. A final

section addresses hypotheses of relations between narrative variables and outcome measures.

Relations between narrative variables

Initial analyses examined the first set of hypotheses in order to determine if the relations between narrative variables for birth narratives in particular would mirror those seen in the literature for other types of narratives. More specifically, it was predicted that the three types of coherence would not correlate but that the following would: thematic coherence with both internal states and elaboration; internal states and elaboration; elaboration and contextual coherence; and, finally, connectedness and internal states.

As shown in Table 1, which displays Pearson product correlations among all the narrative variables, most of the hypotheses for relations among the narrative variables were confirmed, excepting predictions for the three dimensions of coherence. Contrary to expectations, chronological, thematic, and contextual coherence were all positively intercorrelated, with moderate to large effect sizes, indicating that adolescents who told birth stories high on one dimension of coherence, told birth stories high on all dimensions of coherence.

On the other hand, significant relations between elaboration and various types of coherence support the original hypothesis. The large effect sizes between elaboration and the chronological and thematic dimensions of coherence as well as the smaller effect size for the relation between the contextual dimension of coherence and elaboration indicate that adolescents

who told more elaborative narratives also told more chronologically and thematically coherent narratives as well as, but to a lesser degree, more contextually coherent narratives. Also supporting the hypothesis, elaboration and internal states language were significantly correlated, with a small effect size evident for emotion words and a moderately large effect size evident for cognitive words, indicating that adolescents who told more elaborative narratives also used more cognitive words and, to a lesser extent, more emotion words in descriptions of their birth.

In partial support of the exploratory hypothesis, connectedness was significantly correlated with the emotion component of internal states language, but not the cognitive component, revealing that adolescents who told narratives that referenced more important relationships in their lives also told stories with more emotion, but not cognition, words.

Finally, the significant link between thematic coherence and both components of internal states language revealed that adolescents who used more cognitive and emotion words had more thematically coherent narratives, also conforming to predictions.

Other correlations that were found that were not predicted included those between thematic coherence and connectedness, indicating that adolescents who told more thematically coherent narratives were also more likely to reference important relationships in their lives. Additionally, elaboration demonstrated a robust correlation to connectedness, indicating that adolescents who described

the story of their birth more elaboratively also referenced connectedness in relationships more often.

Finally, chronological coherence was correlated with both connectedness and emotion words, indicating that adolescents who told more chronologically coherent narratives also used more emotion words and evidenced more connectedness to important relationships in their lives.

Because word count often covaries with other narrative variables, partial correlations controlling for word count were run for all of the narrative variables as displayed in Table 2. The following relations remained significant: all dimensions of coherence to one another; chronological coherence with both elaboration and emotion words; thematic coherence with elaboration; contextual coherence with elaboration; elaboration with both connectedness and cognitive words; and, finally, connectedness and emotion words, signaling these as particularly robust relations without the covariate of length.

The second set of hypotheses concerned gender differences and were examined in a series of independent samples *t*-tests comparing females and males on each narrative dimension. More specifically, it was predicted that females would have significantly higher scores on all of the narrative variables.

Table 3 displays all the means and standard deviations, as well as the results of *t*-tests and effect sizes, for all of the narrative variables by gender. As can be seen, all of the gender differences among the narrative variables that were predicted were supported by the data with the exception of contextual

coherence, and all evidenced moderate to large effect sizes, using Cohen's conventions (1988). Females scored significantly higher on both types of internal states language (Figures 5 and 6) and on the thematic (Figure 2) and chronological (Figure 1) dimensions of coherence and showed significantly higher scores for connectedness (Figure 4) and elaboration (Figure 3) than males, meaning that they used more emotion and cognitive words than males and also told more coherent, elaborative, and connected narratives.

However, when word count was controlled for in a series of *ANCOVA* tests to determine the amount of covariance, some of these differences disappeared as shown in Table 4. Only chronological coherence, connectedness, and emotion words remained significant after controlling for the length of the birth narratives, evidencing moderate effect sizes in all three cases.

Relations between outcome measures

The third set of hypotheses concerned relations between narrative variables and outcome measures. As a first step in exploring these relations more systematically, correlations among the measures were examined. The first set of correlations, as depicted in Table 5, were for adolescent well-being outcome measures, which included the Rosenberg Self-esteem scale (*RSE*), the global self-worth scale of the Self-perception Profile for Children (*SPPC*), the Ego Identity Scale (*EIS*), and both the internalizing and externalizing scales of the Youth Self-Report Child Behavior Checklist (*YCBCL*). Significant relations of note included the positive correlations between the Rosenberg Self-esteem scale

and the global self-worth scale of the Self-perception Profile for Children, indicating that adolescents who reported a higher sense of self-worth also tended to have higher self-esteem. Furthermore, both aforementioned scales also showed robust relations to the Ego Identity Scale, indicating that adolescents who reported higher self-esteem and who have a higher sense of self-worth also reported a more committed identity status. The global *SPPC* also showed a significantly negative correlation to the Youth Self-Report Child Behavior Checklist internalizing scale, such that adolescents who reported a higher sense of self-worth also reported less internalizing behaviors.

As a second step in examining relations among measures, correlations were computed between the adolescents' self-reports of well-being on the Youth Self-Report Child Behavior Checklist and maternal reports of well-being on the Child Behavior Checklist (*CBCL*). As can be seen in Table 6, mothers who endorsed more internalizing disorders in their children had adolescents who self-reported more externalizing and internalizing behaviors in themselves.

The next set of correlations shown in Table 7 revealed relations between various family outcome measures that adolescents self-reported. There was a strong correlation between adolescent reports of their relationship with their mother and their relationship with their father. Additionally, adolescents who reported better family functioning also reported better relationships with their mother and father. Lastly, adolescents who knew more information about their family rated relationships with their mothers more highly, but not their fathers.

In Table 8 correlations between adolescents' self-reports and their mothers' reports of family functioning are shown. In this case, adolescents who self-reported higher family functioning and family expressiveness respectively had mothers who also reported higher family functioning and expressiveness.

Finally, gender differences were assessed for the outcome measures described above, with the following results as shown in Table 9: Female adolescents knew significantly more about their family history than males, and there was a trend of female adolescents also endorsing more expressiveness in their family, although the latter was not significant at the .05 level.

Relations between narrative variables and outcome measures

For the third set of hypotheses relating narrative variables to outcome measures, results provide partial support as shown in Tables 10, where relations between narrative variables and individual measurements of adolescent functioning are shown. Participants who used more emotion words in their birth narratives self-reported higher internalizing behaviors. Additionally, adolescents who used more cognitive words had mothers who reported less externalizing and internalizing behaviors in them. None of the remaining narrative variables, however, significantly related to outcome measures of individual adolescent functioning, although there were trends showing that the more chronologically and thematically coherent as well as the more elaborative narratives related to lower levels of self-esteem.

Table 11 displays relations between narrative variables and measurements of familial functioning. In the case of coherence, those adolescents who had more contextually coherent narratives also had more knowledge of their family history. Furthermore, adolescents with more elaborative narratives knew more about their family history and self-reported a worse relationship with their fathers. None of the other familial outcome measures hypothesized to relate to elaboration or any of the three dimensions of coherence were significant.

For internal states language, adolescents who used more emotion words reported better relationships with their mother and higher expressiveness in their families. Overall, however, the majority of hypotheses predicting relations between family measures and emotion words were not supported.

Similarly, adolescents who used more cognitive words to describe the story of their birth also reported higher familial expressiveness and better relationships with their mothers. Again, as for emotion words, many relations that were predicted between cognitive words and outcome measures failed to reach significance.

Lastly, adolescents who indicated more connectedness in their narratives also rated their families as higher in expressiveness; however, no other significant relations were detected for connectedness.

Overall, the outcome scales that were most related to the narrative variables measured in this study were the *Do you know...?* scale and the *Family*

Expressiveness Questionnaire (and, to a lesser extent, both internalizing and externalizing scales for the *Youth Self-report Child Behavior Checklist* and the mother's *Child Behavior Checklist*, as well as the *Inventory of Parent and Peer Attachment-Revised*). Also, out of the narrative variables tested, internal states language and elaboration were the most predictive of outcome variables, while chronological and thematic coherence were least predictive.

Discussion

The life story literature is replete with examples showing that the way one recounts the details of one's life is indicative of underlying psychosocial factors and is crucial in developing a notion of self that is continuous in time (Fivush, 2001; Habermas & Bluck, 2000; McAdams, 1988, 1993; McClean, Breen, & Fournier, 2010). Some life story theoreticians, like Habermas and his colleagues (2009), for example, have emphasized the importance of certain features of the life story, not the least of which includes from where and how one came to be. For this reason alone, looking at the features of birth narratives is an extremely rich area in which to identify signifiers of mental health, such as how coherent and emotionally rich in detail one's birth narratives are. Furthermore, there is conclusive data that adolescence marks the period not only where the development of many of narrative processes begins to cohere, but also where individuals begin to reflect on and take stock of their life for the first time (Habermas & Bluck, 2000; Habermas & Paha, 2001). Thus, the existential question of how one came to be, as the literal *first* marker in this life trajectory, is especially salient. Indeed, the birth narratives proved to be very interesting

resources for mining both individual differences in factors like the style of storytelling and the level of detail present as well as for relating these differences to measures of well-being for adolescents.

Relations between narrative variables

In its status as a narrative, the birth stories were expected to share some features with other narratives that have been studied in the literature. For example, it was predicted that the presence of internal states language and descriptions of significant relationships would most likely be found among the same participants, and, indeed, this was the case (as were many other relations that have been identified as covariates for other types of narrative).

However, I was particularly interested in how narrative variables might function *differently* in birth narratives as compared to other types of narratives. For example, the three dimensions of coherence were highly intercorrelated for this dataset, contrary to predictions and evidence from Reese et al. (in press). Hence, there might be something unique about the function of coherence in birth narratives that is not captured in other types of narrative that have been tested for coherence in that the former are *received* stories (while many other types of narrative, including the ones in the study from Reese et al., in press, are experienced narratives). It could be that the original narrator of the birth story (most likely the mother) includes details that situate the birth event in a particular time and place as well as in an emotionally salient context because of the significance of the event (details of which might not always found together in

other types of narrative of less significance), and that adolescents recall these details accordingly. Furthermore, it might be that the details of when, where, how and why of one's birth are so crucial to this particular type of narrative as to become almost indistinguishable in the telling. For example, many of the adolescents gave a linear, chronologically coherent description of their births with contextual details, e.g. "Uh I was born at 6:23 in the morning on February 25, 1992, and I was born in twenty-three minutes and at Northside Hospital" often with added thematic details, e.g. "They sewed her back up and kind of she was like all numb and so they just put me by her head so she could look at me." Additionally, given the ubiquity of information related to one's birth for bureaucratic and identity purposes (nearly all government and similarly official documents request the birth date at the beginning of the form) and for traditional narrative purposes (e.g. the proliferation of examples in literature that begin with "I was born..." and/or of myths of origin), it is conceivable that birth narratives are unique in setting the stage for a more unitary function of otherwise distinct dimensions of coherence because of the type of information that is generally found within them.

Further support for this idea comes from Nilsson's description of birth narratives, where he refers to the common "I was born in (place) on (date)" opening in birth narratives as a chronotype—a term he borrows from the Russian literary theorist, Bakhtin. According to the latter, the chronotype is that which organizes space and time into a coherent whole (Bakhtin, 1982). Thus, the chronotype, which Nilsson adapts to birth narratives to mean that which places

the narrator in a familiar biographical time and geographical space, becomes a suitable literary device for characterizing birth narratives in particular.

Furthermore, Nilsson suggests that the birth narrative responds to fundamental questions concerning our existence such as “where did I come from” and “what is my relation to my parents and my siblings” (Nilsson, 2002), again increasing conditions for different types of coherence to converge on one subject.

Yet another reason why the three dimensions of coherence might have shown such strong relations in these narratives could be due to the age and therefore developmental stage of the adolescent participants. Even in the Reese et al. article (in press), where the main thrust of the argument is distinguishing coherence dimensions, some exceptions to these distinctions appear, although for very different types of narratives: For example, two of the adolescent samples they tested in their study revealed correlations between the three dimensions of coherence for different narratives. Amongst their North Carolina sample of 11-year old adolescents, thematic coherence significantly related to both contextual coherence ($r = .53, p < .05$) and chronological coherence ($r = .41, p < .05$) for narratives of disappointing events. This is not unexpected, given that the authors discuss the different developmental trajectories for each type of coherence that, importantly for this discussion, all seem to cohere during adolescence. Given the age of the participants in this sample, it is possible that the various dimensions of coherence are fully developed in these adolescents and therefore less distinguishable.

On the other hand, relations between all the remaining narrative variables examined in the study were predicted. All of the narrative variables, for example, were significantly related in some way to elaboration, which may signify the latter as a kind of “catch-all” narrative category, especially since qualitative analysis of the birth narratives revealed that there was very little substance to the shortest narratives, making them unlikely to receive higher scores on any of the narrative variables tested. The more elaborated the birth story was in this dataset, the more opportunity for other interesting details (like the meaning of the birth to significant others in the adolescent’s life or the emotional experience of the birth) to emerge, so it was not unexpected to find that elaboration related significantly to both connectedness and thematic coherence in this dataset as well. Additionally, because affective content often characterizes thematically coherent narratives (Reese et al., in press), it was also predicted that adolescents who ascribed meaning to their birth would also use more emotion words in their descriptions, which was the case. The following example from one participant in the study demonstrates this confluence of affect and theme:

Yeah. My parents couldn’t see me. I had heart...open-heart surgery and my mom and my dad were just devastated ‘cause they...my mom got to see me for two seconds and they’re like “She’s gotta go...” ‘cause I was blue. And um they finally got to see me. I had open-heart surgery on the third day and all during that time they were all prayin’ and cryin’ and stuff like that and I think my mom’s...‘cause it was down in Florida...so like my mom’s whole side of the family came down to see me and um I’m not sure if anybody from my dad’s side came ‘cause they’re all the way up in New York. I think maybe one of them came, my uncle. But um I know it was really sad, but when I ...everything was fine. I was luckily at a good hospital where they had just perfected the thing like six months earlier so my parents felt really confident that I

would...I would come out of it and I did so...And they're always saying they put two hearts in me 'cause I always keep going. So...

Here, the participant is able to set up the emotional context for her birth as one that was challenging and difficult because of her heart problems at birth; she is also able to empathize and connect with the devastation her parents had at the state she was in when she was delivered, and then to recognize the joy they must have felt when her surgery was successful by recollecting the touching anecdote they must have shared with her that she was given a second heart in the process. When compared to another participant's narrative "I know my dad was there, at least he said he was there. I have no other evidence to say that he was not versus that he was. But that's it," the rich tapestry of a story woven by the previous participant becomes especially salient.

Furthermore, the fact that elaboration and chronological coherence related in the study is also evident in the first narrative described above, as the participant lays out the sequence of events in time in a way that is clear and makes sense. The connection between elaboration and chronological coherence so often found in these narratives is testament to the crucial function of temporality in birth narratives (i.e. as the first of the very important "birthday(s)" and all of its associated meanings, functions and rituals).

Gender differences in birth narratives

Gender differences have been present in other kinds of autobiographical narratives in the research literature, and I wanted to see if these same kinds of differences would also emerge in birth narratives specifically. I found significant

support for my second set of hypotheses. Gender differences followed expected directions, mimicking findings from other types of narrative studies where, for example, female participants have been shown to tell longer and more detailed, emotional, and peopled stories (e.g. Buckner & Fivush, 1998). In this case, female adolescents told longer, more elaborate, more chronologically/thematically coherent, and more connected birth narratives with more internal states language. Again, the only variable that did not significantly differentiate the genders was contextual coherence, highlighting it as something distinct in this study. It is possible that if contextual coherence is represented in birth narratives as more factual information concerning the situation for one's birth as theorized above, then there might be less opportunity for gendered descriptions of these.

When word count was controlled as a covariate, connectedness and emotion words (the presence of which have been more consistently associated with female narratives in the literature as in the Buckner & Fivush study cited above), remained significant. It is possible that connectedness and emotion words are more positive determinants of the kinds of language that females use in their narratives over males, which would be consistent with both the literature showing a relational bias among females (e.g. Gilligan, 1982), as well as the presence of more emotionality amongst females (Camarena, Sarigiani, & Peterson, 1997). It seems that, similar to what is found elsewhere in the literature, female adolescents from this study were more likely to describe their births with the addition of emotional and relational detail than males.

Additionally, chronological coherence remained significant, the reasons for which are not as clear. It might be that female participants have had more exposure to the story of their birth from their mother, making it more likely that they could tell a chronologically coherent sequence of events as discussed previously.

One of the most interesting characteristics about a birth narrative as forum for testing gender differences that distinguishes it from other types of narrative is the fact that this story is more often than not told to children by their mother (Nilsson, 2002). Using terminology from Bakhtin, it is the mothers' utterance which represents the primary genre that is absorbed and reconstructed by her children in the retelling of their birth (Bakhtin, 1986). With this in mind, it is possible that the mother may be telling birth stories in a different way to sons and daughters. In the latter case, the socialized pressures on females to conform to traditional gender roles may mean that the mother tells her daughters (of whom she expects or even implicitly indoctrinates to follow suit) more relational stories about their birth. We know from data with other types of narratives, for example, that parents tell stories with more social events (Buckner & Fivush, 2000) and with more elaboration, affiliation and emotion (Fivush & Nelson, 2006) to daughters than sons. It could also be that due to the implicit genderual nature of birth regarding reproduction, mothers may feel more at ease discussing an event which directly implicates their anatomy with their daughters. It is even conceivable that the story of one's birth might be used as a platform for discussing the life cycle in general. One final possibility related to gender socialization is that mothers tell these kinds of stories to their daughters for the

purposes of preparing them to be mothers themselves some day, similar to the conclusion drawn by Reese (1996) in her analysis of mother-child birth narratives that mothers may use story-telling as a forum to teach lessons and desired behaviors.

For other types of narrative, a gendered reminiscing style has been discovered whereby mothers emphasize more relational themes in stories and fathers emphasize more autonomy themes in stories, which are in turn mirrored in their daughters' and sons' reminiscing style respectively. However, in this case, because it is more likely that the *mother* recalled the birth stories to her children, gender discrepancies in the birth narratives might either be accounted for by mothers' discrepant style in telling sons and daughters about their birth as discussed above, or, perhaps even more interestingly, might otherwise be accounted for by adolescents who, despite their mothers telling similar stories to them regardless of gender, might themselves act as the gendered filter through which processing and retelling of these stories finds discrepant expressions. If females are telling other types of narratives in a gendered way at younger ages, as in studies of co-constructed, parent-child narratives where 8-year old girls told more coherent and elaborated stories than boys (Buckner & Fivush, 1998) or where preschool girls talked more about relationships than boys (Buckner & Fivush, 2000), it is possible that similar gender differences might show up for adolescents engaged in retelling the received story of their birth narratives. In the case of mothers telling discrepant stories based upon the gender of her child or of adolescents hearing similar stories from their mothers but retelling them in a

gendered way, either finding would reflect Vygotskian theory whereby language both transmits and reflects the influence of the broader socio-cultural context.

Relations among outcome measures

According to Erikson (1968), identity development is the major task of adolescence, making it and related constructs especially worthy of attention for this particular population of participants. Identity has been related to constructs of self-worth and self-esteem elsewhere in the literature (Crocker, Sommers, & Luhtanen, 2002; Horberg & Chen, 2010; Kroger, 2003), and data linking scores from the *Rosenberg Self-esteem* scale, the global self-worth scale from the *Self-perception Profile for Children*, and the *Ego Identity Scale* in this study are consistent with these findings. In the case of self-esteem and self-worth, for example, Crocker et al. (2002) have linked state self-esteem to contingencies of self-worth; in other words, self-esteem is lower or higher depending on how one functions in domains from which self-worth is drawn, as in, for example, significant relationships (Horberg & Chen, 2010). Especially pertinent for this study, the domain of significant relationships that Horberg and Chen (2010) describe relates to connectedness, defined by Grotevant and Cooper (1998) as mutuality and permeability with the others around us. Further evidence of links in these constructs hails from McClean et al., who assert that connectedness is one of two important tasks for identity achievement (the other being the simultaneous and integrated development of autonomy). A psychosocial sense of well-being is fundamental to Erikson's theory of identity (1968) and is also linked to self-worth under the theory. Finally, Kroger (2003) discusses how identity-achieved

individuals are often high in self-esteem, providing further theoretical precedent for the linkage of these constructs for this sample.

Adolescents with higher self-esteem and self-worth reported less internalizing disorders (since depression and similar mood disorders are often paired with a loss of self-esteem and/or feelings of self-worth). Although there was a trend of weaker identity strength for those with higher rates of internalizing disorders, this relationship was not as robust, indicating that ego identity might play less of a role in internalizing disorders and behaviors, at least for this sample. Although the relationship was not particularly strong, self-esteem significantly related to externalizing disorders in this sample. Similar relations have been made previously in the literature, such as connections between lower self-esteem and externalizing-type behaviors like antisocial behavior and aggression (e.g. Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005).

Mothers and their adolescent children tended to agree on whether or not the latter had internalizing behaviors. It is possible that this may reflect the finding that females exhibit more internalizing disorders than males in adolescence (Camaren et al., 1997), and therefore that mothers, who themselves would have had increased odds of experiencing internalizing disorders during their adolescence, would be more sensitive to the signs and presence of these. To a lesser extent, there was also a trend of mother and child agreeing on the adolescents' externalizing behaviors. These findings are particularly interesting given the discrepancies in *CBCL* ratings across multiple informants generally found in the literature (for a review, see de los Reyes & Kazdin, 2005), and thus

may suggest more shared understanding or insight amongst mother and adolescents about the latter's behavior.

Adolescents from this sample generally felt similarly about their relationships to their mother and father, and, in cases where they had a more positive view of these relationships, they also rated their families as higher functioning in general. More knowledge of familial history was also associated with higher family functioning, mirroring findings from other studies that knowledge of family history functions as a protective factor (e.g. Duke, Lazarus, & Fivush, 2008), in this case for the family as a unit. Interestingly, however, was the fact that family history knowledge was also associated with better reported relationships between adolescents and their mothers, but not their fathers. It is possible, and perhaps even probable given other findings in the literature, that the source of most family history is via the mother (e.g. Miller, 1994). If this is in fact the case, it appears that adolescents who have mothers that share family information/stories with them feel they have a better relationship with their mother, especially important in the case of the birth narratives, which are more likely to come from the mother.

Although mothers and their adolescent children did not significantly agree on the status of their relationship in this sample based on correlations for their unique assessments of the relationship (perhaps indicative of Eriksonian ego individuation in adolescence), there was, however, a trend towards agreement. On the other hand, adolescents and their mothers did generally rate their family as a whole in similar ways, both in terms of functioning and in terms of

expressiveness, revealing that, at least when it comes to taking perspective on family processes, adolescents and their mothers may feel similarly.

In terms of gender differences on outcome measures, the *DYK* scale again appeared to capture something unique. In this sample, female adolescents were far more likely to know information about their family history than males. There was also a trend of daughters rating their family as more expressive than sons did. We know from other data that females tend to emphasize more relational themes in their writing and speech (e.g. Camarena, et al., 1997; Gilligan, 1982; Harter, 1989; McLean & Breen, 2009), and, with expressiveness as an inherently relational construct, it is reasonable to suggest that daughters might see their family through a more gendered and, in this case, relational lens. This may also account for why adolescent females know more of their family history; i.e. their mothers are more expressive with them.

Relations between narratives and well-being

Although not as abundant as predicted, there was some evidence to indicate that the way participants told their birth story had systematic relations to their well-being and outcome. For example, more use of cognitive words related to less internalizing and externalizing disorders in adolescents as rated by their mothers. It is possible that the presence of cognitive words indicates individuals who have a rational, more orderly way of thinking that protects them from either extremes of dysfunction, at least from the perspective of their mothers. There is some evidence for this in the expressive writing literature where, for example,

only participants who used both emotion and cognitive language to both make meaning out of and to describe facts from a traumatic experience showed health benefits (Pennebaker & Beall, 1986); similarly, more explanatory or causal language in stressful narratives has also been linked to increased well-being in individuals (Smyth, 1998). One other example of a study where an increased use of cognitive language was also associated with improvements in well-being comes from Pennebaker and Francis (1996), where subjects in an experimental writing condition who increased their use of causal and/or insight-related cognitive language between the first and last day of writing evidenced greater improvements in well-being. There was also a trend of adolescents' self-ratings of internalizing disorders to be lower with respect to more use of cognitive words, although this was not significant at the .05 level. It is possible that with a larger sample this effect may have been magnified. However, there was no seeming relation between the adolescents' self-report of externalizing behaviors and cognitive words; hence, it seems that adolescents who use more cognitive language in their narratives are more likely to have mothers who view their behavior as less dysfunctional, but there is no systematic relationship between their use of cognitive language and their own ratings' of behavior, particularly for externalizing behavior.

On the other hand, the presence of more emotion words in the narratives had the opposite relation to the internalizing scale of the *CBCL*, in this case from the adolescent's perspective; in other words, adolescents who used more emotion words in their narratives scored higher for the presence of internalizing

disorders. There are other precedents in the literature for this, for example, the finding that girls who used more emotion talk in negative family narratives exhibited more internalizing problems (Bohanek, 2006). It has also been found in another study that even parents who use more emotion talk in their discussion of the past with their children rate their children as having higher internalizing (and, in this case, externalizing as well) problems (McWilliams, 2007). One explanation is that it is possible that adolescents who are using more emotion language are individuals who are more emotional in general. In this case, the effect may bear a relationship to Nolen-Hoeksema's response style theory (1991; 2008), linking rumination to depression in individuals. In other words, an abundance of emotional detail might indicate a more internally ruminative style and, because research has linked rumination to mood disorders like depression, could therefore indicate an individual with more internalizing behaviors.

Also in support of predictions, relations emerged between familial outcome measures and many of the narrative variables. The *DYK* scale in particular related to several variables: elaboration and contextual coherence, with trends for connectedness and the other two dimensions of coherence. It seems there is something especially important about knowing history about your family, not only in terms of evidence from its correlations with individual functioning, but also because it seems to best tap the type of knowledge that adolescents with the most elaborative, contextually coherent (and, to a lesser extent, connected and chronologically/thematically coherent) birth narratives have. Perhaps knowing the story of one's birth is a fundamental narrative told between parent and child.

If this speculation is correct, then the birth story may act as a kind of anchor for adolescents in narrating and understanding their life story in the context of important intergenerational information; in other words, birth stories that evidence these types of elaborativeness and coherence may signal an individual who is more connected to the familial past.

Equally important from this dataset, but for different reasons, is the emergence of the connection between family expressiveness and an adolescent's use of internal states language and connectedness in their narratives. Expressiveness and emotion bear certain similarities as constructs, and there has been extensive work linking the two in familial relationships (e.g. Halberstadt & Eaton, 2003). The relation between expressiveness and cognitive language may not be as intuitively obvious, but, because cognitive words are part of internal states language, they may be reflective of a more evaluative, expressive individual.

Adolescents who use more emotion words in their birth narratives also rate their relationships with their mothers more highly. Again, if part of the relational style documented in women in other studies encompasses the expression of emotion, then it may be that mothers and daughters are more connected across this variable. Since other studies have shown the transmission of a gendered narrative style from parent to child, it is possible that these same adolescents who use more emotion language in their birth narratives have mothers who use more emotion language in narratives, and that this shared expression is bonding.

One of the most curious and unexpected findings from this study was the significant negative relation between elaborativeness and ratings of relationships to fathers by adolescents. In other words, adolescents who were more elaborative in the telling of the story of their birth also rated their overall relationship with their fathers less favorably. Especially given the previous finding (of the connection between emotion words and adolescents' relationship to their mother), this relation between elaboration and a more negative view toward fathers is striking. Although elaboration and emotion words are not perfectly correlated, they relate significantly above chance, so there is evidence for some relationship between the two narrative variables in this dataset. Given that, the fact that adolescents would diverge on one of these variables with regard to their evaluation of the relationship with their father and mother respectively is especially tantalizing. Because of this unusual finding, *t*-tests were performed to see if there were any significant gender differences for summaries of the adolescent's perspective on the relationship with mother and father respectively, and there were not. However, the possibility of this finding as uninterpretable is emphasized, and further study is required.

Limitations

It is important to acknowledge that with a sample of this size ($N = 61$), there was a significant reduction to statistical power with the number of correlations that were run. Although effort was made to conserve power in having targeted hypotheses (rather than testing all outcome measures for each narrative variable), in relying more heavily on effect sizes than significance

testing, and in using global scores from measures as opposed to the plethora of subscale scores for various measures, it is still recommended that the effects as outlined in the results and discussion sections be interpreted with extreme caution. Further study is needed to research the validity of these effects through replication, and additional studies that tap specific areas of this initially broad survey of various processes related to birth narratives are recommended.

Another limitation to the study was the inability to generalize these findings to other cultures; although participants in this study were from a variety of ethnicities, most were Caucasian, and all were living in the United States, so it is recommended that adolescents from a variety of backgrounds and countries be tested with culturally appropriate material before any broad generalizations can be made. Also, because the families sampled were highly-functioning and consisted of two-parent homes, it is important to look at other types of families (e.g. single parent families) as well as families from across the socio-economic spectrum to see if these results persist and to better characterize the type of families who choose to share birth narratives. Furthermore, to determine if the types of results found in this study endure in individuals, and to determine how birth narrative traits might develop and change across the lifespan in individuals, longitudinal data are needed. Finally, a larger age group needs to be surveyed in order to identify developmental characteristics in birth stories.

One problem that is consistently encountered across various domains in psychological research is that of the validity of self-report (e.g. social desirability in response, Crowne & Marlowe, 1964; Edwards, 1957; Moskowitz, 1987).

Because many of the results discussed above were dependent on adolescents' reports of their own feelings and behavior, it is important to consider that the pitfalls of self-report referred to in other studies could be operating in this sample. Fortunately for this particular study, many researchers have pointed out the psychometric strength in measuring constructs like self-esteem and self-worth (e.g. Dusek & McIntyre, 2003). Furthermore, some (e.g. Crossley, 2000) have argued that humans are inherently interpretative creatures and that this is reflected in the stories they construct about themselves. The latter theory would lend more credence to using self-interpreted measures of functioning when examining the effect of various narrative variables, especially in the case of studies like the present one, where the principal variable of interest is the narrative construction of the self.

Concluding remarks and future directions

Birth narratives are distinctive in that they are literally the first stories that can be told about one's being in the world and that they are stories which must be handed down to children in order to retell them since it is not possible to remember birth. This "self-narrative, once removed," if you will, is fertile ground for the mediation of both immediate (caregivers to children) and broader (i.e. the larger cultural context within which these stories are told to children) societal influences, representative of Vygostkian theory of language as vehicle for transmission and reflection of cultural norms and values for a particular society. In other words, although the evidence for parental influence on children's stories for which they have a memory is strong, in the case of birth stories, on the other

hand, parental influence in most cases represents the only context for which children can ever know the details about their birth. Hence, any differences between the original orator of the birth narrative and the child who re-tells it are most likely representative of the child's own perception of the world in a more immediate way than other types of narrative for which the child may have a memory. Therefore, birth narratives offer a rich area for mining "ventriloquated" voices (Bakhtin, 1981).

This initial study on how narrative accounts of the birth story function shows some evidence for the idea of transmitted socio-cultural norms as discussed above. For instance, most of the research on birth narratives supports the idea that the mother is most often in the role of passing on the birth story to her child, making the individual gender differences discovered in this dataset particularly compelling since they would either reflect the mother's differential telling of the story based on the gender of her child or the child's own gendered filter through which they funnel the story of their birth. With this in mind, it would be particularly interesting to find a group of individuals who received this story from their father or another individual besides their mother to see if there are any systematic differences in the birth narratives yielded from children in these samples. Similarly, it would be useful to collect longitudinal data from individuals with children to compare their stories about their own birth as adolescents to the stories they tell their own children about that child's birth, since, as one scholar suggests, tales of pregnancy and childbirth are very common among women, where "the assumption of the maternal role remain[s] a lasting touchstone of

female identity.” (Miller, 1994) Another suggestion for future research would be to examine each narrative variable in much greater detail in order to pinpoint what it is about elaboration, for example, that accounts for the differences in children who know more about their family history from their counterparts. In this type of study, a larger battery of outcome measures could be disseminated in the hopes of refining the function of various narrative variables as they relate to psychosocial functioning.

One application of this work might be for the improvement of psychometric assessment of adolescent well-being. As some researchers have pointed out, extant assessment tools may lead to distorted conclusions about gender differences in adolescent health due to flaws or biases in testing. For example, Camarena and colleagues (1997) have suggested that quantitative data only account for part of the picture around gender differences in adolescent mental health, and these researchers have employed qualitative narrative analysis to obtain a fuller, more accurate picture of these differences. Therefore the integration of both quantitative and qualitative types of data is advocated to more accurately tap gender differences in adolescent psychosocial health. Studies from the Emory Family Togetherness data set, from which this study is drawn, and similar kinds of research are helping to capitalize on both narrative qualitative data and positivist quantitative data with the inclusion of the well-being assessment measures in addition to careful narrative analysis. The latter methodology could represent a meaningful adjunct to Block’s famed *S*, *T*, and *R* data (1977). Furthermore, the relations that emerged in this study between the

narrative variables and some of the outcome variables support the theory that a multi-method approach may provide a richer and more accurate picture of overall psychosocial functioning in adolescence of the type that Huffman and Hauser (1994) advise.

It is premature to draw solid conclusions about the functions and differences of birth narratives before replication of these findings and similar research have been conducted. However, the dramatic gender differences and relations between narrative and outcome variables that emerged in this study provide compelling reasons to further examine these particular kinds of narratives, especially for adolescent populations for whom, as Kazdin (1993) and others have pointed out, further research is especially needed.

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Table 1. *Correlations between narrative variables: chronological (C.chron), thematic (C.them), and contextual coherence (C.contx), elaboration (Elab), connectedness (Connec), internal states language: emotion (Emo) and cognition (Cog) words, and word count (W.C.).*

	C.chron	C.them	C.contx	Elab	Connec	Emo	Cog	W.C.
C.chro								
C.them	.64**							
C.contx	.46**	.52**						
Elab	.61**	.62**	.34**					
Connec	.30*	.27*	.12	.54**				
Emo	.37**	.31*	.06	.32*	.47**			
Cog	-.001	.32*	.08	.47**	.26	.14		
W.C.	.36*	.49**	.22	.67**	.51**	.38*	.43**	

$p < .01^{**}$

$p < .05^*$

Table 2. *Partial correlations between narrative variables: chronological (C.chron.), thematic (C.theme), and contextual coherence (C.contxt.), elaboration (Elab.), connectedness (Connect.), internal states language: emotion (Emo. words) and cognition (Cog. Words) words, controlling for word count.*

	C.chron.	C.theme	C.contxt.	Elab.	Connect.	Emo. words	Cog. words
C.chron.							
C.theme	.56**						
C.contxt.	.40**	.47**					
Elab.	.53**	.50**	.32**				
Connect.	.11	.04	.00	.30*			
Emo.	.28**	.26	.05	.12	.43**		
Cog.	-.25	.09	-.01	.27*	.10	-.10	

* $p < .05$

** $p < .01$

Table 3. Means (and Standard Deviations), *t*-test results, *p*-values, Cohen's *d* and *r* effect sizes for gender differences in narrative variables: chronological (**C.chron.**), thematic (**C.theme**), and contextual coherence (**C.contxt.**), elaboration (**Elab.**), connectedness (**Connect.**), internal states language: emotion (**Emo. words**) and cognition (**Cog. Words**) words

	Females	Males	<i>t</i>	<i>p</i>	<i>D</i>	<i>r</i>
C.chron.	1.87 (1.14)	1.00 (1.13)	-3.00	.004	-.78	.36
C.theme	1.60 (.86)	1.08 (.74)	-2.42	.02	-.65	.31
C.contxt	1.34 (.76)	1.20 (.94)	-.72	.48	-.19	.09
Elab.	1.73 (.94)	1.07 (.96)	-2.61	.01	-.70	.33
Connect.	1.66 (1.01)	.81 (.92)	-3.25	.002	-.88	.40
Emo. words	.74 (.19)	.09 (.40)	-3.17	.002	-.82	.38
Cog. words	2.35 (.33)	1.30 (.24)	-2.59	.01	-.67	.32

Table 4. ANCOVA for gender differences for all narrative variables: Chronological (C.chron.), thematic (C.theme), and contextual coherence (C.contxt.), internal states language: emotion (Emo. words) and cognition (Cog. Words) words, connectedness, and elaboration, controlling for word count (F, MSE, p, and eta squared values)

	<i>F</i>	<i>M.S.E.</i>	<i>P</i>	<i>Eta squared</i>
C.chron	4.30	1.20	.04	.07
C.theme	2.02	.54	.16	.04
C.context	.07	.05	.80	.01
Emo. words	4.76	.52	.03	.08
Cog. words	2.22	2.24	.14	.04
Connectedness	5.01	.79	.03	.09
Elaboration	1.14	.57	.29	.02

Table 5. *Correlations between adolescent psychosocial outcome measures: Rosenberg Self-esteem scale (RSE), Ego Identity Scale (EIS), the global subtest of the Self-perception Profile for Children (SPPCglobal), the Youth Child Behavior Checklist, internalizing scales (YCBCLintern.) and externalizing scales (YCBCLextern.)*

	<i>RSE</i>	<i>EIS</i>	<i>SPPC</i> global	<i>YCBCL</i> intern.	<i>YCBCL</i> extern.
<i>RSE</i>					
<i>EIS</i>	.60**				
<i>SPPC</i> global	.60**	.38**			
<i>YCBCL</i> intern.	-.51**	-.25	-.28*		
<i>YCBCL</i> extern.	-.27*	.04	-.12	.41**	

* $p < .05$

** $p < .01$

Table 6. *Correlations between self and mother's ratings of adolescent outcome: The Youth Child Behavior Checklist, internalizing scales (YCBCLint) and externalizing scales (YCBCLext) as well as the internalizing scales (CBCLint) and externalizing scales (CBCLext) of the Child Behavior Checklist.*

	YCBCLint	YCBCLext	CBCLint	CBCLext
YCBCLint			.	
YCBCLext	.41**		.	
CBCLint	.31*	.33*		
CBCLext	.16	.30	.70**	

* $p < .05$

** $p < .01$

Table 7. *Correlations between adolescents' self-reports of familial relationships: The Inventory of Parent and Peer Attachment-Revised for father and mother respectively (IPPA-R on father; IPPA-R on mother), the Family Expressiveness Questionnaire—Total Score (FEQ-T), the Family Functioning Scale (FFS), and the Do You Know...? scale (DYK).*

	IPPA-R, on father	IPPA-R on mother	FEQ-T	FFS	DYK
IPPA-R, on father					
IPPA-R, on mother	.48**				
FEQ-T	-.01	.04			
FFS	.67**	.49**	-.08		
DYK	.17	.28*	.10	.31*	

* $p < .05$

** $p < .01$

Table 8. *Correlations between self reports of relationships to mothers--Inventory of Parent and Peer Attachment-Revised (IPPA-Rm Sum)—as well as mother’s reports of mother/child relationships--Revised Inventory of Parent and Peer Attachment (RIPA), as well as family functioning from the perspective of the adolescent (FFS) and the mother (FFS mother), and family expressiveness from the point of view of the adolescent (FEQ) and the mother (FEQ mother).*

	<i>RIPA</i>	<i>FFS mother</i>	<i>FEQ mother</i>
<i>IPPA_m</i>	.24	.25	-.01
<i>Sum</i>			
<i>FFS</i>	-.06	.51**	-.12
<i>FEQ</i>	-.17	-.19	.49**

* $p < .05$

** $p < .01$

Table 9. Means (and Standard Deviations), t-test results, p-values, (Cohen's d and r effect sizes only reported for significant relations) for gender differences in outcome measures: family functioning (FFS), the Rosenberg Self-esteem scale (RSE), the Do You Know...? Scale (DYK), the Ego Identity Scale (EIS), the global sub-test of the Self-perception Profile for Children (SPPCglobal), the Youth Child Behavior Checklist, internalizing scales (YCBCLint) and externalizing scales (YCBCLext), the family expressiveness questionnaire (FEQ), the self report of relationships to mothers and fathers respectively-- Inventory of Parent and Peer Attachment-Revised (IPPA-Rm; IPPA-Rd), the internalizing scales (CBCLint) and externalizing scales (CBCLext) of the Child Behavior Checklist from the mother, and, finally mother's reports of mother/child relationships with the Revised Inventory of Parent and Peer Attachment (RIPA).

	Males	Females	T	p	D	R
FFS	192.44 (23.16)	195.80 (26.37)	-.49	.62		
RSE	33.91 (4.04)	32.99 (4.04)	.97	.34		
DYK	11.77 (3.93)	14.40 (2.46)	-3.10	.003	-.82	.38
EIS	7.60 (2.34)	7.62 (2.41)	-.03	.97		
SPPCglobal	3.16 (.53)	3.27 (.45)	-.90	.37		
YCBCLint	52.29 (8.70)	53.67 (8.55)	-.59	.56		
YCBCLext	49.01 (7.52)	49.00 (7.95)	.05	.96		
FEQ	216.49 (53.90)	241.88 (58.50)	-1.73	.09		
IPPA _m	95.91 (13.44)	101.8 (17.02)	-1.47	.15		
IPPA _d	88.28 (14.70)	89.14 (20.29)	-.18	.86		
CBCLint	47.92 (7.85)	47.60 (9.82)	.12	.90		
CBCLext	46.63 (7.52)	46.36 (9.50)	.11	.91		
RIPA	76.80 (21.13)	82.03 (20.53)	-.90	.37		

Table 10. *Correlations between narrative variables [chronological (Cchron), thematic (Cthem), and contextual coherence (Ccontxt.), elaboration (Elab.), internal states language: emotion (Emo. words) and cognition (Cog. Words), and connectedness (Connect.)] and adolescent outcome measures: Rosenberg Self-Esteem (RSE), Ego Identity Scale (EIS), the Self-perception Profile for Children (global self-worth) (SPPC), and internalizing/externalizing scales of the Mother's Child Behavior Checklist (CBCLi; CBCLe), and internalizing/externalizing scales from the Youth Child Behavior Checklist (YCBCLi; YCBCLe).*

	RSE	EIS	SPPC	CBCLi	CBCLe	YCBCLi	YCBCLe
Cchron	-.22	.02	-.09	.22	.06	.09	.14
Cthem	-.27	.04	-.18	-.08	-.19	.20	.04
Ccontxt	-.17	.17	-.07	.03	.04	.02	.04
Elab	-.23	.20	.05	-.13	-.23	.21	.27
Emo	-.06	.04	.05	.10	-.05	.28*	-.03
Cog	-.08	.13	.12	-.30*	-.34*	.24	.05
Conn	-.17	.01	.16	-.20	-.28	.15	-.03

* $p < .05$

** $p < .01$

Table 11. *Correlations between narrative variables and familial outcome measures: Do You Know (DYK), Family Expressiveness Questionnaire Total (FEQ), the Inventory of Parent and Peer Attachment-Revised with the adolescent's perspective on both mother, (IPPA mother), and father, (IPPA father), and Family Functioning Scale (FFS)*

	DYK	FEQ	IPPA (mother)	IPPA (father)	FFS
Cchron	.25	.11	.21	-.004	-.05
Cthem	.25	.08	.17	-.03	-.06
Ccontxt	.32*	.02	.13	.04	.17
Emo	.04	.36**	.29*	.03	-.20
Cog	.17	.32*	-.09	-.18	-.09
Conn	.24	.27*	.24	-.14	.06
Elab	.31*	.13	-.01	-.28*	-.27

* $p < .05$

** $p < .01$

Figure 1. *Significant gender differences for chronological coherence.*

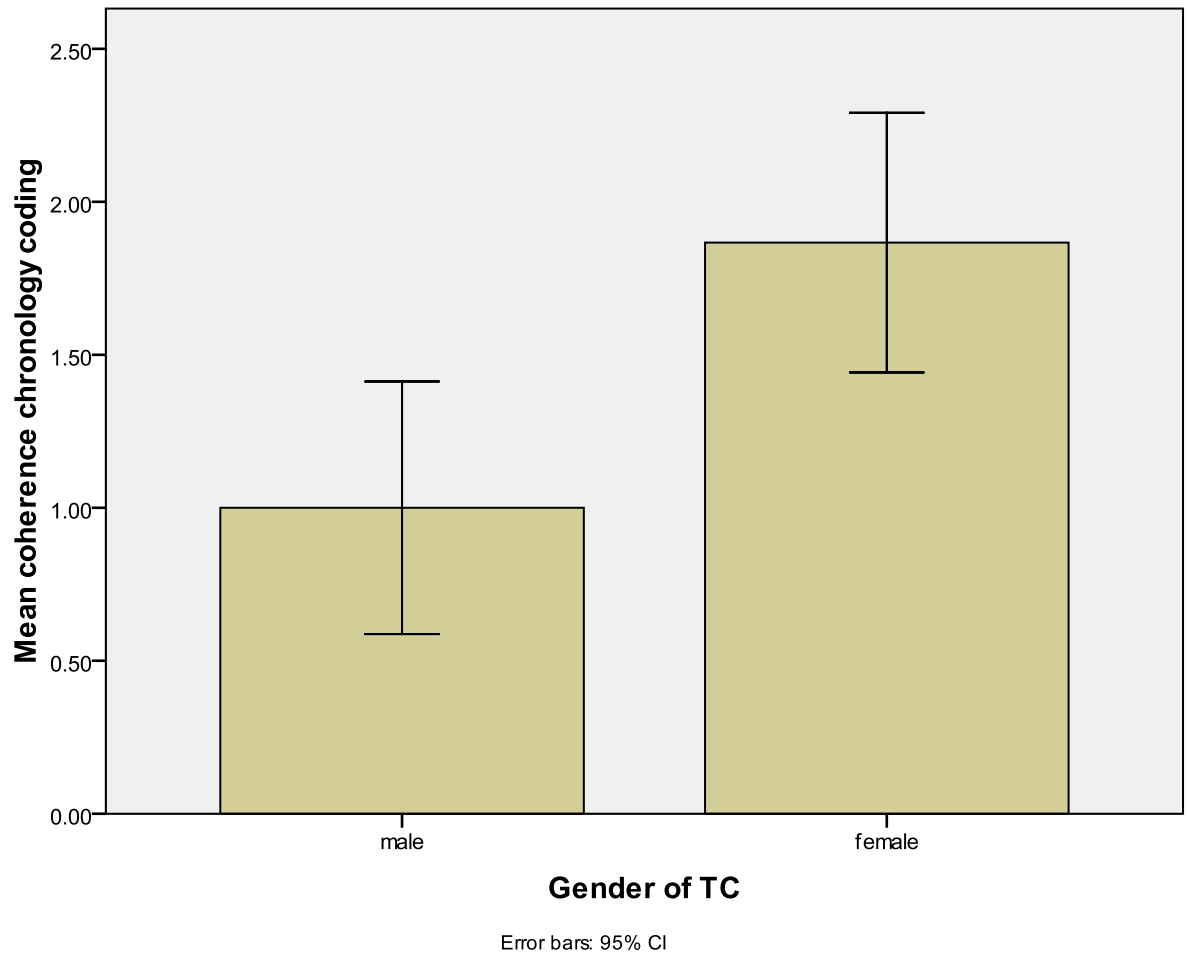


Figure 2. *Significant gender differences for thematic coherence.*

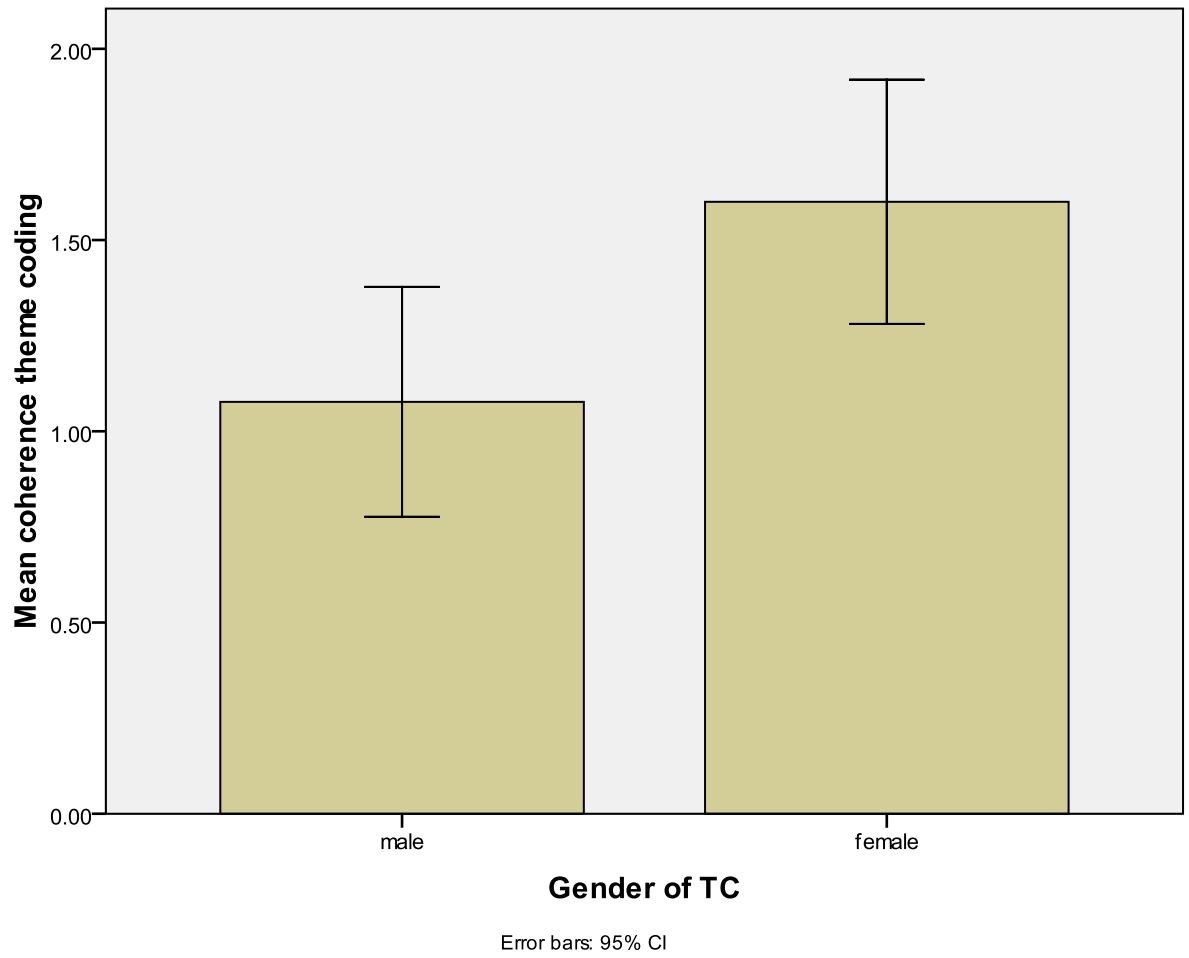


Figure 3. *Significant gender differences for elaboration.*

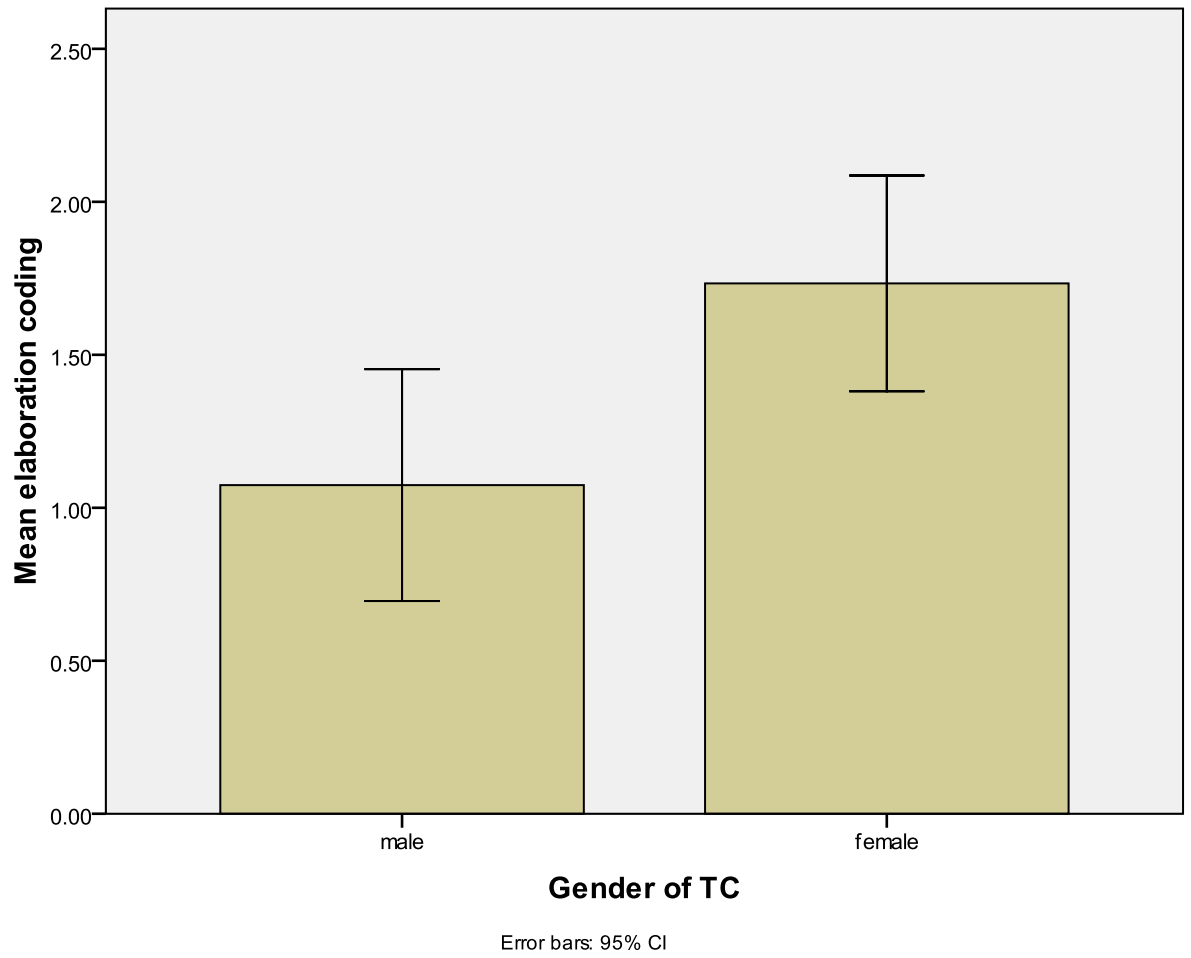


Figure 4. *Significant gender differences for connectedness*

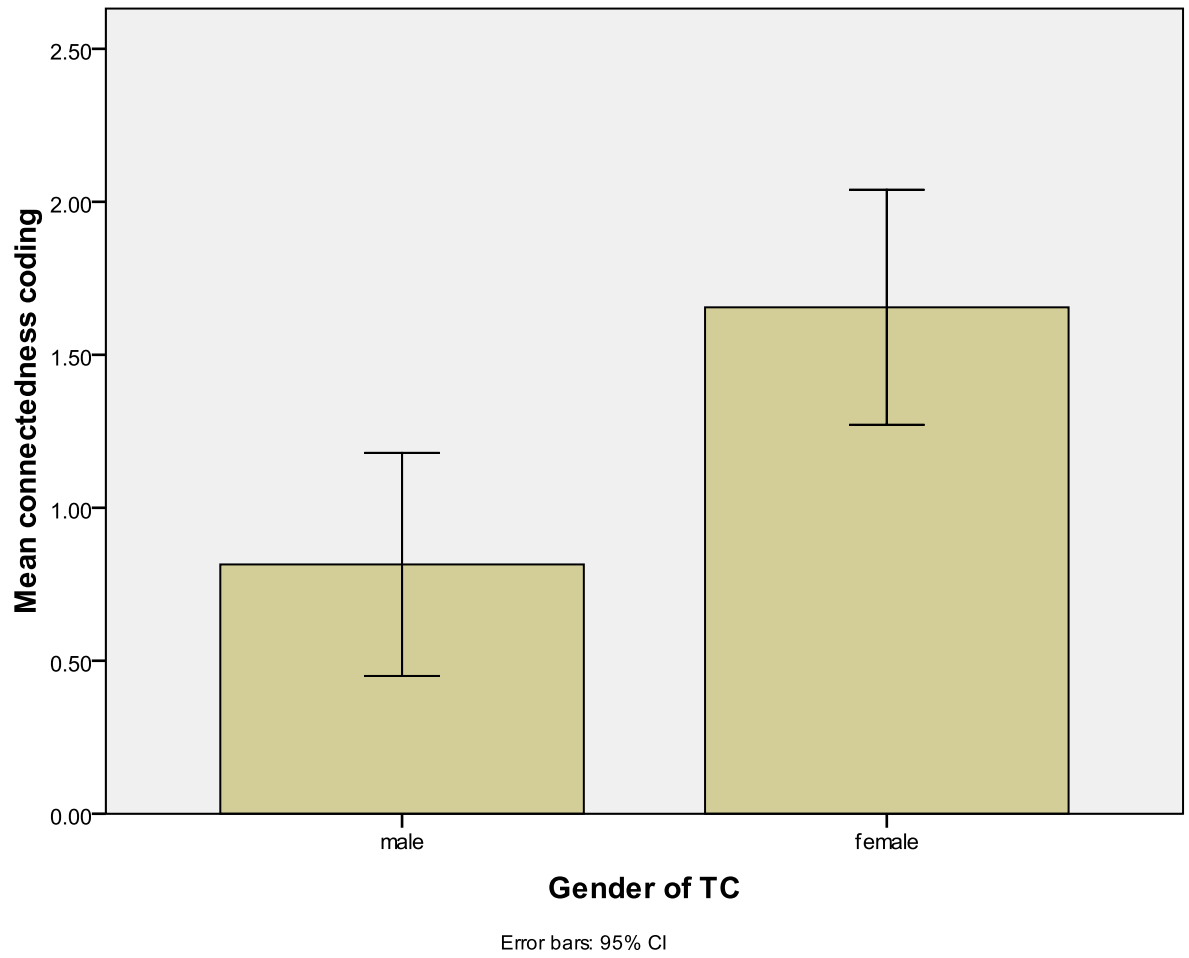


Figure 5. *Significant gender differences for emotion words.*

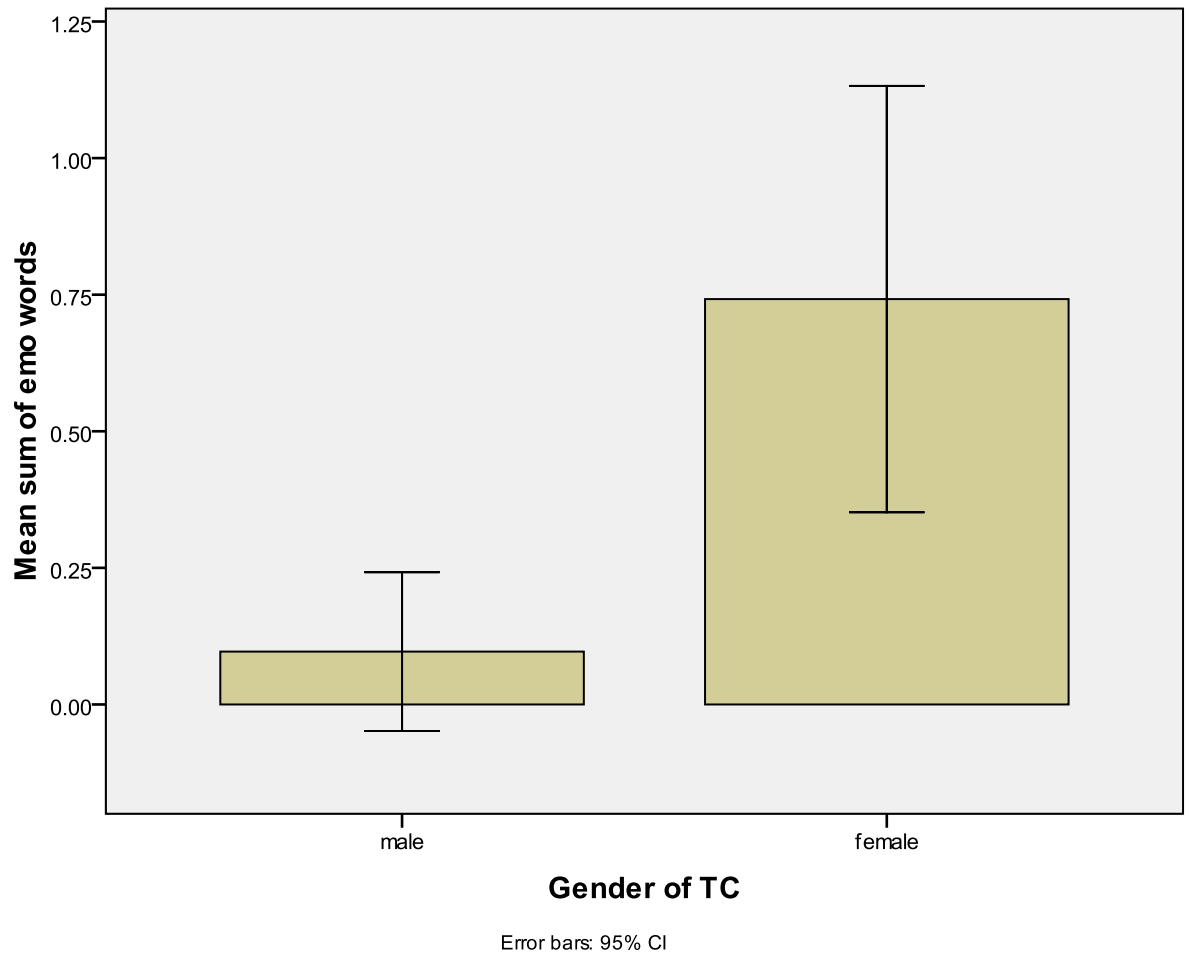
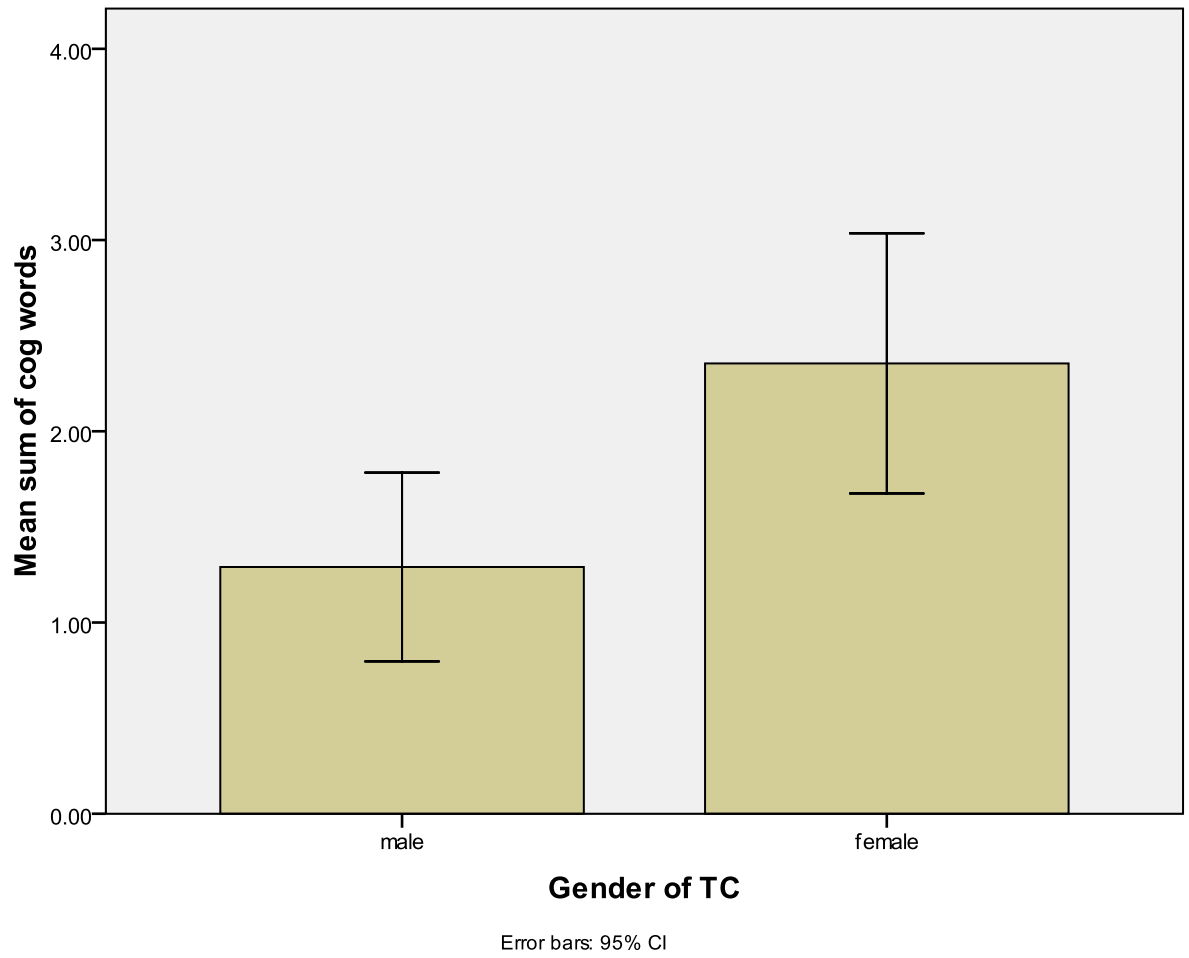


Figure 6. *Significant gender differences for cognitive words.*



Appendix A

Coherence Coding Scheme

Global	Score	Description
Context	0	The events of the narrative are never situated in time and place.
	1	General mention of either place (e.g., “at the mall”) or time (e.g., “one time”).
	2	Specific mention of either place (e.g., “in New York City”) or time (e.g., “during Thanksgiving last year”).
	3	Specific mention of both place and time.
Theme	0	The events of the narrative do not center on an apparent topic.
	1	The events of the narrative do not center on a specific topic, but with little elaboration or causal connections.
	2	Increasing elaboration and causal connections between the events of the narrative.
Chronology	0	The events of the narrative are unordered.
	1	Few events in the narrative are ordered in a comprehensible manner.
	2	About half of the events in the narrative are ordered in a comprehensible manner.

- 3 The majority of events in the narrative are temporally organized and easy to follow.

Appendix B

Elaboration Coding Scheme

Global Code	Score	Description
Elaboration	0	There is no narrative present or there is only one event mentioned without additional details.
	1	Events are listed and there is very little detail and description of events.
	2	Events and actions are moderately expanded upon; there is some background information, quoted speech and information about characters' thoughts and feelings.
	3	There are multiple actions related to an event, which are linked by causal connections, expanded upon with adjectives and adverbs, and include background information, quoted speech and information about characters' thoughts and feelings.

Appendix C

Internal States Coding Scheme

(as shown in Bauer, Stennes, & Haight, 2003)

Examples of emotion (explicit):

- 1) Positive
 - a. I was never so *happy* in my life.
 - b. I was so *excited* and *thrilled* by this invisible ball.
- 2) Negative
 - a. I was *upset* that I couldn't walk to school with my sister.
 - b. I was *scared* to wear them to school.
- 3) Neutral
 - a. Oddly enough, I did *not* get *angry*.
 - b. I probably *should have been afraid*.

Examples of emotion (implicit)

- 4) Positive
 - a. He *smiled* as I gave him a hug.
 - b. We all *laughed*.
- 5) Negative
 - a. I remember *crying* for a very long time.
 - b. He begins to *sob* and runs away.
- 6) Neutral
 - a. I had seven stitches, but I did *not* *cry*.
 - b. *Nobody laughed* at the joke.

Examples of cognition

- a. I *wondered* if it was a stray pet.
- b. I rode his bike down to the corner to see how fast he could go.

Appendix D

Family Connectedness Coding Scheme

(Note: This coding scheme is presented in much more detail since a co-researcher and I adapted this scale specifically for birth narratives from a pre-existing coding scheme for connectedness developed by staff of the Fivush laboratory)

Connectedness refers to the extent that individuals relate to others, reflect on relationships, and demonstrate understanding of others' feelings and actions. Unlike in McLean et al.'s scheme, negative interactions with others (e.g., disagreements, misunderstandings, etc.) can sometimes receive high scores for connectedness (especially if the individual reflects on how the event influenced his or her relationship with others involved).

Note1. A meaningful event is characterized by its inherent impact on the relationship. An event is meaningful if it can be interpreted as a choice the adolescent or the family makes, as opposed to an obligation. E.g., "We always used to watch baseball with my dad," is inherently meaningful because it implies spending time with another to improve the relationship. On the other hand, "My dad and I take out the garbage every night," may not have any impact on the relationship between the dad and the adolescent, and so would not be considered meaningful.

Note2. Animals/Pets can replace people on any level of the coding scheme. Religious and spiritual figures (e.g., God and Jesus) can also replace people on all levels of the coding scheme.

CODE 0:

- The adolescent does not reference any type of interaction with others
OR
- When others are mentioned in the narrative, there is no interaction, speech, or reflection on the adolescent's relationship with those individuals.

Example:

"When the doctor came he asked my dad if he wanted to cut the umbilical cord and my dad said, "No. You haven't done anything yet; you can do it."

Here the interaction is only between one significant figure in the adolescent's life (the father; not the doctor), and the adolescent is not sharing this dialogue to reflect on any meaningful behavior relevant to the birth

- The entire narrative is activity/event-focused or self-focused.
- The following is an example of a code 0 narrative.

“Uh, I was born at 6:23 in the morning on February 25, 1992 and I was born in twenty-three minutes and at Northside Hospital and that's all I know.”

- The adolescents focus on the self rather than their relationships with others.
- Statements in which the adolescent refers to others merely to provide context or simply to report an exchange of physical items (e.g., presents, homework, etc.) may receive a score of 0 if the adolescent does not elaborate on the interaction. For example, the following narrative would receive a score of 0:

“they ended up having to go over to my aunt' and uncle's house...”

- In this case, the adolescent mentions actions concerning relatives (parents going to and aunt and uncle's house); however, the sole purpose of this reference is to place a self and activity-focused event in context. There is no sense of relationship between the adolescent and his/her relatives.
- The following is a second example of a narrative that would receive a score of 0:

“My mom wanted me to stay one day later so I'd be born on Valentine's Day.”

- Because the mom in this example is not carrying out an action that is explicit with her adolescent child, this would be coded as a 0.

CODE 1:

- The adolescent references interactions with others or between significant others (e.g. family; close friends; does NOT include medical personnel--as in the sample narrative above between the father and the doctor on the topic of the umbilical cord--or other impersonal relationships), but the narrative is activity/event-focused rather than focused on relationships. Additionally, if the adolescent concentrates more on impersonal, technical details within the interaction, these would be classed as a '1.'
- The adolescent references the *presence* of significant others (e.g. family; close friends; does NOT include medical personnel or other impersonal

relationships) at either the birth or a context related to the birth (e.g. “I know my dad was there.”)

- Any interactions mentioned in the narrative do not appear to be particularly meaningful for the adolescent’s relationship with the person he or she interacts with or the significant others in the adolescents’ life who interact together and/or the actions of others do not appear to be meaningful in the context of the birth (e.g. “My grandfather...was still working or was out of town or something”)
- Negative emotional statements: When an interaction with/between significant others or a situation is given a negative evaluative OR emotional descriptor that either has no relation to the birth and/or does not reveal any type of perspective-taking or empathy (e.g. “My mom was getting out of the hospital and they didn’t bring her anything and she was really mad ‘cause she wanted pancakes”), this will be scored as a ‘1’. Another example of a ‘1’ would be “My dad was kinda creeped out” since there is a negative appraisal of the situation with no implied meaning or significance surrounding the participant or birth, as opposed to “He [my dad] was so nervous”), which would be scored as a 3, since the participant’s theorizing of the father as “nervous” demonstrates the ability to take on the perspective of the father during the situation and to empathize with his feelings.

CODE 2:

- The following represent classifications for code 2 narratives:
 - Narratives in which the adolescent references an interaction with significant others that is meaningful (distinguishing it from interactions in code 1 narratives), but the purpose of the reference is not to shed light on the actual meaning of the relationship itself. Instead, the purpose of the reference is to bolster the main ideas of the narrative, which do not concern the adolescent’s relationships with others. These can include *interactions* between significant others (e.g. family; close friends; NOT medical personnel).

Examples:

“My grandmother was there to hold me.”

“..and so they just put me by [Mom’s] head so she could look at me”

- Pride: Taking pride in another’s actions is a special type of connectedness because it requires that one individual evaluate and

appreciate the behaviors of another. However, unlike interactions in code 3 narratives, it is generally a one-way connection (generally, one individual is proud of another). Thus, it merits a score of two.

- Evaluation/Emotion unrelated to a significant other and/or the birth:
E.g. "He told me he got it the day I was born for me and I like hugged it or something. Pretty cool."

CODE 3:

- The adolescent reflects on why an interaction with another is meaningful or why an activity or event is meaningful for his or her relationship with another.

Note: The interaction need not be explicitly placed in the greater context of the adolescent's relationship with the individual, but the meaning of the interaction must be clearly stated (except in the case of perspective-taking and emotional expressions; see below.)

- Reflections must be based on relationships between the self and others, rather than on the self. For example, a passage that reads, "We got into an awful fight that ultimately increased our understanding of one another," would receive a score of 3. However, if the passage reads, "we got into a fight and now I realize that I am very easily irritated," the narrative would receive a lower score, because the reflection is on the self rather than on the relationship.
- Interactions between the adolescent and another need not be direct or explicit if there is evidence of perspective-taking or emotional expression toward another. The presence of emotional expressions such as "I love her," and "I miss her," renders the narrative a code 3 narrative.

Note: Emotional expressions toward another must be relatively enduring. Expressions such as "I love her," "I miss her," and "I support her," indicate enduring emotions toward another, whereas expressions such as, "I was angry at her," and "I was happy with her response," indicate transient states and emotions and do not merit a score of 3.

- Perspective-taking and empathy: Any form of perspective-taking or empathy receives a score of 3, because perspective-taking entails deep reflection on the thoughts and actions of another. Perspective taking

implies care about others. Note: This may include descriptions of negative emotions in others, as long as it is clear that the participant is relating to the significant other expressing the negative emotion in an understanding or empathic way (E.G. “My dad was really scared too ‘cause it was the first kid.”)

Particularly in perspective-taking and empathy narratives, it is important to note that code 3 narratives do not necessarily focus on explicit interactions between the self and others. For example, if a child empathizes with a parent regarding the loss of another family member, the child may not report a specific, explicit interaction with the parent in his or her narrative. Rather, the child may discuss his or her relationship with the parent in a more abstract manner.

- Seeking comfort: If an adolescent reports seeking comfort from another during times of being scared or upset, the narrative is scored as a 3.
- Explicit statements indicating importance of people-centered activities merit a score of 3. For example, a statement such as “My birth was a family event; everyone came out!” would call for a score of 3.
- Conclusions regarding how an event has affected the adolescent’s relationship with another may be either vague or specific.
- Inferring the emotional state of significant others that has implications for the relationship, e.g. “[T]hey just named me. And my grandma was happy.”
- Statements that suggest a wider context of generational influence or family history, e.g. “My godfather would always say to my mom, ‘When’s my son gonna be born?’ ...and I ended up being born on the same birthday as him, so we have the same birthday, which is sort of funny.”