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**THE IMPACT OF AUTOBIOGRAPHICAL AND VICARIOUS EVENTS ON
NARRATIVE IDENTITY**

by

KENDALL M. SOUCIE

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

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CHAPTER 1

Introduction

Narratives are foundational to human culture and to the human experience (Bruner, 1986; MacIntyre, 1984; McAdams, 1985; Polkinghorne, 1988; Sarbin, 1986). What it means to be a human being is captured most deeply by literature, poetry, myth, folklore, legend and fables (Bloom, 1998; Campbell, 2001). In fact, "if we want to obtain a glimmering of what human nature is like, we are still on firmer ground with Shakespeare, or Aeschylus, or Joyce, or Dostoyevsky..." (Bickerton, 1995, p. 3). The scientific use of narratives to capture the many varieties of the human condition first began to flourish in the early 20th century in psychology (Adler, 1927; Freud, 1959; Murray, 1938), sociology (Cooley, 1902; Mead, 1934) and anthropology (Foucault, 1986, Mead, 1935), but declined with the ascendancy of cognitive and behaviorist paradigms (Kuhn, 2001; Skinner, 1974; Sperry, 1987; Watson, 1913).

From the late 1980's to the present day, however, there has been a resurgence in the use of narratives in the social sciences in general (Giddens, 1991; Gergen, 1992; Stewart, 1994) and in personality psychology in particular (Howard, 1991; McCabe & Peterson, 1991; McAdams, 1985, 2001, 2011; Polkinghorne, 1988). Proponents of narrative research within personality theory and research posit that an account of human individuality not only includes dispositional traits and implicit goals, but also involves the construction of a life story. The life story, according to McAdams (1985), represents a person's *narrative identity* and it serves to integrate the past, present, and future in a coherent way. The totality of a person's narrative identity is not marked by a single episode, but rather an anthology or collection of stories which together create unity, meaning, and purpose in a person's life. Personal anthologies are also embedded in a social, cultural, and historical context and thus time, place, and setting are as integral to the life

story as the protagonist (Alea & Bluck, 2003; Bluck, 2003; Bluck & Alea, 2002; McLean, Pasupathi & Pals, 2007; McLean & Thorne, 2006; Pasupathi, 2001, 2006).

The line of research presented in this dissertation lies at the nexus of these traditional psychological, sociological, and anthropological paradigms. One of the most central issues in the study of identity is the ways in which social interactions shape the lives of both self and other in meaningful and nuanced ways (McLean et al., 2006; McLean & Thorne, 2003, 2004, Nelson & Fivush, 2004; Pasupathi, 2001; Pratt & Fiese, 2004; Weeks & Pasupathi, 2010, 2011). These interactions are largely based on a shared understanding of who we are and are learned not only through our own social interactions with others, but also through their interactions with members of our their own social networks (Pratt & Fiese, 2004). The aim of this dissertation was, therefore, to examine the differential role of autobiographical and vicarious experiences in shaping a person's narrative identity.

Overview of Literature Review

The following literature review is presented in four specific parts. In part I of this review, an overview of the importance of narratives in shaping the human experience, from acquiring cultural values, beliefs, and mores, to contemplating the meaning of the human condition is presented. Both identity and narrative identity are discussed as tied to socio-cultural processes, but also inherently evolving through personal reflection and general life experiences. In part II of this review, the discipline of moral psychology is reviewed with a particular focus on moral identity and the real-life moral experience often neglected in the traditional paradigms of Piaget (1932/1948) and Kohlberg (1963). I focus on moral identity in this study as a means of more concretely grounding the primary research focus of this study, i.e., the differential role of autobiographical (self) and vicarious (other) experiences in shaping narrative identity. Moral

values and beliefs are expressed almost exclusively through narrative or linguistic modes of transmission (e.g., myth, folklore, rituals, exemplar experiences, etc; Campbell, 2004; Vitz, 1990; Pasupathi & Wainryb, 2010; Turiel, 1983) which provide an ideal vehicle through which to explore the impact of vicarious experiences on the life story.

In part III of this review, I focus on the ways in which vicarious memory is distinguished from autobiographical memory in the construction of one's own life narrative. Next, I argue that vicarious events arise from direct (shared) or indirect (non-shared) experiences of events within one's social network (Antonucci, Fiori, Birditt, & Jackey, 2010). I then posit that social learning theory offers a socio-cognitive mechanism through which the experiences of others become assimilated into one's own life story, particularly when there is a perceived social connection between the model and oneself (Bandura, 1977). In the final section of this review (part IV), the constructs of dispositional empathy and self-other merging are discussed. There is a substantial body of research which has demonstrated a link between empathy and self-other merging and several social and psychological variables such as in-group and out-group status, altruism and prosocial behavior, social identity, and more collective self-construals (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Cohen & Collins, 2013; Davis, 1994; Goubert et al., 2005; Tangney, Stuewig, & Mashek, 2007).

Part I: Narratives, Culture, and the Storied Self

The narrative form and its centrality to human culture has a long standing history in shaping the human experience. Poetry, drama, literature, folklore, and myth, for instance, not only reflect the cultural ideals of a given time/place, but also lend meaning to individual lives (Campbell, 2004). Many of the central values and beliefs of western culture can be found in the epic and lyric poetry of *Homer* (Fagels, 1996), *Euripides* (Burian & Shapiro, 2010), *Virgil*

(Fitzgerald, 2013) and *Ovid* (Naso, 2013). Moral and religious themes were transmitted through medieval morality plays that were portrayed by travelling troupes of actors playing stock personalities in the tradition of *commedia dell'arte* in the 16th and 17th centuries (Henke, 2010). Young children learned and vicariously experienced the mores and cultural expectations of western society for generations by listening to the fables of *Aesop* (Weir & Tenniel, 2013) and *Tales of the Brothers Grimm* (Cruikshank, Grimm, & Grimm, 2011). Personality in narrative form was captured most adeptly by the playwright William Shakespeare (Shakespeare, 2001). Although his use of language was unparalleled as a writer, it was his use of narrative structure to provide insight into a fully-fledged personality that was at the heart of his genius (Bloom, 1998). In *Romeo and Juliet*, we feel Juliet's anguish of loss and love; in *King Lear*, we feel the remorse of Lear realizing too late how his pride and arrogance cost him his children's love, and, in *Macbeth*, we see that the desire for power and greed culminates in a spiraling descent into paranoia and madness (Shakespeare, 2001). This pervasiveness of narrative throughout human culture illustrates how central this linguistic form is to fully understanding the human condition.

In the discipline of psychology, narratives are thought of as a root metaphor for organizing all facets of human experience, including cognition, perception, motivation, emotion, and so on (Bruner, 1986; Sarbin, 1986; Spence, 1982; Tulving, 1983). Sarbin argued that "our plannings, our remembering, even our loving and hating are guided by narrative plots" (Sarbin, 1986, p .11). Bruner, along with Sarbin, also posited that narrative discourse is the primary mechanism through which meaning is constructed from experience. Bruner (1986) specifically illustrated the value of narrative as a distinctive mode of thought. It is within this narrative mode that the social, cultural, and historical realities of life were both subjectively and qualitatively represented. This mode was distinct from a paradigmatic mode in which empiricism, formal

logic, and objectivity were the sole purveyors of a valid epistemology. These insights into narrative as a qualitatively distinct way in which to interpret experience have led to advances in the conceptualization of identity as a narrative endeavor which I turn to in the sections below.

Identity

Erikson (1959, 1968) defined identity as an integrated configuration of values, beliefs, and perspectives about relationships, vocations, and ideologies. This configuration serves to reconcile disparities between these perspectives into a meaningful and coherent conception of the self across time and context. Although, over recent decades, there is evidence that the psychological perception of identity has largely shifted into emerging adulthood (McAdams, 2001). In the Eriksonian tradition, identity emerges in adolescence, stemming from the advent of both physical maturation (e.g., puberty) and cognitive development (e.g., formal operational thought). Full-fledged adult-like physical appearance, the advent of sexual maturity, coupled with the ability to think abstractly, hypothetically, and to reflect on the past in nuanced ways, propel an adolescent to confront the problem of "identity vs. role confusion", the 5th stage in Erikson's psychosocial theory. It is during this stage that adolescents actively explore within their societies a range of social and cultural roles. The ultimate goal is to consolidate these disparate roles into an integrative configuration that provides an individual with both meaning and life purpose (Erikson, 1968; Marcia, 1980). This process is not a solitary one. An adolescent's newly created identity is of value to him or herself as he or she navigates through new social environments. Psychosocial development and adjustment also rely upon the acceptance of that identity from significant others, such as parents, teachers, peers, siblings, and/or mentors. Indeed, Erikson (1959) argued that "it is of great relevance to the young individual's identity formation that he be responded to and be given function and status as a person whose gradual growth and

transformation make sense to those who begin to make sense to him" (p. 111). Successful achievement of this stage of psychosocial development allows for the possible resolution of subsequent life goals of intimacy, generativity, and ego integrity across the life span.

Narrative Identity and the Life Story

Like Erikson (1959, 1968), McAdams (1985, 1995, 1996, 2001, 2011) also argued that identity is a key facet of personality. McAdams and Pals (2006) posit that personality consists of three distinct, but interconnected domains: traits, characteristic adaptations, and life stories. This third domain, the life story, is comprised of a subjectively salient set of self-defining events, such as high points, low points, and turning points (i.e., life experiences which cause a person to change in some significant way) and represents a person's sense of *narrative identity*. The particular choice of events deemed central to one's self-definition thoroughly integrates the past, present, and anticipated future into a purposeful, unified, and coherent story of the self across time and place. Self-defining events are markedly different from routine events because they are remembered as specific rather than general, are vivid and detailed (like a snapshot or video) and contribute to a sense of event reliving or experiencing the event. These events are also representative of other events which share similar plot lines, emotions, and motivations and their themes are linked to enduring life concerns and conflicts (Blagov & Singer, 2004; Pillemer, 2001; Singer & Moffitt, 1991-1992; Wood & Conway, 2006). The life story is also grounded in a particular historical time and place. It conveys not only factual and/or biographical information (e.g., setting/location, date/time, people/characters present, scripts/sequences of beginnings, middles and ends), but also imbues factual information with meaningful interpretations of the self as connected to these important life experiences (Habermas & Bluck, 2000; Habermas & Paha, 1999; Pasupathi, Mansour, & Brubaker, 2007; Singer, 2004).

In Shakespeare's Hamlet, for example, Hamlet states in soliloquy his turmoil over the moral choice he has to make to either suppress the truth of what he knows about his father's death or confront his uncle's treachery in the following quote: "to be or not to be, that is the question, whether 'tis nobler in the mind to suffer the slings and arrows of outrageous fortune or to take arms against a sea of troubles, and by opposing, end them, to die, to sleep, no more; and by asleep to say we end the heart ache and the thousand natural shocks that flesh is heir to, tis a consummation devoutly to be wisht, to die, to sleep, to sleep! Perchance to dream; ay there's the rub; for in that sleep of death what dreams may come". This soliloquy illustrates the inner conflict and turmoil of the personal injustice that Hamlet experiences upon learning the truth about his father's death at the hands of his uncle. The most central facet of this narrative is not a description of what happened, but rather the deeply rooted emotional and moral upheaval that he experienced. This narrative also draws the listener into active consideration of who this person is and the evaluation of such a person.

The Life Story as Socially and Culturally Situated

Construction of the life story was once presumed to be an internal process (King, Scollon, Ramsey, & Williams, 2000; McAdams, 1985, Pals, 2006). Recent research, drawing from both developmental and social psychology, suggests, however, that this is no longer the dominant model (McLean & Pasupathi, 2011; McLean et al., 2007; McLean & Thorne, 2003, 2006; Pasupathi, 2001; Thorne, 2000; Weeks & Pasupathi, 2010, 2011). The life story serves both personal functions of self-understanding as well as social functions of intimacy through shared memory telling (Alea & Bluck, 2003; Bluck, 2003; Bluck & Alea, 2002; Pillemer, 2003) and these two functions are interconnected and inseparable (McLean, 2005; McLean & Thorne, 2006; Pasupathi, 2001). The life story is also socially and culturally constructed within the

interpersonal context of the teller (Nelson & Fivush, 2004; McLean et al., 2007). Its structure first develops through parent-child conversations about the past which are either co-constructed by both parent and child or more parent-driven and rule-bound. These distinct styles are differentially related to children's subsequent narrative development (Fivush, Haden, & Reese, 2006; Nelson & Fivush, 2004). These parent-child conversations are also influenced by the norms and values of a particular culture. They are more likely to be co-constructed, but self-focused in Western cultures, and parent-driven, rule-bound, and communal in Eastern cultures (Wang, 2001, 2008, Wang & Brockmeier, 2002; Wang & Conway, 2004).

Parents, peers, and relationship partners are also involved in the construction of narrative identity (McLean, 2005; McLean & Thorne, 2005; McLean & Thorne, 2006; Pasupathi, 2001, 2006). For instance, several studies indicate that distracted (vs. attentive) listeners (both friends and strangers) decrease how elaborate and detailed the teller's stories are, their degree of connection to the self, and their emotional tone (Pasupathi, 2003; Pasupathi & Hoyt, 2010; Pasupathi & Rich, 2005; Pasupathi, Stallworth, & Murdoch, 1998). McLean (2005) also found that the audiences of one's self defining stories were most often parents at earlier ages, and peers at later ages, but generally not communities or larger groups of people. Audiences also tend to prefer stories of gaining insight and managing conflict rather than stories of vulnerability or a preoccupation with one's own sadness or anger (Thorne & McLean, 2003). This body of research suggests that the formation and maintenance of the life story is a complex cognitive and socio-cultural process grounded and sustained within the context of significant interpersonal relationships.

Narrative Identity Processing

The ability to reflect upon the past in meaningful ways and to incorporate self-defining events into an overarching life story is referred to as *narrative identity processing* (Bauer & McAdams, 2004; Dumas, Lawford, Tieu, & Pratt, 2009; Labouvie-Vief & Medler, 2002). A distinct style has also been found to be associated with more advanced narrative processing. This style is referred to as *exploratory narrative processing* (King et al., 2000; Pals, 2006). It is associated with the ability to actively explore, reflect on, and analyze life events with an openness to learn from them. I argue that narrative identity processing occurs through self-reflection or meaning-making as described below.

Meaning-Making

Meaning is generally defined as what a person learns, understands, or gleans about him or herself (or the world) from a specific life experience (McLean & Pratt, 2006; McLean & Thorne, 2003). This view of meaning-making in life narrative can be traced back to the existential movement in both philosophy and psychology in the early 20th century (May, 1953, 1967). Grounded in the philosophical works of Kierkegaard (1944), Sartre (1975), Camus (1955), and Nietzsche (1967), the existential movement explored the concept of meaning in the human experience. At the heart of this paradigm, three core principles emerged from the work of Rollo May (May, 1967, 1981, 1991). First, at the core of any human experience was a self-conscious individual who was both self-aware and the principal actor in any given experience. Second, human experience is inherently subjective and each person is the center of his or her own life story as he or she experiences it. Third, each person is aware of his or her experience, actively interprets it, and imbues it with meaning and deeper self-insights. In extending these views to the field of narrative identity, McLean and Thorne (2003) defined two specific kinds of meaning in narratives of self-defining events: (1) *lesson learning* and (2) *insights*. Lesson learning refers to

learning a very specific or explicit lesson from an event which directs future behavior in similar situations (e.g., "I got caught stealing and learned not to take things that aren't mine"). Insights reflect broader meanings about the self and of others that extend to other aspects of the self, and can be applied or generalized to a wide range of situations (e.g., "I realized from this event that I was a strong, independent woman").

Meaning-Making and Event Valence

A large body of research has shown that difficult or conflictual life events are not easily connected to the life story (McAdams, Reynolds, Lewis, Patten & Bowman, 2001; McLean & Thorne, 2003; Thorne, McLean & Lawrence, 2004; Pals, 2006) because they engender more attempts at meaning and resolution than non-conflictual events (King, 2001; King & Raspin, 2004; King et al., 2000; McLean & Fournier, 2007; McLean & Pratt, 2006). The loss of a job, a recent divorce, and the diagnosis of a major health crisis, for instance, all have the potential to re-orient the life story in transformative or redemptive ways and this leads to increased psychological adjustment and well-being (Bauer & McAdams, 2004; King et al., 2000; Pals, 2006). King (2001) refers to this process of reflecting upon and subsequently resolving conflictual events as "the hard road to the good life," and this is a powerful vehicle for both identity development and well-being (Pals & McAdams, 2004). These findings also parallel results in other areas of self-disclosure. Reflecting on negative life events through expressive writing or weekly diary entries, for example, leads to increases in physical and psychological health (Gortner, Rude & Pennebaker, 2006; Pennebaker & Francis, 1996, 1997; Pennebaker & Seagal, 1999).

McLean and Thorne (2003) and Thorne et al. (2004) found that the content of these difficult and challenging events is often relational. They were most likely to be centered on

relationship conflicts with parents, peers, and other family members. Other challenging events told by participants were classified as either life-threatening events (e.g., near-death experiences, car accidents, and harm or injury) or physical and/or sexual assaults. These narratives of interpersonal conflict were told at least once and generally to a same-sex peer. It is also important to note, however, that not all self-defining events are integrated into one's life story. This is likely because they are either untold, deemed too culturally inappropriate to tell or too trivial or mundane to warrant attempts at self-reflection (Fivush, 2004; McLean, 2008; Pasupathi, McLean, & Weeks, 2009). Other events are often dismissed and subsequently distanced from the self due to impression management and/or social desirability concerns (Pasupathi et al., 2007; Rice & Pasupathi, 2010).

Positive life events also become part of the life story. They do so with greater ease than negative life events because they confirm an idealized view of the self, particularly during adolescence, when these self-conceptions are paramount (D'Armentano, Comblain, & Van der Linden, 2003; McLean, 2008; Pillemer, Ivcevic, Goose, & Collins, 2007; Wilson & Ross, 2003). For example, Pratt, Arnold, and Lawford (2009) found that stories of moral goodness and moral courage told in emerging adulthood were rated by independent coders as higher on moral identity than stories of moral weakness, cowardice, or moral ambiguity. Soucie, Lawford, and Pratt (2012) also found that empathic life events (e.g., times when participants felt sad for someone, or put themselves in someone else's shoes) were more likely to be tied to a salient and meaningful empathic identity as compared to non-empathic events (i.e., times when participants did not feel sad for someone, or did not put themselves in someone else's shoes). These story differences were also found to be more pronounced for younger as compared to older adolescents. These

studies show that a greater understanding of one's identity in adolescence appears to emerge from positive rather than negative life events.

Other research suggests that positive self-defining events are entertaining, fun, and of little consequence to the self as compared to difficult or challenging events (McLean & Thorne, 2006; Pasupathi, 2006). High point and low point stories also serve differential reminiscence functions, with high points being more useful than low points for connecting with audiences, for teaching lessons, and for general conversation (McLean et al., 2007). Pals (2005 cited in McLean et al., 2007) also found that reasoning about intimacy was more likely to occur in positive life events than in negative life events. Self-disclosure may be safer and more socially acceptable for positive stories than for negative stories because the teller is less vulnerable and his or her story is less of a burden on the listener. These recent studies also show that positive life events may be more directly tied to the development of the life story in relational, rather than personal, domains of life (McLean et al., 2007).

These findings are prototypical of the broader and more general literature on the nature of meaning making in shaping the self and identity. They demonstrate that autobiographical events which are most central to the self are events in which an individual has made active attempts to ascribe some level of personal meaning to the event (Park & Ai, 2006; Waters, 2014; Waters, Shallcross & Fivush, 2013). In psychometric studies, event centrality, a questionnaire assessment of the degree to which events are central to the self and to the life story as measured by the *Centrality of Events Scale* (Bernsten & Rubin, 2002), has been shown to be significantly positively correlated with a search for meaning coded from personal events ($r=.25$) (Groleau et al., 2013).

Meaning-Making in Adolescence, Midlife, and Later Adulthood

The ability to find meaning from the past differs as a function of age and general life experience. Pratt, Norris, Arnold, and Filyer (1999) found in a cross-sectional sample of late adolescents, midlife, and older adults, that lesson learning increased with age, but the quality of lessons learned in middle and late adulthood was more reflective and indicative of well-formed life stories. McLean and Thorne (2004) also found qualitative differences in the ability to find meaning from events as told by adolescents and adults. Adolescents told stories that were linked to learning explicit lessons from past events, and these lessons were tied to specific situations and behaviors (e.g., "bullying or harming a classmate will get you detention"). Adults, on the other hand, were able to tie their life events to more insightful properties of self-reflection and this was suggestive of greater personal growth (e.g., "bullying or harming a classmate might indicate that I have an anger management problem or some deep-rooted social issues that I need to address"). These findings demonstrate age differences in the breadth of self-reflection displayed in self-defining events by younger adolescents, adults, midlife, and older adults.

A related area of research explores personal references to either stability or change in relation to self-defining events (Pasupathi et al., 2006; Pasupathi, Mansour, & Brubaker, 2007; Pasupathi & Weeks, 2010). When reflecting on the past, individuals often report the ways in which they have either changed in some causal or revealing way (e.g., "after a near death incident, I realized that I am calm under pressure and I didn't know that I was capable of that") or remained the same or stable (e.g. "because I am social, I decided to join the party, but that's just who I am"). A focus on constructing self-event connections around change rather than stability allows for the teller to reflect on the ways in which he or she has evolved, progressed, or grown substantially as a consequence of particular life events, and thus requires more in-depth

emotional and cognitive complexity (Bauer & McAdams, 2006; Labouvie-Vief & Medler, 2002; Loevinger, 1966).

In examining the development of these event connections across early, mid, and late adulthood, Pasupathi and Mansour (2006) found that the frequency of self-event connections in turning point stories increases across early adulthood to midlife and then levels off or becomes asymptotic above the age of 60. McLean (2008) found that older adults' (ages 65-85) life stories represented stable and continuous identities (e.g., "this experience confirms that I am a hard worker") whereas younger adolescents' (18-35 years of age) life stories, on the other hand, were less stable, centering on transitions and changes to their identities ("I became a different person after this experience, more independent and driven"). In another study, Bluck and Gluck (2004) explored the ways in which individuals of different ages recalled and reflected on events in which they were wise. They found that older adults (aged 60 and over) connected their wisdom events to larger life themes and general life philosophies. Midlife adults linked these events to specific lessons which had implications for later life consequences, but adolescents were unable to find lessons or insights from such experiences. Similar age differences in relating event centrality to identity are expected, given the relationship between event centrality and meaning making (Groleau et al., 2013; Waters, 2014).

Similarly, Singer, Rexhaj, and Baddeley (2007) found that adults over the age of 50 narrated their self-defining memories with greater positive tone, vividness, and integrative meaning (i.e., aspects of the event that has taught a person about him or herself or the world) as compared to college students' recall of past events (Bernsten & Rubin, 2002; Thorne, Cutting, & Skaw, 1998; Webster & McCall, 1999). These findings suggest that self-event connections become more integrative in midlife and old age as compared to adolescents (Erikson, 1968).

These findings are consistent with the concept of a life review (Butler, 1963), which is similar to reminiscence, but tends to be more self-reflective and oriented around a particular life theme such as family or vocation (Haber, 2006). This self-reflective function, ordering, and systematizing the events in one's life in order to create some level of meaning may be of importance when considering the manner in which autobiographical memories and vicarious memories are incorporated into the self. One factor which may differentiate the two is the visual perspective of the memory.

Self-Reflection and Visual Perspective

Recent research within the areas of memory and imagery perspective suggests that the perspective individuals use when recalling the past plays an important role in self-reflection (Libby & Eibach, 2002, 2011; Libby, Eibach, & Gilovich, 2005; Libby, Schaeffer, & Eibach, 2009). Events recalled from one's personal past are remembered through one of two distinct perspectives: (1) an observer perspective or (2) a field perspective. In an observer or third person external perspective, an individual recalls an event from the perspective of a participant observer, often watching the event unfold as a bystander. In a field or first person internal perspective, an individual recalls an event through his or her own eyes, much like an active participant (Nigro & Neisser, 1983; Rice & Rubin, 2009). While most early childhood memories are likely to be recalled from an observer perspective, events from other periods of the lifespan are most often recalled from a field perspective (West & Bauer, 1999). Events recalled from an observer perspective also contained more limited phenomenological details (e.g., visual, sensory, affective tone, contextual details) than events recalled from a field perspective (Bernsten & Rubin, 2006).

Despite the limited recall of details when in an observer perspective, there appears to be an advantage to this particular mode of recall for self-reflection (Libby & Eibach, 2002, 2011

Libby et al., 2005; Libby et al., 2009). In a series of experimental manipulations, Libby and colleagues instructed participants to recall past events in either a field or observer perspective. Across several studies, these researchers found that, when recalling past events from an observer perspective, a self-reflective style of cognitive processing emerges in which the context and meaning of past events were the focus of recall rather than specific or concrete event details. In the field perspective, a focus on the details of the event emerged rather than a reflective stance on those events. These researchers argued that priming an observer perspective may increase self-awareness and subsequent self-reflection, whereas priming a field perspective appears to prime a detail-oriented mode of cognitive processing.

This has relevance for understanding the role of vicarious experience in shaping the self. Vicarious events are most likely to be recalled from an observer perspective which is associated with a more self-reflective function of the memory. This suggests that vicarious experiences may be incorporated into the self in a more intellectualized rather than emotive manner. In particular, the more distal the self is from the past event, the fewer sensory inputs they have with which to reconstruct the memory of the event. Proponents of a dual-process model of reading comprehension, for example, have argued that the ability to encode written or verbal information in both verbal and non-verbal form increases comprehension (De Koning & van der Schoot 2013; Sadoksi & Paivio, 2001). When hearing about an event, the vividness of recall and believability may be lessened unless, of course, the listener is encoding both verbal and non-verbal representations. This requires a much more attentive and active listener. Hearsay events may thus not be as central or as vividly remembered as events in which the participant's sensory system is fully engaged (e.g., participating in the event). In the case of witnessed events, the

perspective is by default an observer perspective which may afford greater self-reflection, but also limit the sensory richness of the event memory.

Gender and Autobiography

A number of studies have found gender differences in several aspects of autobiographical memory (Neumann & Phillipot, 2007; Strongman & Kemp, 1991). Generally, these findings indicate that women not only think about and express their own emotions more frequently and more intensely than men, but their personal memories are more meaningful, more coherent, and more emotionally complex than men (Buckner & Fivush, 1998; Pillemer, Wink, DiDonato, & Sanborn, 2003). Women have also been found to talk about the past with reference to others' emotions more frequently and express a sense of connectedness or affiliation to others within their own personal events more so than men (see reviews by Cross & Madson, 1997; Grysman & Hudson, 2013). Descriptions of events are also longer, more detailed, more vivid, and affectively charged for women than for men. Women were more likely to use more internal state language (cognitions, emotions, and perceptions) when recalling the past than men (Bauer, 2003; Bauer et al., 2003; Fitzgerald & Lawrence, 1984; Fivush & Buckner, 2003; Thorne & McLean, 2002). Women also rate both positive and negative events as more central to their lives than men (Bernsten & Rubin, 2006). Postulates of these gender differences have centered essentialist paradigms, such as increased rates of neural maturation for girls in areas of memory and language (Fausto-Sterling, 2012), sociocultural factors such as socialization patterns (Vygotsky, 1978) and mother child reminiscence styles (Nelson & Fivush, 2004).

Although the findings regarding gender have been inconsistent, the effect sizes have generally been small and the samples tend to have had disproportionate ratios of males to females with the preponderance of findings suggesting that gender differences are an important

consideration. Given the inclusion of gender in studies of autobiographical memory, gender differences were also explored in the present study.

Part II: Moral Psychology and Moral Identity .

For the purposes of this dissertation, I asked participants to recall autobiographical and vicarious events related to a moral value or trait. The primary purpose of doing so was to provide a contextual ground to the stories to make it easier for the participant to recall a specific event by narrowing the events from which to draw. Events which center around a core value or belief are also more likely to be emphasized in the individual's life story (Arnold et al., 2009). Additionally, moral traits were chosen because there is an extensive body of work in folklore, mythology, religion and comparative cultural studies which points to the role of vicarious events (i.e., stories) as being a prime mechanism through which cultural moral values are transmitted from one generation to the next (Campbell, 2004). Thus, events linked to moral traits and more broadly to one's sense of moral identity may bring the role of vicarious experiences with respect to identity formation into sharper focus. There is a broad literature on moral psychology and moral identity which I review in the following section in order to support the use of moral traits as a grounding framework. However, it is important to emphasize that my focus in this dissertation is on the role of vicarious experiences broadly rather than a focus on moral identity in particular.

Moral psychology as a discipline was legitimized by the cognitive-developmental paradigms of both Piaget (1932/1948) and Kohlberg (1963). Piaget, though less well known than Kohlberg for the study of morality, outlined a developmental sequence of moral cognition beginning with moral absolutism, or morally-constrained thought and blind obedience to external sources of morality, such as parents, police, or God, and ending with a more sophisticated

understanding of morality in terms of intention and the arbitrary nature of rules, referred to as autonomous or relativistic morality.

Kohlberg (1963) outlined the ontogenesis of moral rationality in six structurally distinct and invariant universal stages. Following from Piaget (1932, 1948), he argued that each successive stage of moral reasoning is more advanced, differentiated, and better articulated than its predecessor. This advancement in moral judgement parallels developments in higher-order cognitive abilities, such as abstract reasoning, perspective taking, metacognition, deductive and inductive thought (Inhelder & Piaget, 1958). The stages divide into three distinct levels (with two sub-stages in each level), and each level denotes a distinct moral worldview. These stages begin with a focus on egocentric thought and adherence to external sources, such as parents, to more socially-sanctioned and normative behavior tied to a particular culture, to more advanced, or self-governed principles of universal justice and respect for the well-being of all persons. While there is an inherent developmental progression in moral rationality (Blasi, 1990; Kochanska, Gross, & Lin & Nichols, 2002), novel interactions with others also stimulate moral growth, particularly in contexts of peer debates, parent-child interactions, and advanced levels of post-secondary education (Pratt, Diessner, Hunsberger, Pancer & Savoy, 1991; Walker, Henning & Krettenauer, 2001).

While these traditional paradigms dominated moral psychology for several decades, their singular focus on moral cognition and relative neglect of affect, behavior, and character, was in part their greatest limitation (Blasi, 1990, Colby & Damon, 1992; Hardy & Carlo, 2005, 2011; Hart & Fegley, 1995). Moral cognition, for instance, explains a mere 10% of the variance in the relationship between moral judgement and moral action, suggesting the possibility that alternative constructs, such as the moral self, or the moral personality, may play a unique, but

important role in moral functioning along with situational factors (Blasi, 1990, 1983, 1984). Moral cognition also does not fully account for consistency in moral behavior or sustained moral commitment (Rest, 1983; Turiel, 2006). These theoretical approaches also diminished both personological and contextual factors by referring to them as lower-level contaminants of higher-ordered cognitive processes. For both Kohlberg and Piaget, morality was conceptualized as a purely rational philosophical abstraction. By focusing largely on moral cognition, the role of individual differences, such as gender, personality, and context, as well as the subjective experience of morality, for instance, were not sufficiently acknowledged in moral functioning. Real-life moral experience as socially and culturally constructed and tied to one's personal identity was neglected in the traditional paradigms of Piaget (1932, 1948) and Kohlberg (1963). Incorporating the role of vicarious experiences in shaping moral identity facilitates the integration of these social and cultural influences explicitly into moral values and belief systems.

Moral Identity

Erikson (1968) argued that identity and morality were interconnected and necessary for ethical strength (Pratt et al., 2009). McAdams (2009) also stated that moral meanings permeate stories told throughout the life course, as the "narrator takes a moral stand vis-à-vis the self and society, draws on moral understandings which frame the narrative, and justifies or condemns his or her own identity tale in moral terms" (p. 21). In colloquial terms, the question of "who am I?" is often tacitly asking "am I a good person?". Moral identity is thus defined as the extent to which a person views morality as central to his or her identity (Blasi, 1983, 1984, 2004, Colby & Damon, 1992; Erikson, 1968; Hardy & Carlo, 2005, 2011; Hart & Fegley, 1995; Hart & Matsuba, 2009). Moral identity specifically, and identity more broadly, are postulated to take

new developmental forms in adolescence, a period during which ethical and moral values become salient identity-relevant concerns (Erikson, 1968). The convergence of moral and identity development was highlighted in the work of Lapsley and Lasky (2001) who argued "the formation of moral identity is the clear goal of both moral and identity development, and these two developmental tracks are ideally conjoined in the moral personality" (p. 358). When the development of identity and morality converge, moral values become central to a person's sense of self and he or she behaves in ways which are consistent with such values (Blasi, 1983, 1984, 2004b; Colby & Damon, 1992; Hart & Fegley, 1995). This intersection of morality and identity within the domain of moral personality is thus an important precursor to moral motivation and sustained moral action across the life-span.

Moral identity is the degree to which morality is central to a person's sense of self and identity. Blasi (1983, 1984, 1990) theorises that, for some individuals, moral values are deeply rooted at the very core of who they are and, for others, these values are not made salient or significant in their daily lives. When such values are central to identity, there is a great deal of overlap between descriptions of personal goals and moral goals (Colby & Damon, 1992) as well as personal and moral traits/self-conceptions (Hart & Fegley, 1995). Individuals are also more readily able to recall and narrate everyday moral dilemmas (Walker, Pitts, Hennig, & Matsuba, 1995) when such events are more salient to who they are. The second component in Blasi's theoretical model is a sense of personal responsibility or obligation to engage in moral rather than immoral behavior. Moral individuals feel compelled to engage in moral action because it is a measure of their moral worth or fortitude (Kohlberg & Candee, 1984). Failure to engage in moral behavior elicits moral emotions of guilt, remorse, or shame (Blasi, 1983, 1984, 1990). The final component in Blasi's model is the notion of self-consistency, or the degree to which

moral individuals behave in ways which are congruent or consistent with such moral identities. This motive is argued to be deeply rooted in social responsibility and the need to appear both to oneself and others as a moral person.

While Blasi's model was primarily theoretical and philosophical, it did spark several lines of empirical research. Hardy and Carlo (2005) provide both a theoretical and empirical review of moral identity as a source of moral motivation with a particular focus on studies of the relationship of moral values to moral behavior (Aquino & Reed, 2002; Pratt, Hunsberger, Pancer & Alisat, 2003; Verplanken & Holland, 2002), and on how moral exemplars differ from non-exemplars in terms of their life stories (Colby & Damon, 1992; Hart & Fegley, 1995; Matsuba & Walker, 2004). Both of these lines of research are reviewed below.

Moral Schemas and Values

Moral schemas play an important role in moral identity (Aquino & Reed, 2002; Lapsley & Lasky, 2001; Lapsley & Narvaez, 2004). Schemas are chronically accessible mental representations of one's self, one's relationships, and one's social experiences. They develop in social relationships and guide how a person interprets and responds to his or her environment. These schemas may be activated when a person is primed with a description of the traits of a prototypically moral person (e.g., Mother Teresa) or of moral actions from one's past (Reimer, 2003). When presented with even a few words or descriptions of moral traits, there is evidence to suggest that a broad network of moral traits which are central to an individual's conception of a moral person is activated (Chatman & Von Hippel, 2001). To investigate this activation process, Aquino and Reed (2002) asked individuals to generate an open-ended list of characteristics, traits, or qualities that best represent a prototypically moral person as subjectively defined by participants. They found that the majority of respondents characterised a moral person as

possessing the following nine traits: *caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind*. These traits also corresponded to the many traits mentioned by moral researchers and educators and this demonstrates evidence of construct validity (Lapsley & Lasky, 2001; Walker & Pitts, 1998). This schematic view of moral identity suggests that, when these values are central to a person's identity, they are easily primed and chronically accessible for discerning morally ambiguous situations, as well as for understanding and interpreting particular life events from a moral perspective (Lapsley & Hill, 2009). This is consistent with a growing body of empirical findings relating to the use of moral stimulus cues in activating moral schemas (see Hardy & Carlo, 2011 for a review).

The Life Stories of Moral Exemplars

Colby and Damon (1992) outlined a theory of moral identity in which the self and morality were unified in one over-arching self-system. They argued that "when there is perceived unity between self and morality, judgement and conduct are directly and predictably linked and action choices are made with great certainty" (p. 150). This unity is most often found in studies comparing moral exemplars who view their sense of identity as having a core moral centre to non-exemplars. Bergman (2004) also argues that the identities of moral exemplars are not only tied to their own moral center, but also stem from their relationships with moral role models in their own lives. For instance, Walker et al. (1995) asked individuals to nominate moral exemplars without imposing restrictions on the nomination criteria. They found that the most frequent nominees were family members and friends rather than notable humanitarians or social activists in their communities.

In their seminal work on moral excellence, Colby and Damon (1992) consulted theologians, philosophers and historians to determine the qualities and characteristics of a moral

exemplar. The agreed upon qualities that moral exemplars should have were the following: a) sustained commitment to moral ideals, b) a disposition to act according to one's moral ideals, c) a willingness to risk one's own self-interest for the sake of moral values, d) a tendency to inspire others to moral action, and e) a sense of humility. In Colby and Damon's study of 23 moral exemplars meeting these criteria, several themes emerged from in-depth life story interviews of these highly moral individuals. Moral exemplars were found to persist in their moral objectives despite the possibility of personal risk. They showed positivity in the face of mounting obstacles, open-mindedness to the ideas and perspectives of those around them, and an over-arching ideology centered on personal growth. They also found that moral exemplars experienced less internal conflict when doing good deeds and felt as though their actions were a natural manifestation of their core moral value system.

In another study, Hart and Fegley (1995) compared and contrasted adolescent care exemplars nominated for their commitments to the welfare of others in a high-poverty, urban environment to a comparison group. The comparison group was matched using a case control matching procedure to the care exemplar group based on ethnicity, gender, age, and neighbourhood residence as a proxy for socioeconomic status. They found that care exemplars were more likely to use moral self-descriptors when describing their personalities (e.g., "I am helpful, honest, trustworthy"), goals ("I strive to be an honest person") and activities ("I enjoy helping others") as compared to the self-descriptions of a matched comparison group (e.g., "I am pretty, talkative, smart", "I want to be a professional athlete", and "I enjoy playing basketball"). While these groups differed in their use of moral self-descriptors, they did not differ in their ability to reason about standard moral dilemmas, as both exemplars and non-exemplars scored at conventional levels of moral reasoning. The work of Colby and Damon (1992) and Hart and

Fegley has led to a deeper qualitative understanding of moral exemplars as well as the ways in which these individuals orient their lives around moral ideologies. This work also suggests that the centrality of morality to identity is a key factor in engaging in moral and prosocial behaviors, whereas moral reasoning is only loosely related to moral behavior (referred to as the "judgement-action gap", Blasi, 1984). The judgement-action gap refers to the disjunction of one's ability to intellectually or abstractly make a judgment about the morality of a hypothetical situation and the moral action one takes when faced with a similar moral dilemma.

In another study, Matsuba and Walker (2004) compared content and thematic differences in life stories told by adolescent moral exemplars (aged 18-30) nominated by a director of a social service organization for showing "extraordinary moral commitment" to a comparison group of matched university students. The comparison group was matched on age, gender, level of education, and ethnicity on a case-by-case basis. They found that, in comparison to the matched sample, the specific scenes/events in the life stories of prosocial exemplars were rated by independent coders as containing a greater awareness of the suffering of others in early childhood, a greater emphasis on agency and empowerment themes overall, and more individuals who helped them along the way. Walker and Frimer (2007) compared a sample of Canadian adults identified as "moral exemplars because they had received either the Canadian Caring Award ($N=25$; $M_{age} = 70$ years) or the Canadian Medal of Bravery" ($N=25$; $M_{age} = 70$ years) to a matched community sample (based on age, gender, ethnicity and level of education). While they found that the two groups did not differ on self-report measures of personality, moral exemplars were significantly higher on a number of life narrative domains as compared to the community sample. These include a focus on personal agency, communal orientations, more positive affect

and more redemptive life story themes. These stories were also more focused on the needs of others, of helping others, and they also reported stronger personal attachments.

Walker and Frimer also explored the ways in which the two exemplar groups (caring exemplars and bravery exemplars) differed from each other on personality dispositions as measured by the revised Interpersonal Adjectives List (Wiggins, 1995), the personal strivings list (Emmons, 1999), and salient events in their life stories (McAdams, 1995). The caring exemplars had significantly higher scores in comparison to exemplars of bravery on self-report measures of nurturance (i.e., agreeableness) striving for affiliation, generative concern for future generations, and were more focused on the needs of others. Care exemplars' life stories were also centered on themes of communion/affiliation and an implicit orientation toward generative goals and strivings whereas brave exemplars' life story themes centered on personal agency and striving for power. The life stories of caring exemplars were also oriented toward concern for others and were generally more positive in emotional tone than were the life stories of brave exemplars. Taken together, these findings suggest that, while, there is a distinctive foundational moral core in the life narratives of moral exemplars, there are multiple manifestations of a moral ideal to which others aspire.

This body of work on moral exemplars epitomizes the important role that others have in influencing the traits, beliefs, and attitudes that one aspires to in developing a purposeful, coherent, and meaningful identity centered on moral values (McAdams, 2009). While in their formal definitions, moral traits and values are often abstract philosophical constructs, moral exemplars personify these idealized traits and provide a concrete model from which others can draw upon in making moral life choices. The exemplar is a tangible character with whom the individual can identify and follow as a concrete guide.

While moral exemplars are often considered exceptionally moral individuals, their social networks are comprised largely of individuals with whom one shares a similar affinity. There is a long standing history of sociological and ethnographic research implicating the role of moral values in the formation and cohesion of social groups (Katz & Lazarsfeld, 1955). In general, social networks seem to be based on shared values (Blau, 1994; Watkins & Warriner, 2000). In particular, although challenging to empirically assess, people tend to live in communities based on shared moral values (Behrman, Kohler, & Watkins, 2001). In fact, having shared moral values tends to be of greater importance for group identification than factors such as group efficacy, competencies, or sociability of group members (Bettencourt & Hume, 1999; Leach, Ellmers, & Benneto, 2007). Although the literature is sparse, it appears as though the role of social media has enhanced the influence of shared moral, political, and social values in defining a psychological sense of community and belonging within social groups (McCabe, 2010). Thus, in sharing stories and experiences with people within one's immediate social network, the moral values one holds most central are in some sense mutually reinforced (Rappaport, 2000).

Gender Differences in Moral Orientations

Consistent with gender differences in autobiographical memory, Gilligan (1977) found distinct differences between males and females in their approach to reasoning about real-life moral dilemmas such as abortion and drug use. Gilligan found that differential contextual experiences of both men and women result in two distinct moral orientations: a care orientation and a justice orientation (Gilligan & Attanucci, 1988; Gilligan et al., 1988). Women resolved their moral dilemmas with themes of compassion and nurturance, and an orientation toward the needs of others. Men resolved their dilemmas by attending to problems of inequality and oppression, and had moral ideals of reciprocal rights and equal respect for all persons. This

approach illuminates the importance of real-life moral conflicts, and the storied and gendered nature within which they are understood and resolved. While males and females raise issues of care and compassion as well as concerns of law and justice when resolving such conflicts (Gilligan & Attanucci, 1988; Walker, 1995; Wark & Krebs, 1996), these voices of care and justice represent two distinct, yet integrated moral languages of moral reasoning, both of which are implicated in stories of real-life moral dilemmas (Day & Tappan, 1991, 1996). These findings are reflective of a greater relationship orientation for women than for men in regards to moral values and how they become integrated into the self. Thus it seems more likely that women should incorporate moral lessons or values into their sense of self from the experiences of other people in their lives to a greater extent than men.

Part III: The Role of Vicarious Experience in Identity Development

Human development is inherently tied to the socio-cultural context. Autobiographical memory in particular is no longer conceived as a distinctly individual phenomena (Ebbinghaus, 1913), but rather embedded within a social, cultural, and historical context (Bartlett, 1932; Manier & Hirst, 2008; Vygotsky, 1978). Memories are often shaped by social experiences, such as conversations with friends, relatives, and acquaintances, and these shared events are interpreted through historical or collective templates (Hirst, Cruc, & Wohl, 2012). Bruner (1986) also argues that "most of our encounters with the world, are not direct encounters" (p. 122), implying that learning, behavior, and memory, for instance, largely occur through indirect experiences. In keeping with this tradition, this study aims to explore the specific processes by which vicarious (other) events differ from autobiographical (self) events in how they are tied to a person's life story.

These vicarious events can be differentiated into three specific event types: shared, witnessed, and hearsay events. *Shared events* were defined as events in which the participant and another person are both involved and/or actively participated in the event together. *Witnessed* events were defined as events in which the participant was present with the other person, but not actively or directly involved in the event itself (much like an observer or bystander). *Hearsay events* were defined as events in which the participant heard about from another person who was present during the event, but the participant was not present or involved in the event in any capacity. I argue that these vicarious events are particularly salient when the other person is a central member of one's social network (Antonucci et al., 2010). Social learning theory would also suggest that vicarious experiences should become more integrated into one's identity when there is a perceived social closeness between the social model and oneself (Kazdin, 1974).

Vicarious Memory

Narrative identity is constructed from one's own self-defining life events (McAdams, 1985, 2001, 2011). In these events, the inherent focus is on the self as the principal actor, protagonist, and main character (McLean, 2005; McLean et al., 2004; Nelson & Fivush, 2004; Pasupathi, 2001). *Vicarious events*, on the other hand, are events in which the protagonist/main character is an individual other than oneself (e.g., parent, sibling, peer, stranger, fiction character). The event may be a shared experience between oneself and another person (e.g., family rituals, social or interpersonal events, school and civic engagement activities) or an event in which a person witnessed as a third party (e.g., witnessing prosocial or antisocial behavior, accidents/emergencies) or heard about in conversation (e.g., family stories, rumors, gossip, social media) with another person (Labov & Fanshel, 1977; Norrick, 2013; Sacks, 1984).

Norrick (2013) argues that vicarious experiences differ from direct/autobiographical experiences in perspective, coherence, and purpose. Vicarious experiences are narrated in the third person as opposed to in the first person, and they are generally less coherent and less evaluative than autobiographical events. In first person/direct experiences, the narrator, principal actor, main character, and author are all one singular person. The narrator has privileged access to these events as well as the interpretations of those events. The narrator is also solely responsible for the construction of the story, and can retain or omit details, as well as emphasize or deemphasize plot lines, characters or themes. Direct vicarious experiences, such as events in which one was directly involved or an event one witnessed, allow for multiple individuals to have access to the details or facts of the story. These stories are much more likely to be co-constructed or shared in some capacity (Goodwin & Goodwin, 2005). Indeed, in the case of second-hand reports of events, the current narrator has to rely on the narrative of the person who reported the event to them. Because the secondary reporter constructs his or her own interpretative account of the event, this biased interpretation is carried forward to a listener. Moreover, the narrator must also establish a social link to the actor (i.e., "this happened to my mother, father, close friend") and this link allows for more emotional and psychological detail to be recalled. In a more distal social relationship (e.g., acquaintance, third cousin), the event recalled is generally more content-driven and factual rather than meaningful or reflective.

While the sharing of autobiographical events serves self-disclosure and shared intimacy purposes (Alea & Bluck, 2003; Collins & Miller, 1994; Darling, 2005), vicarious events such as family rituals, myths, and intergenerational stories (Arnold, Pratt & Hicks, 2004; Kellas, 2005; Pratt & Fiese, 2004; Zaman & Fivush, 2011) create a sense of group identity, cohesion, and connect a person to his or her social world. These vicarious experiences play a key role in both

self-definition and social identification as families have become more geographically dispersed (Shore, 2003). Staying in touch via phone, email, letters, and so on, allows for important experiences to be shared across a greater geographical distance, while also maintaining a social and psychological sense of belonging. The proliferation of social media enhances the role of extended vicarious experiences by allowing family members, friends, and acquaintances to maintain contact with one another through multiple sources of information (e.g., textual, photographic, video).

Social Convoy Model

While stories are routinely shared through mass media, literature, and general gossip, influential vicarious experiences are most likely to arise from within one's social network. One useful framework for conceptualizing an individual's social network is the social convoy model (Antonucci, 1986; Antonucci & Akiyama, 1987; Antonucci et al., 2010). The convoy model is grounded in attachment theory (Bowlby, 1969), aspects of role theory (Mead, 1934) and social support systems (Kahn & Antonucci, 1980). It grew out of the recognition that traditional social networks, particularly as they relate to social support, did not fully capture the dynamic and contextual nature of social roles and relationships across the lifespan (Antonucci, 2001; Antonucci & Akiyama, 1987, 1995; Antonucci et al., 2010). The emergence of the convoy generally follows a developmental pattern. In childhood and early adolescence, the convoy is often comprised of early attachment figures, such as family members, and these early prototypes lay the foundation for later elaborate and functional convoys in adulthood (e.g., co-workers, peers, romantic partners).

Each person's social convoy is comprised of three concentric circles, including inner, middle, and outer rings. The degree of emotional attachment varies as individuals move from

inner or middle to outer rings of the convoy. Antonucci (2001) argues that the occupants of each ring stem from a person's cumulative interactions/shared experiences with those particular convoy members. While convoy membership is relatively stable across adulthood ($r = .38$), a given individual's stability within the convoy ring differs as a function of a person's age, ethnicity, cultural background, and gender (Antonucci, Akiyama, & Takahashi, 2004). Antonucci and Akiyama (1995) state that “a relationship with a relative could be forever marred or cemented by an event that took place many years earlier.” (p. 357). An individual's place in the convoy is, therefore, not necessarily determined by socially-defined roles or relationships (i.e., parent, spouse), but instead can vary as a function of shared social events or experiences. These shared experiences either solidify or diminish the value of a particular relationship to an individual.

I would expect that vicarious experiences, particularly direct/shared experiences with close convoy members, would be similar in both phenomenology and functionality to the direct autobiographical experiences reported in most narrative identity research. Because these experiences are socially shared and jointly constructed, they should be more central to a person's life story than non-shared events. The vicarious experiences of individuals further removed in one's social convoy should be qualitatively distinct from one's own personal experiences because they are not as closely tied to the self. I also argue that the process by which these latter vicarious experiences shape identity may be more objective and reflective in orientation because of their greater psychological distance. The degree to which individuals draw on these outer vicarious experiences may further be dependent upon personality factors such as dispositional empathy than is the case for those shared by inner circle convoy members.

Social Learning Theory

Social learning theory has its early origins in the work of Miller and Dollard (1941) and is a plausible mechanism for the development of vicarious memory. This body of research illustrates the idea that an individual's behaviour could be shaped by merely observing the reinforcement patterns of a social model, and this was as effective as direct reinforcement. Bandura (1977, 1978, 1982, 1986) was the first theorist to integrate cognitive processes into a formal model of vicarious learning which occurs through social-cognitive processes. Building on the notion that the many complexities and varieties of human behavior could not be accounted for with a strict reliance on direct reinforcement contingencies, Bandura argued that the vast majority of learning was socially mediated and acquired through symbolic representations of reinforcement patterns. These patterns were obtained via direct observation or through verbal mediation (i.e., instruction). This earlier work on social learning was subsequently expanded to include the role of personal agency in the selection of social experiences to which an individual was exposed as well as the events deemed to be central to a person's sense of self. According to Bandura (1982), chance also plays a significant role in the life course of the individual. As a result, the experiences of the individual will include elements not readily predicted by known properties of the self or its social network.

Bandura's (1977, 1978, 1982, 1986) theorizing of the transactional nature of both social experiences and personal agency culminated in a bio-sociocultural model of human behavior (Bandura, 2001). This integrative model placed a greater emphasis on the co-constructive processes of personal agency and sociocultural influences. Within the sociocultural sphere, Bandura specified three levels of social experience: *personal agency*, *proxy agency*, and *collective agency*. The latter two levels are directly relevant to this study because they involve

the incorporation of others' experiences into an individual's sense of self, and thus will be discussed more thoroughly. *Proxy agency* occurs when an individual relies on another to solicit benefits or resources on behalf of oneself. Bandura (2001) refers to this as a cooperative alliance, in which an individual perceives that either he or she does not have the time or requisite skill to obtain these materials on his or her own, as typically evidenced in parent-child or spousal relationships. This relationship implies that an individual has a representative understanding of the values (i.e., the other person is trustworthy and caring) and relative competencies of a particular individual. *Collective agency* is similar, but on a broader social scale, and is a property of a social group in which members act collectively on shared values and belief systems. All members of a group share a set of collective values, ideals, norms, beliefs, and expectations and act in accordance with them in coordinated and predictable ways. This agentic property firmly embeds much of human behavior in a sociocultural context. Beliefs about the self in terms of actualizations and expectations are the product of co-constructional processes between the individual and his or her broader social context. In keeping with Bandura's (1977) earlier ideas regarding social learning processes, the complexities of sociocultural attitudes, values, and behaviors cannot be contingent solely upon direct reinforcement experiences. Therefore, the majority of these aspects of the self, which comprise a person's global sense of identity, are acquired vicariously and symbolically. Thus, one of the most consistent findings from the social modeling literature is that both direct and indirect social experiences are an effective vehicle for shaping one's own behaviors, attitudes and values within the context of family and cultural life (Bandura, 1978; Grusec & Davidov, 2010; Vygotsky, 1978).

The utility of this model has been demonstrated empirically in several applied areas of psychological research. Both prosocial and antisocial behavior in the classroom are heavily

influenced by peer modeling and vicarious experience (Cairns, Cairns, Neckerman, Gest, & Garipey, 1988; Eisenberg-Berg, Cameron, Tryon, & Dodez, 1981). Violence in media such as television/movies and exposure to violent video games predict increases in aggressive emotion, cognition, and behaviour in children and adolescents in immediate and delayed contexts (see review by Anderson & Bushman, 2001). There is also a large literature of psychological trauma and PTSD for those exposed to or witnesses of community (Clark et al., 2008; Eitle & Turner, 2002; Guerra et al., 2003; Miller et al., 1999) and/or domestic violence (Kolbo et al., 1996; Lepisto et al., 2011; Meltzer et al., 2009; Moylan et al., 2010) more so than for direct experiences of violence.

Part IV: Empathy as a Vehicle for Vicarious Experience

Empathy is the ability to vicariously experience another person's thoughts and feelings as related to, but distinctly different from, one's own (Davis, 1994; Eisenberg, Cumberland, & Spinrad, 1998; Eisenberg, Spinrad, & Sadovsky, 2006; Hoffman, 2000; Selman, 1971, 1975). Empathy is commonly associated with two distinct, but related emotional responses—personal distress and sympathy (Batson, 1991; Eisenberg & Fabes, 1990, 1995, 1998). *Sympathy* is an empathic emotional response which is predominantly associated with feeling *for* a particular person, denoted by emotions of sorrow, pity, and concern, whereas empathy is concerned with feeling *with* that person (i.e., experiencing the same emotion). *Personal distress*, on the other hand, is an egoistic, self-focused form of empathic over-arousal, and is correlated with increased anxiety, apprehension, and discomfort in response to another's plight or misfortune (Batson, 1991; Davis, 1983). Individuals who are distressed in such situations are less likely to attend to a victim than those who are sympathetic, and are generally less prosocial and altruistic overall (Batson, 1991; Eisenberg & Fabes, 1995; Eisenberg & Strayer, 1987).

The general developmental progression of empathy begins with emotion contagion in infancy, self-concern in childhood (e.g., personal distress), and a shift toward heightened concern for others in adolescence, midlife and later adulthood (Eisenberg, Cumberland, Guthrie, Murphy, & Shepard, 2005; Eisenberg & Strayer, 1987; Hoffman, 2000; Zahn-Waxler & Radke-Yarrow, 1990). This transition in the focus of empathy toward the other rather than the self coincides with the emerging process of identity formation, questioning who is the self relative to the other. As these processes co-develop, those with greater empathic capacity would seem more likely to consider self-other relations in identity formation, and thus be more able to consider the experiences of others as they relate to their own identity development. This developmental shift in empathy is postulated to be the result of advancements in cognitive and emotional processing (Hoffman, 2000; Selman, 1975) as well as more mature emotion regulation strategies (Eisenberg & Fabes, 1990; Kochanska, 1993; Miller & Eisenberg, 1988), self-other differentiation (Hoffman, 2000; Sarni, 1999), and parental socialization of negative emotion (Eisenberg & Fabes, 1998; Eisenberg et al., 1998). These developments within these areas of emotion and cognition allow for a more complex understanding of perspective taking, self-other merging, and self-in-relation to other (Davis, 1983; Eisenberg et al., 2005).

Much of this research has been conducted in the context of the experience of vicarious pain which has shown that highly empathic individuals show greater psychological distress to vicarious experiences of pain such as viewing another person being injured (Goubert et al., 2005). Interestingly, fMRI studies have demonstrated that, when highly empathic individuals are shown the responses of other individuals who are experiencing pain, the same neural pathways associated with pain are activated for the empathic individuals not physically experiencing pain as for the individual physically in pain (Singer & Lamb, 2009). This has been further illustrated

by research indicating that the neural activation of pain pathways is increased in proportion to the degree of felt closeness and emotional connection that the witness has for the person experiencing the pain (Eisenberg, 2002). These findings illustrate that the higher the perceived relationship closeness between individuals, the more likely they are to be mutually affected vicariously through the experiences of the other person.

Perspective-Taking

Perspective-taking is the ability to view the world (and the self) from the perspective of another person (Batson, Early, & Salvarani, 1997, Davis, Conklin, Smith, & Luce, 1996; Hoffman, 2000; Selman, 1971, 1975). Perspective-taking allows individuals to overcome egocentric thought and to infer the capabilities, attributes, expectations, feelings, and reactions of others (Piaget, 1948). It is also associated with advanced moral reasoning (Kohlberg, 1963), social awareness and/or theory of mind (Baron-Cohen, 1995; Flavell, 1999) and altruistic and prosocial behavior (Eisenberg & Miller, 1987). Skilled perspective-taking and a mature theory of mind also minimize the fundamental attribution error by reducing the actor-observer difference (Jones & Nisbett, 1971) and are more likely to promote sympathy and compassion in situations in which a person is in need (Batson et al., 1989; Davis, 1983). This emotionally grounded connection to others may foster the incorporation of those experiences into one's own identity which then evoke perspective taking and sympathy. The tacit questions raised in within the context of perspective taking is "How would I have felt?" and "How would I have responded?", which then leads to the identity question of "What does that say about who I am as a person?".

Selman (1971, 1977) proposed a structural-developmental approach to perspective-taking in which the ability to distinguish between self and other occurred as a function of hierarchical

and qualitative changes in the development of social role taking across the life span. Each qualitative stage was assigned a developmental level. The levels of perspective taking associated with the period of identity development are Levels 3 and 4. *Level 3, Third person, mutual perspective taking* (ages 10-12), occurs when a child acquires the ability to remove him or herself from the dyadic interaction so as to understand the perspectives of others from a third-person perspective. He or she is aware of subjectivity in terms of others' thoughts, feelings, and motivations as separate from him or herself. *Level 4, In-depth and societal-symbolic perspective taking* (ages 12 to adult), is present when actions, thoughts, motives and feelings are understood to be psychologically determined by each person's own developmental history. In a dyad, subjective perceptions can be shared at multiple levels through either overt communications or with deeper, non-verbal communications. An adolescent can engage in perspective taking in abstract or generalized terms, such as engaging in multiple, mutual perspectives of social, conventional, legal or moral perspectives, all of which can be shared among different people.

Self-Other Overlap

The distinction in point of view between the self and other is important for understanding the pathways through which autobiographical and vicarious events become incorporated into one's own identity. Aron and Aron (1986) and Aron, Aron, and Norman (2001) postulated that in close, intimate social relationships, individuals appropriate the resources, perspectives, and identities of others into the self. At the heart of this *self-expansion model* is the notion of *self-other merging*, or the view that the boundaries between the self and the other become merged, or more "self-like" in close, rather than in distant social relationships. Aron, Mashek, and Aron (2004) posit that individuals inherently "desire to be the other, not to lose one's self, but to add 'substance' to it, to make it richer and more complex" (p. 29).

Aron, Aron, Tudor, and Nelson (1991) examined the utility of this model in three studies in which participants were instructed to allocate resources to close and less close individuals (e.g., acquaintances) and found that participants distributed money equally to themselves and another person when that person was a close or "best" friend rather than an acquaintance. Other research has found similar results. Social comparisons between self and other are less discrepant in close relationships and during conditions in which felt closeness is primed (Beach et al. 1998; Davis et al., 1996; McFarland, Buehler, & MacKay, 2001). For instance, Davis et al. (1996) instructed participants to complete trait-descriptions and then, one to three weeks later, return to watch a videotape in which they were asked to imagine themselves in the target's place (imagine-self), imagine the target's thoughts and feelings (imagine-target), or focus on superficial aspects of the target, such as his or her mannerisms, posture, etc. In both imagine-self and imagine-target conditions, participants were more likely to ascribe a greater number and percentage of self-traits and attributes to the target in the video, resulting in greater overlap between representations of the self and of the target as compared to the non-perspective taking condition. Given that the target was unfamiliar in this particular case, it may be reasonable to suggest that self-other merging can be prevalent for both close and more distant social relationships (Aron, Aron, & Smollan, 1992; Aron et al., 1991).

These findings are consistent with the notion that vicarious experiences from members within a person's inner social circle foster a heightened sense of self-other overlap. Boundaries between the self and the other are, thus, less distinct within close social relationships. However, higher levels of self-other overlap may also create a sense of interconnectedness amongst less socially close individuals (Davis et al., 1996; Cialdini et al., 2007). The result of this heightened social connection is the inclusion of vicarious experiences, particularly more distant social

experiences, into one's own core identity. Higher ratings of self other overlap are expected to be more strongly associated with higher AMQ scores and event centrality for less socially-close (outer circle) and more distant relationships (i.e., in the case of witnessed or hearsay events) because self-other merging at the time of a particular event facilitates a more direct connection between self and other.

Purpose

This dissertation is the first study to date to extend these lines of research by examining the ways in which autobiographical (self) and vicarious (other) events are integrated into a person's narrative identity in terms of event phenomenology (belief, recollection, rehearsal, and impact) and event centrality. The first aim of this study was to examine the ways in which autobiographical and vicarious events differ in how memorable and central they are to a person's identity. Autobiographical events are events from an individual's life. Vicarious events are events from another person's life, such as a family member or friend, but nevertheless influenced one's own life narrative in some capacity. An individual may have either directly (shared) or indirectly (witnessed) been involved in the vicarious event or he or she may have heard about the event in conversation with an individual who was present. The likelihood that vicarious events become both memorable and central to an individual may also depend on the level of relationship closeness. Vicarious events within close social relationships may be most memorable and most central to a person's identity than events within more distant social relationships. These relationship predictions may be more pronounced when a person is proximal to a vicarious event (shared) than distal (witnessed, hearsay). The second aim of this study was to examine the extent to which the predictors of participant age, gender, dispositional empathy, and the degree of self-other overlap accounted for individual differences in the relationships specified in Aim 1.

Aim 1. How do autobiographical and vicarious events differ?

The first aim of this dissertation was to examine the ways in which autobiographical (self) and vicarious (other) event memories differ in terms of phenomenology of memory experience as reported on the AMQ (belief, recollection, rehearsal, impact) and the degree to which they are central to a person's identity as reported on the CES. The following four hypotheses were specified in relation to Aim 1.

Hypothesis 1.1. Autobiographical events were expected to have higher ratings on the four AMQ scales and event centrality as compared to vicarious events overall.

Hypothesis 1.2. Autobiographical events were expected to have higher ratings on the four AMQ scales and event centrality followed by inner circle events (close-other) and middle circle events (distant-other). Thus, for vicarious events, as the relationship extends from close-other to more distant-other, events will become lower on both event phenomenology and centrality to identity.

Hypothesis 1.3. I expected to find that that the greater the proximity of the self to the event, the greater the event phenomenology on the four AMQ scales, and the greater the identity centrality as compared to events in which the self is more distal.

Hypothesis 1.4. A significant relationship closeness by involvement interaction was expected such that vicarious events would be rated higher on event phenomenology on the four AMQ scales and event centrality in close, rather than in distant social relationship and in events in which the self was more proximal.

Aim 2. Between subjects differences in story effect.

The second aim of this dissertation was to examine the extent to which the predictors of participant age, gender, dispositional empathy, and the degree of self-other overlap accounted for

individual differences in the relationships specified in Aim 1 hypothesis 4. The following hypotheses were specified in relation to Aim 2.

Hypothesis 2.1a. It was expected that older participants would have higher scores on the four AMQ scales and event centrality across all seven stories.

Hypothesis 2.1b. Females were hypothesized to have higher scores than males on the four AMQ scales and event centrality across all seven stories.

Hypothesis 2.1c. A gender x age interaction was predicted. I expected that older females would have higher scores on the four AMQ scales and event centrality across all seven stories relative to younger females and males.

Hypothesis 2.1d. An age x gender x story interaction was also expected such that the difference between inner and middle scores for all five dependent variables would be reduced for older female participants in comparison to younger female participants and men.

Hypothesis 2.2. Participants with higher levels of dispositional empathy were expected to have higher scores on the four AMQ scales and event centrality across all seven stories.

Hypothesis 2.3. It was expected that there would be a positive relationship between self-other overlap and the four AMQ scales and event centrality for less proximal and more socially distant events, but a non-significant relationship for socially-close, and more proximal events.

CHAPTER 2

Method

Participants and Recruitment

Power Analyses. Power analyses were conducted using G*power, v. 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) to determine the sample size for a mixed model repeated-measures analysis of variance (ANOVA) with seven within-subject conditions and two dichotomous predictors (gender and age). Cohen's F , calculated by taking the square root of eta-squared over 1 minus eta-squared, or the proportion of explained variance to unexplained variance, was used as the index of effect size for the present study. A minimum detectable effect size of .15 (equivalent to a Cohen's d of .25) was chosen. Under these assumptions, a total sample size of 60 was required to achieve a power level greater than .80.

Participants

Sixty-four participants ($M_{age} = 22.59$, $SD = 4.84$, range = 18-44) were recruited from an online research participant pool in the Department of Psychology at Wayne State University in Detroit, Michigan, U.S.A who received 3.0 course credit points for participating in the present study. Reflective of psychology undergraduate students at Wayne State University, the sample was predominately female (73.4%) and ethnically diverse with 31.3% African American, 25% Caucasian, 10.9% Arabic, 7.8% Pakistani, 6.3% Indian, 3.1% Hispanic, 3.1% biracial (e.g., African American-Caucasian), 1.6% Korean, and 10.9% self-identified as other. Grade Point Average (GPA) ranged from 2.0-4.0 with a mean of 3.22 ($SD = .52$). 84% of participants were single, 4.7% were married, 4.7% were divorced, 6.3% were either engaged, widowed, or cohabitating. Additionally, 64.1% of participants were employed and, of those employed, 82.5% were working as part-time employees averaging less than 20 hours per week. Of the single

participants, 43.8% lived with their immediate family members in two-parent households, 9.4% lived with their mother in a single female-headed household, 7.8% lived with siblings or with extended family members, 23.3% lived with non-familial roommates, 6.3% resided alone and the remaining 4.7% lived as single parents with their own children. 84.4% of participants completed at least some college or university education, 14.1% were post-baccalaureate students and 1.6% had completed a post-baccalaureate degree.

Materials and Procedure

Each participant was presented with a testing binder containing an introduction to the study including an informed consent form, a social convoy task, a moral value ranking task, a semi-structured written memory interview with two memory rating scales linked to each event recalled, and two self-report questionnaires. Guided by a trained research assistant, each participant completed each task in the testing binder at his or her own pace. Each testing session lasted approximately 2 hours. Participants typed their written responses to the memory interview questions on a laboratory computer. Each testing component is described below in the order in which they were presented to participants.

Phase 1: Social convoy mapping procedure and value ranking task

Social convoy mapping procedure. Participants were first asked to nominate several individuals who have played an important role in their lives using the social convoy model (Antonucci, 1986). While the social convoy model is traditionally conceptualized as a social support model, its unique structure allowed for participants in the present study to identify individuals in their lives who are important, but who also occupy various degrees of social and emotional closeness. Participants constructed their social networks using a series of concentric circles in which the self was situated in the inner most ring of a four ring circle. Participants then

nominated three individuals in their lives who were closest and most important to them (e.g., a parent, sibling, grandparent, spouse, etc). These individuals occupied their inner most ring of the circle. Participants then nominated three individuals in their lives who were not as socially close as the previously nominated individuals, but who were still very important to the participant (e.g., friend, aunt/uncle, coach, teacher, mentor, etc). These individuals occupied the middle ring circle of the circle. Finally, participants nominated three individuals in their lives who were not as socially or emotionally close as the inner and middle ring members, but who were still important and connected to the participant (e.g., extended family, colleagues, acquaintances, or characters in stories, etc). These individuals occupied their outer most ring.

Moral value raking task. Participants were then presented with a list of nine moral values. These values were: *caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind* (Aquino & Reed, 2002). These values were included because they have been found to increase the likelihood of activating a network of traits associated with a moral identity rather than other types of social or cultural identities (Pratt et al. 2003; Pratt, et al. 1999).

Phase 2: Memory interview and memory rating scales

In this phase of the study, each participant worked through a testing binder (which contained the written memory interview protocol) with the aid of a trained research assistant. Research assistants discussed the definition of an *autobiographical event* with participants and then highlighted the importance of focusing on specific, one-moment-in-time events when reflecting on events from their own life events ("when I was 10, my friend and I were playing soccer outside, she slipped and fell and cut her knee and I ran over to help and comfort her") rather than general, routine, and/or repeated events ("we used to play sports outside every summer"). Once it was clear that participants understood the definition of an autobiographical

memory, a *vicarious memory* was defined as a specific event from another person's life that was influential to the participant in some meaningful way. Vicarious events were differentiated into three specific event types: shared, witnessed, and hearsay events. *Shared events* were defined as events in which the participant and the convoy member were both involved and/or actively participated in together. *Witnessed events* were defined as events in which the participant was present with the convoy member, but not actively or directly involved (much like an observer or bystander). *Hearsay events* were defined as events that the participant heard about from the convoy member who was present during the event, but the participant was not present or involved in the event in any capacity. While participants completed all three rings of the social convoy model, only events associated with the inner and middle circle rings were elicited in the present study due to both time constraints and participant fatigue.¹ Participants were, therefore, asked to recall one each of shared, witnessed, and hearsay events involving inner and middle circle convoy members. This yielded 9 event memories in total: 3 autobiographical events and 6 vicarious events (3 inner and 3 middle), all of which were tied to one of the previously top ranked moral values from the value ranking task.

Once participants understood the different types of vicarious events being elicited, research assistants worked through the testing booklet with participants. They read the prompt

¹ During the pilot testing phase of the study, the interview protocol was comprised of 12 stories (3 autobiographical, 9 vicarious) in total. This allowed for the comparison of shared, witnessed, and hearsay events across the inner, middle, and outer circle convoy members. However, the time required for participants to complete the full protocol was approximately 3-4 hours on average. Substantial fatigue effects were noted by both participants and research assistants. Confusion regarding the counterbalancing of event types was also problematic and contributed to both participant and research assistant fatigue. As a result, the stories for the outer-circle convoy members were removed from the protocol and a shortened interview protocol containing a total of nine stories was administered to participants with the aid of a research assistant: three autobiographical, three inner circle events (shared, witnessed, and hearsay) and three middle circle events (shared, witnessed, and hearsay). All analyses are reported on this modified interview protocol.

for each story with the participant. Story prompts were presented in the order in which they occurred in the booklet (see Appendix H). Reaction time (in seconds) was recorded for each event using a standard stop watch. Reaction times were calculated as the time between when the research assistant began reading the prompt to the participating indicating that he or she had thought of a specific event related to that prompt. This was used a measure of ease of story recall. Research assistants then instructed participants to type brief descriptions of each event in a Microsoft Word template. When providing written descriptions of events, participants were instructed to describe their memories with enough detail so that a person who was not present during the event would be able to fully understand the event. Participants were also asked to report their age at the time of the event, if the event changed or impacted them in any way and if they learned anything about themselves from the event. Analyses of these questions were beyond the scope of this dissertation, but were collected as part of a larger study on the role of vicarious memory on identity development. After written descriptions were provided for each event, participants completed two memory rating scales in order to measure the phenomenology of each event and how central the event was to his or her identity. For each of the six vicarious events, participants also rated the degree of perceived overlap between the participant and his or her social convoy member. Each of these rating scales are described below. The entire interview protocol can be found in Appendix H.

Memory rating scales

Autobiographical memory questionnaire. The phenomenology of each event was rated by participants using the Autobiographical Memory Questionnaire (Rubin, 2005; Rubin et al., 2003). The AMQ is a 25-item Likert scale measuring multiple aspects of event phenomenology. Each item is rated on a 1 (*not at all*) to 7 (*as clearly as it if were happening right now*) scale.

Fitzgerald and Broadbridge (2013) found support for a four factor solution across four distinct event types: earliest childhood memory, cue word memory of personal experience, vivid memory and most stressful/traumatic memory. The four subscales were: recollection ("As I remember the event, I can see it in my mind"), belief ("I believe the event in my memory really occurred in the way I remember it and that I have not imagined or fabricated anything that did not occur"), rehearsal ("Since it happened, I have talked about this event") and impact ("This memory has consequences for my life because it influenced my behavior, thoughts, or feelings in noticeable ways"). Subscale scores were computed by averaging items loading onto each subscale. Reliability was tested with the current sample and was shown to be adequate with the exception of impact and rehearsal. Across the 9 stories, Cronbach's alphas ranged from .76 to .90 for belief, .73 to .90 for recall, .60 to .75 for rehearsal, and .54 to .75 for impact.

Centrality of events scale. The Centrality of Events Scale (short form) was also utilized as a measure of the centrality of an event to identity (Bernsten & Rubin 2006). This scale is a 7-item self-report measure assessing the degree to which an individual has centralized or integrated an autobiographical event into his or identity, life story, or is a reference point from which future experiences are interpreted or evaluated. Sample items include: "I feel that this event has become a part of my identity", "I feel that this event has become a central part of my life story" and "This event was a turning point in my life". Items are rated on a 5-point Likert type scale from 1 (*totally disagree*) to 5 (*totally agree*). Reliability for the 7-item short form has been found to be adequate with a Cronbach's alpha of .88 (range = .87-.89 across four separate University samples as reported by Bernsten & Rubin, 2006). In the present study, Cronbach's alphas ranged from .78 to .96 across the 9 stories.

Inclusion of self in other scale. For each of the 6 vicarious events, participants also rated their perceived level of self-other overlap (or degree of self-other merging) with their convoy member at the time of the event via the Inclusion of Self in Other scale (Aron et al. 1992; see Appendix E). This Likert-scale was comprised of a series of Venn diagrams with varying degrees of self-other overlap ranging from A (*no self-other overlap*) to G (*complete self-other overlap*) with the protagonist at the time of the event. Aron et al. reported the psychometric properties of the measure as having high test re-test reliabilities, ranging from .83 to .86 for family members, friends, and romantic partners (Aron et al., 1992).

For illustrative purposes, examples of shared, witnessed, and hearsay events tied to moral values are provided. In these examples below, the shared event is associated with the moral value of *generosity*, the witnessed event is associated with the moral value of *helpfulness*, and the hearsay event was associated with *compassion*. These traits were self-selected by participants for each story from the moral value ranking task.

1. **Shared event** "My friend and I were gift wrapping for a local charity. We were 14 years old at the time, I think. The last customer of the day stopped and asked that we wrap a bottle of wine for him. We did such a great job. The wine bottle was decked out in shiny blue paper and we completed the gift wrapping with a fancy gold bow. The man was grateful and donated 20.00 in the donation box. He also handed my friend and I another \$20.00 for doing such a great job. He told us to go spend this money on ourselves, like on dinner or dessert somewhere. When he left, my friend and I went back and forth about what we should do with the money. We did earn it, but we also thought that donating it to charity would be a better choice, so we included the money in the donation box because someone needs that money more

than we do. For the first time, both of us were on the same page, and I felt very proud that we made this decision together".

2. **Witnessed event** "One day when I was 12 years old, a man was driving his car in our street. Suddenly, a problem happened to the engine of his car and it stopped dead. My neighbor who is an engineer went to the man and told him he can fix the car for him. They needed my help so I went to help them but I mostly watched my neighbor work on the car from the curb. My neighbor fixed the car and then invited the man and me in for lunch. The man thanked us and he tried to give my neighbor some money for fixing the car. My neighbor didn't take the money. The man tried and tried, but my neighbor didn't agree to take the money. When I asked him why? He told me that it is important to help people when they need you, even if you don't know that person. By watching my neighbor work on this man's car all day and then refusing to take the money, I learned a big lesson that day; that it's important to help people who are in need, even if it's an inconvenience to you".

3. **Hearsay event.** "B is a friend of mine from the Marine Corps. He had bought a house with another Marine named R. On a deployment to Afghanistan, R was shot in the head, but survived. While many of his intellectual functions were not impaired, his speech and motor skills were affected, much like a stroke victim. While B and R were not related and merely roommates, I heard from R that every day B would help him get in and out of the shower, help him get dressed, and cook for him. The night R told me this, it brought a tear to my eye because of how selfless and helpful B had been to a wounded comrade. I realized at that moment, we could fight as many wars as possible in a life time but what really mattered was helping those in need which was of greater impact. This caused me to leave the Marine Corps and seek a

career with helping people at the center. This event showed that, even though I was not involved in the situation, I can learn from others".

Phase 3: Self-report questionnaires.

Demographic questionnaire. Participants reported their current age, their gender, ethnicity, Grade Point Average (GPA), occupation, employment status (full-time or part-time), marital status, and highest level of education. Current living arrangements (e.g., live alone, with roommate, spouse, grandparents, etc) were also reported.

Dispositional empathy. The Interpersonal Reactivity Index (Davis, 1983, 1994) is a 28-item questionnaire of dispositional empathy yielding four 7-item subscale scores (see Appendix B). Two of the subscales were used in the present study. The *perspective-taking subscale* (PT) measures the tendency to adopt the perspective or point of view of others in everyday life ("I sometimes try to understand my friends better by imaging how things look from their perspective"). The *empathic concern subscale* (EC) measures the tendency to experience feelings of sympathy and compassion for others ("I often have tender, concerned feelings for people less fortunate than me"). Scores² range from 0 to 28. Higher scores on each subscale represent a stronger dispositional tendency toward that particular characteristic. Davis (1983) reported the psychometric properties of the measure as having satisfactory internal consistency (alpha coefficients ranging from .70 to .78) and test-re-test reliability (from .61 to .81 over a two-month period). Reliability was tested with the current sample and was shown to be adequate and comparable to the reliabilities reported by Davis (1983). Cronbach's alphas in the present study were .74 for perspective taking and .64 for empathic concern. The EC and PT scales have been

² The EC and the PT subscales were significantly positively correlated ($r = .51, p < .001$). As such, I averaged these two subscales to create one composite empathy score. This composite score was used in the analyses reported in Aim 2.

shown to positively correlate with the sensitivity to the feelings of others on the Personal Attribute Scale ($r=.56$ and $r=.35$ respectively). Additionally, the PT scale has been shown to correlate with the Hogan Empathy Scale, a cognitive measure of empathy ($r = .40$) and the EC scale has been shown to correlate with the Mehrabian and Epstein Emotional Empathy Scale ($r=.59$) (see Davis, 1983)

CHAPTER 3

Results

Data screening and descriptive statistics

Means, standard deviations, and ranges are reported in Table 1 for all dependent variables. Descriptive statistics for reaction time, self-other overlap and dispositional empathy are provided in Table 2. Data were also screened to assess distributional assumptions. Skew and kurtosis values were computed by dividing each parameter by its corresponding standard error. Because this ratio yields a *t*-value, any ratio ≥ 1.96 is considered to be a significant deviation from normality. All study variables were normally distributed with the exception of self-other overlap for all inner and middle circle events which were negatively skewed ($ts \geq -3.30$, $ps < .05$). Hearsay-inner circle events were not only significantly negatively skewed, but were also significantly positively kurtotic ($t = .23$, $p < .05$). Given that self-other overlap was rated for individuals selected by participants to be close members of their social networks, this level of negative skew was not surprising. Self-other overlap ratings for all inner and middle circle events were thus transformed using a natural logarithm transformation. These transformed variables were used in the latent growth models reported below. Data were also screened for outliers. A standard *z*-score cut off value of ± 3.29 ($\alpha = .001$) was used as an index of outlier status. There were no significant outliers identified in the data set.

In terms of demographic characteristics, 12.5% (N=8) of participants did not report their GPA, 6.3% (N=4) did not report self-other overlap ratings for hearsay-inner circle and hearsay-middle circle events, 3.1% (N=2) did not report self-other overlap ratings for witnessed-inner and witnessed-middle circle events. Missing data analyses were also computed. Little's MCAR test indicated that the missingness patterns in the data satisfied the condition of being missing completely at random, $\chi^2(33, N = 64) = 20.45$, $p = .95$. All analyses reported below were

computed using pairwise deletion methods for missing data with the exception of analyses involving growth modeling approaches. For the growth models reported below, a full information maximum likelihood (FIML) estimation procedure was used to estimate missing values. FIML allows for the utilization of complete data based on all available information in the data set.

Preliminary Analyses

GPA, ethnicity, employment status, and marital status were assessed as potential confounding variables. Because there were relatively low frequencies of Indian, Korean, Pakistani, Arab, and Hispanic participants relative to the entire sample (see participant method section), these ethnic groups were collapsed into a single category for analysis purposes. There were no significant differences for ethnicity, employment, or marital status on any of the dependent variables across the nine stories (F s ranged from .01 to 3.10, ns). GPA was not related to centrality or impact across the nine moral stories (r s $>-.12$, ns), but was negatively associated with belief for witnessed and hearsay-inner circle events respectively ($r=-.31$, $p = .02$), ($r=-.27$, $p= .04$) and rehearsal ($r = -.35$, $p = .008$) for witnessed-inner circle events. Because there were so few significant relationships with the potential confounds, these variables were excluded in the analyses reported below. There were also no significant differences in reaction time across the nine stories, (F s <1.19 , p s $>.29$); therefore, reaction time was not used as a covariate in the analyses reported below.

Overview of Analyses for Aims 1 and 2

To test the hypotheses in Aim 1, I specified a 1x7 repeated-measures ANOVA with story type (autobiographical³, shared inner, witnessed inner, hearsay inner, shared middle, witnessed middle, and hearsay middle) as the within-subjects factor for the four AMQ scales and event centrality. Because story type is in essence a compound variable, the interpretation of the omnibus story effect can be conceptualized as the joint effect of social closeness and proximity of the self to the event (see Figure 1 for a depiction of the analytic design). Hypotheses 1-3 are tested as a series of aggregated comparisons across the seven levels of story type. Since the story effect cannot be interpreted unambiguously, I first present the findings of the averaged comparisons because they provide a more logical flow for the hypotheses specified in Aim 1. Again, because story type is the combination of social closeness and proximity of the self to the event encapsulated in experimental condition rather than specified as two separable variables, the comparisons were constructed by averaging specified story types together and then conducting either repeated-measures ANOVAs or paired-samples *t*-tests between the averaged conditions. Where necessary, repeated-measures ANOVAs were followed up with pairwise post-hoc comparisons. When the number of post hoc comparisons within each hypothesis were greater than six, a Sidak-Bonferroni correction was used.

Mixed design ANOVAs were used to investigate the hypotheses specified in Aim 2. In Aim 2, the primary interest is the effects of age, gender, age x gender, dispositional empathy and

³ Participants were asked to report three autobiographical events around a selected moral value. For all comparative analyses, a single autobiographical index was computed for each of the five dependent variables by averaging the scores for the three autobiographical stories. In order to validate the use of an average autobiographical index, we computed Cronbach's alphas for each dependent variable treating each autobiographical story as an item on a composite scale. The alphas were moderate for centrality ($\alpha=.52$), belief ($\alpha=.66$), recollection ($\alpha=.73$), impact ($\alpha=.53$), and rehearsal ($\alpha=.55$). Moreover, repeated-measures ANOVA also indicated that there were no significant mean-level differences between the three autobiographical stories for centrality ($F(2,126)=.067, p=.930$), belief ($F(2,126)=2.92, p=.062$), recollection ($F(2,126)=.031, p=.968$), impact ($F(2,126)=.951, p=.389$), and rehearsal ($F(2,126)=1.41, p=.248$).

self-other overlap on the within-subject effects specified in Aim 1. To assess the role of self-other overlap on the within-subject story effects, I used a latent growth modeling approach. Because self other overlap was measured for each story, its effects are story specific. The residuals of the story effect are assumed to be correlated (by virtue of the nature of a within-subjects design) and a growth modeling approach is designed to incorporate these correlated residuals. LGM is clearly more appropriate for designs which have non-independent or nested data. This LGM approach is also useful when incorporating a repeated-measures covariate, such as self-other overlap, as assessed in this study. In this specific LGM, self-other overlap for each event is included in the model to predict residual variance in the four scales of the AMQ and event centrality over and above the variance associated with social closeness and proximity of the self to the event. In this model, positive path coefficients between self-other overlap and the residuals of the four AMQ scales and event centrality would indicate that individuals with higher levels of self-other overlap will likely have story specific AMQ and event centrality scores which are higher than the sample mean for that story. As such, it was expected that there would be positive path coefficients for self-other overlap and the four AMQ scales and event centrality for events in which the self is more distal to the event and involve middle-circle social relationships.

Aim 1: How do autobiographical and vicarious events differ?

The first aim of this study was to examine the ways in which autobiographical (self) and vicarious (other) event memories differ in terms of phenomenology of memory experience as reported on the AMQ (belief, recollection, rehearsal, impact) and the degree to which they are central to a person's identity as reported on the CES. The following four hypotheses were specified in relation to Aim 1.

Hypothesis 1.1. Autobiographical events were expected to have higher ratings of event phenomenology and centrality to identity as compared to vicarious events overall.

Hypothesis 1.2. Autobiographical events were expected to have higher ratings of event phenomenology and centrality to identity followed by inner circle events (close-other) and middle circle events (distant-other). Thus, for vicarious events, as the relationship extends from close-other to more distant-other, events will become lower on both event phenomenology and centrality to identity.

Hypothesis 1.3. I expected to find that that the greater the proximity of the self to the event, the greater the event phenomenology and the greater the centrality to identity as compared to events in which the self is more distal.

Hypothesis 1.4. A significant relationship closeness x involvement interaction was expected such that vicarious events would be rated higher on event phenomenology (AMQ) and centrality to identity in close, rather than in distant social relationships and in events in which the self was more proximal than distal.

Aim 1 results

In the following sections, the analyses associated with Aim 1 are presented as 1.1 (aim 1, hypothesis 1) to 1.4 (aim 1, hypothesis 4).

Hypothesis 1.1. To test the hypothesis that autobiographical events would have higher ratings on the four AMQ scales and event centrality as compared to vicarious events overall, the three autobiographical events and the six vicarious events were averaged for each of the dependent measures. Five paired sample *t*-tests confirmed that autobiographical memories were rated by participants as significantly higher in belief, $t(63) = 9.31, p < .001, \eta_p^2 = .58$, recollection, $t(63) = 5.59, p < .001, \eta_p^2 = .33$, impact, $t(63) = 4.77, p < .001, \eta_p^2 = .27$, rehearsal, $t(63) = 4.96,$

$p < .001$, $\eta_p^2 = .28$, and event centrality, $t(63) = 5.39$, $p < .001$, $\eta_p^2 = .32$, in comparison to vicarious events overall. Means and standard deviations are reported in Table 3. These findings confirm hypothesis 1.1 and demonstrate that autobiographical events were remembered with higher ratings of event phenomenology and centrality as compared to vicarious events overall.

Hypothesis 1.2. I hypothesized that autobiographical events would be rated highest on the four AMQ scales and event centrality, followed by close-other (inner circle) and more distant-other (middle circle) events. To test this hypothesis, the three autobiographical events, the three inner circle events (shared-inner, witnessed-inner, and hearsay-inner) and the three middle circle events (shared-middle, witnessed-middle, and hearsay-middle) were averaged for each dependent variable. Five repeated-measures ANOVAs confirmed that there were significant main effects of relationship closeness for each of the five dependent variables of belief, $F(2,126) = 38.87$, $p < .001$, $\eta_p^2 = .38$, recollection, $F(2,126) = 17.62$, $p < .001$, $\eta_p^2 = .22$, impact, $F(2,126) = 13.01$, $p < .001$, $\eta_p^2 = .17$, rehearsal, $F(2,126) = 13.79$, $p < .001$, $\eta_p^2 = .18$ and centrality, $F(2,126) = 17.24$, $p < .001$, $\eta_p^2 = .22$. Post-hoc tests revealed that autobiographical events were rated by participants as significantly higher on event phenomenology and centrality to identity as compared to inner circle and middle circle events. Inner circle events were not significantly different from middle circle events on any of the five dependent measures with the exception of centrality. Means, standard deviations, and post-hoc analyses are reported in Table 4.

Hypothesis 1.3. I expected to find that that greater proximity of the self to the event will be associated with higher scores on the four AMQ scales and event centrality. To test this hypothesis, the three autobiographical events, the two shared events, the two witnessed events, and the two hearsay events were averaged across relationship closeness. Five repeated-measures ANOVAs indicated a main effect of proximity of the self to the event for each of the five

dependent variables of belief, $F(3,189) = 76.52$, $p < .001$, $\eta_p^2 = .55$, recollection, $F(3,189) = 41.38$, $p < .001$, $\eta_p^2 = .40$, impact, $F(3,189) = 18.84$, $p < .001$, $\eta_p^2 = .23$, rehearsal, $F(3,189) = 12.49$, $p < .001$, $\eta_p^2 = .16$, and centrality, $F(3,189) = 18.86$, $p < .001$, $\eta_p^2 = .23$. Post-hoc tests revealed that autobiographical and shared events were not significantly different from each other on any of the five dependent measures ($ps > .10$), but autobiographical and shared events were rated significantly higher than witnessed and hearsay events across all five dependent variables, as expected. Witnessed events were significantly more believable and vivid than hearsay events, but there were no significant differences between witnessed and hearsay events on rehearsal, impact, or centrality. Means, standard deviations, and post-hocs analyses are reported in Table 5. These findings are generally consistent with hypothesis 1.3, demonstrating that the greater the proximity of the self to the event, the higher the ratings on the dimensions of memory properties and identity centrality.

Hypothesis 1.4. Events in which the participant was both proximal to the event and involved another individual who was in a close social relationship were expected to have higher scores on the four AMQ scales and event centrality in comparison to events in which the participant was less proximal and involved a less socially close relationship. For each dependent variable, pairwise post-hoc comparisons were computed using the Sidak-Bonferroni correction. Because the number of comparisons is relatively large for this hypothesis (21 pairwise comparisons), the Bonferroni correction tends to overcorrect for family-wise error and thus the Sidak-Bonferroni correction is more appropriate (Bender & Lang, 2001). Five repeated-measures ANOVAs indicated significant story effects for each of the five dependent variables of belief, $F(6,378) = 37.47$, $p < .001$, $\eta_p^2 = .37$, recollection, $F(6,378) = 22.96$, $p < .001$, $\eta_p^2 = .27$, impact,

$F(6,378) = 9.34, p < .001, \eta_p^2 = .13$, rehearsal, $F(6,378) = 6.07, p < .001, \eta_p^2 = .08$ and centrality, $F(6,378) = 10.21, p < .001, \eta_p^2 = .14$.

To illustrate these findings, plots of the means for the four AMQ subscales and event centrality were graphed with proximity of the self along the x-axis and separate lines for inner vs. middle circle convoy members (see Figure 2a-e). It should be noted that the autobiographical means were included in the graph as autobiographical events are conceptualized as the most proximal and most socially-close event.⁴

Because there are a large number of post-hoc comparisons, I provide an overview of the primary findings below and the full set of post-hoc comparisons for this hypothesis are provided in Tables 6-11. Post-hoc tests revealed no significant mean differences between autobiographical, shared-inner circle, and shared-middle circle events on any of the five dependent variables. Autobiographical, shared-inner and shared-middle circle were, however, rated significantly higher than witnessed and hearsay events across the five dependent measures (for both inner and middle circles). Additionally, witnessed events were rated significantly higher on belief and recollection than hearsay events in both inner and middle circles, but there were no mean differences between these event types for impact, rehearsal or centrality. These findings generally support hypothesis 1.4 in that the combination of social closeness and proximity of the self to the event was predictive of higher memory ratings of both event phenomenology and identity centrality.

Aim 2. Between-Subjects Differences in Story Effect

⁴ The analyses reported for hypothesis 1.4 were 1x7 repeated-measures ANOVA and did not include an actual interaction term. However, for clarity of presentation, I chose to separate inner and middle circle events across levels of proximity.

The second aim of this study was to examine the extent to which the predictors of participant age, gender, dispositional empathy, and the degree of self-other overlap accounted for individual differences in the relationships specified in Aim 1, hypothesis 4.

Hypothesis 2.1a. It was expected that older participants would have higher scores on the four AMQ scales and event centrality across all seven stories.

Hypothesis 2.1b. Females were hypothesized to have higher scores than males on the four AMQ scales and event centrality across all seven stories.

Hypothesis 2.1c. A gender x age interaction was predicted. I expected that older females would have higher scores on the four AMQ scales and event centrality across all seven stories relative to younger females and males.

Hypothesis 2.1d. An age x gender x story interaction was also expected such that the difference between inner and middle scores for all five dependent variables would be reduced for older female participants in comparison to younger female participants and men.

Hypothesis 2.2. Participants with higher levels of dispositional empathy were expected to have higher scores on the four AMQ scales and event centrality across all seven stories.

Hypothesis 2.3. It was expected that there would be a positive relationship between self-other overlap and the four AMQ scales and event centrality for less proximal and more socially distant events, but a non-significant relationship for socially-close, and more proximal events.

Aim 2. Between subjects differences in story effect.

Hypotheses 2a-d. To test the hypotheses 2.1a-d, five mixed-design ANOVAs were computed with age ⁵ and gender as the between-subjects variables and story-type as a within-

⁵ Participant age was dichotomized using a median split (median age = 21.00). I chose a median split rather than tertiles or quartiles in order to maximize the cell sizes between age groups. The

subjects factor. Two-way and three-way interactions with story-type were also examined. There were no significant age differences in the patterns of means across the seven stories ($ps > .24$). There were also no significant gender differences in the pattern of means across the seven stories ($ps > .08$) with the exception of recollection, $F(1,60) = 6.65, p < .01, \text{partial } \eta^2 = .06$ with women reporting more vivid recollection experiences than men across the seven stories. However, given the small number of men in the present sample ($N = 17$) relative to women ($N = 47$), this gender difference should not be interpreted. There was a significant age x gender interaction across the seven stories for belief, $F(1,60) = 4.01, p < .05, \eta_p^2 = .06$, recollection $F(1,60) = 4.08, p < .05, \eta_p^2 = .06$, impact, $F(1,60) = 4.12, p < .05, \eta_p^2 = .06$, rehearsal, $F(1,60) = 7.84, p < .005, \eta_p^2 = .12$ and centrality, $F(1,60) = 4.86, p < .05, \eta_p^2 = .07$. All four groups (older men, younger men, older women, younger women) displayed the same pattern of means as the sample average (see Figure 4a-e). However, older women reported higher means across all seven stories for the four AMQ scales and event centrality. The two-way interactions of age x story and gender x story were not significant for any of the five dependent variables ($ps > .31$). The three-way interaction of age x gender x story was also not significant for centrality, $F(6,360) = .57, p = .75, \eta_p^2 = .009$, belief, $F(6,360) = .84, p = .53, \eta_p^2 = .014$, recollection, $F(6,360) = 1.22, p = .29, \eta_p^2 = .020$, impact $F(6,360) = 1.02, p = .41, \eta_p^2 = .017$, and rehearsal $F(6,360) = .144, p = .19, \eta_p^2 = .023$. Given these non-significant interactions, follow-up analyses by story were not warranted for the overall sample.

Simple Effects Analyses for Females Only

The between-subject age x gender interaction was primarily a function of age differences amongst older and younger female participants. There was little power to observe differences in the male sample of 17 participants split into 11 participants in the younger group and 6

younger group was comprised of participants between the ages of 18-21. The older group was comprised of participants between the ages of 22-44.

participants in the older group. As a result, males were excluded from all subsequent analyses. To examine this interaction effect in more detail, simple effects analyses were computed for older and younger females. Across the seven story types⁶, older females had significantly higher ratings than younger females on event centrality, $F(1,45) = 11.62, p = .002, \eta_p^2 = .20$, recollection, $F(1,45) = 6.28, p = .02, \eta_p^2 = .12$, impact, $F(1,45) = 5.95, p = .02, \eta_p^2 = .12$, and rehearsal, $F(1,45) = 10.39, p = .002, \eta^2 = .19$, but older and younger females did not differ significantly on belief $F(1,45) = 3.20, p = .08, \eta_p^2 = .07$. There were no significant age x story interactions within the female sample for any of the five dependent variables ($F_s < 1.68, p_s > .12$). Taken together, the results of hypotheses 2.1a-d demonstrate that the pattern of means for all five dependent variables across the seven stories tend to be similar for all participants. However, for older females, the mean values are significantly higher than all other sub-groups for all seven story types for recollection, rehearsal, impact, and centrality.

Hypothesis 2.2. To test the hypothesis that participants with higher dispositional empathy would have higher ratings on the four AMQ scales and event centrality across all seven stories, five mixed-design ANOVAs were computed with a composite dispositional empathy score, comprised of perspective taking and empathic concern, as a covariate and story type as the within-subjects-factor for each dependent variable. There were no significant effects of dispositional empathy on story type ($p_s > .24$). The findings are inconsistent with hypothesis 2.2 and demonstrate that dispositional empathy does not appear to be related to the pattern of means across story type.

⁶ I also computed age x story mixes design ANOVAs for females only for hypothesis 1.2 (close vs. distant other) and 1.3 (shared vs. witnessed, vs. hearsay) in Aim 1. Collapsing across levels of relationship closeness, there were no significant age x story interactions ($F_s < 1.36, p_s > .26$). Collapsing across shared, witnessed, and hearsay events, there were no significant age x story interactions ($F_s < 2.14, p_s > .09$).

Hypothesis 2.3. It was expected that, when there is greater self-other overlap between the participant and his or her convoy member, vicarious memories will be rated by participants as higher on the four AMQ scales and event centrality. This relationship was expected to be most pronounced for less close, and more proximal events (e.g., witnessed and hearsay) because self-other merging compensates for the fact that more distal events have fewer points of connection with the individual. Despite the relationship not having the same diversity of roles, the same level of joint experiences as inner-circle events, the participant would still view him or herself as highly identified with the protagonist in these more distal social events if the perceived level of self-other overlap is high. Self-other merging occurs when the boundaries between self and other are less distinct, and thus the individual is more apt to incorporate the experiences of others the same way as they would their own.

In order to test this hypothesis, I used a latent growth modeling approach. This approach is appropriate for several reasons: (1) Because self-other overlap is measured for each vicarious event, its relationship with the four subscales of the AMQ and event centrality is story specific⁷; (2) While zero-order correlations seem to be the most intuitive way in which to analyse these bivariate relationships, they are biased because the IOS, AMQ and CES are all nested within person (McLean & Fournier, 2008); and (3) The latent growth curve approach allows for within person variance of the four AMQ scales and event centrality across all six vicarious events to be taken into account via the intercept and slope terms. The intercept and slope are direct assessments of individual differences in the four AMQ scales and CES as a function of story type. The IOS scale was included in the model to predict the residual variance for each story type

⁷ Story-varying covariates in this study are analogous to time-varying covariates in more traditional latent growth models in that self-other overlap changes for each vicarious event. The relationship, therefore, between self-other overlap and the five dependent variables in this study have to be estimated distinctly for each event.

once the variance associated with the intercept and the slope are taken into account (see Figures 3a-e). Therefore, the path coefficients in the model from the IOS to the five dependent variables for each story assess the variance associated with self-other overlap above and beyond the variance associated with social closeness and proximity of the self to the event. This is similar to an hierarchical regression. Although closely related, the concepts of social closeness and self-other overlap are distinct. A person can be socially close to another person, but not perceive a high degree of self-other merging as evidenced by the range of scores 2 (*very low overlap*) to 7 (*complete overlap*) for the IOS scale among inner circle events. I specifically predicted that self-other overlap would be more closely related to the four AMQ scales and event centrality for middle circle events. than for inner circle events.

Separate LGMs with self-other overlap as a story-specific covariate were estimated for each of the five dependent variables of centrality, impact, belief, recollection and rehearsal. As was reported for the repeated-measures ANOVAs, there was a decrease in both the four AMQ subscales and event centrality as the proximity of the self to the event changed from shared to witnessed to hearsay, and this overall pattern occurred for both close social relationships and for more distant social relationships. As can be seen in Figure 4 (a-e), the pattern of AMQ and CES scores across the six vicarious memories is nonlinear. In order to account for this nonlinear set of relationships, a piecewise growth model was specified in which the factor loadings for the slope factor were fixed at -2, -1, 0 for the inner circle shared, witnessed, and hearsay events, respectively. The second set of factor loadings for the middle circle shared, witnessed, and hearsay events were fixed at -1.5, -.50, and 0, respectively. These factor loadings reflect the fact that the middle circle events follow the same pattern across shared, witnessed, and hearsay

events, but are lower in mean-level for each of the corresponding event types⁸. The slope factor loadings were negative in order to reflect the negative slopes observed in the data. The covariance between the residuals of each dependent variable and self-other overlap for each vicarious event was also estimated in each growth model. This allows for a direct test of the relationship of self other-overlap on the four AMQ scales and event centrality after taking into account the effect of story type.

Model fit for all five models was assessed via an Exact-Fit Chi-square Test (Hu & Bentler, 1992), the Comparative Fit index (CFI) (Bentler, 1990), the Root Mean Square Error of Approximation (RMSEA) (Steiger & Lind, 1980). and a non-significant chi-square, a CFI > .95 and an RMSEA < .08 (McDonald & Ho, 2002). The growth model for centrality had an adequate fit to the data, $\chi^2(34)=42.35$, $p=.153$; CFI = .93; RMSEA = .06). Self-other overlap was significantly positively correlated with event centrality for the shared-inner circle event ($\beta=.22$, $p<.05$) and for the shared-middle circle event ($\beta=.17$, $p<.05$). There was a good model fit for impact, $\chi^2(34) = 35.10$, $p=.41$; CFI=.98; RMSEA=.02); the relationships between self-other overlap and the story specific residuals of impact were significant for witnessed-middle circle events ($\beta=.26$, $p<.05$) and for hearsay-middle circle events ($\beta=.32$, $p <.05$) indicating that higher levels of perceived self-other overlap were associated with story specific residuals for impact which were higher than the sample average impact score for more socially-distant members of a

⁸ With piecewise modeling, the factor loadings are segmented such that they reflect two linear segments which are at different mean-levels. The first three factor loadings reflect the negative slope within the inner circle (the highest score being shared, followed by witnessed, and the lowest being hearsay). The second set of three factor loadings repeat this same trend but start at a lower mean level than the inner circle events. The negative values reflect the negative slope. The order of these values is somewhat arbitrary. For example, I could have specified slope factor loadings of 0, 1, 2 for inner circle events and -.50, .50, and 1.50 for middle circle events. The results would be the same, but the sign of the slope mean would be reversed. The logic, here, is the same as reflecting Likert scale response options to make them more intuitively match the wording of the question.

person's social network and for events in which the self more distal. As these events had the overall lowest reported levels of impact across the entire sample, it would seem that the effects of relationship closeness and proximity to the self to the event may have been moderated by the degree of self-other overlap. Although there was good model fit for belief, $\chi^2(30) = 36.32$, $p = .197$; CFI = .95; RMSEA = .05), recollection, $\chi^2(32) = 37.56$, $p = .22$; CFI = .95; RMSEA = .05), and rehearsal, $\chi^2(32) = 32.76$, $p = .42$; CFI = .99; RMSEA = .02), the path coefficients of self-other overlap with the story-specific residuals were non-significant in all three models which suggests that self-other overlap does not account for any story specific variance above and beyond social closeness and proximity of the self to the event suggesting that self-other overlap is not associated with levels of belief, recall, and rehearsal. The path diagrams for all five growth models are presented in Figures 4-9

CHAPTER 4

Discussion

The central aim of this dissertation was to elucidate the process by which we incorporate the life events of others into our own lives and, by extension, into our own sense of identity. Many theorists posit that each individual is inextricably linked to the many individuals with whom he or she is socially, culturally, and historically connected (Antonucci et al., 2010; Aron & Aron, 1986; Aron et al., 1992; Bandura, 1978; Elder, 1998; Elder & Shanahan, 2006; Hirst et al. 2012; Pratt & Fiese, 2004). This connection fosters the realization that each person is an integral part of a community larger than oneself, transcending self-interest and fostering compassion, prosociality, and moral responsibility (Arnold et al., 2004; Behrman et al., 2001; Bergman, 2004; Rappaport, 2000; Walker et al. 1995). The central premise of this dissertation was that vicarious events from within a person's social network are as germane to identity development as personal stories, yet their specific influence on memory, identity, and social relationships is not well established in the literature (Norrick, 2013).

This dissertation explicitly examined the differential role of autobiographical versus vicarious events in shaping both identity and memory processes. Participants were instructed to recall several autobiographical and vicarious events directly tied to self-selected moral traits. These traits were chosen as a prompt to elicit the content of the narratives told by participants rather than more general turning point story prompts, in part, because of the long-standing history in literary theory emphasizing the role of cultural narratives in conveying moral standards and culturally-valued aspects of character (Bloom, 1998; Fitzgerald, 2013; Weir & Tenniel, 2013). It follows, then, that the impact of the life events of others should be more pronounced for moral dimensions of identity rather than more global aspects of character. The elicited vicarious events came from the lives of individuals within each participant's social convoy and

varied along two key dimensions: (1) *relationship closeness* and (2) *proximity of the self to the event*. Memory phenomenology and event centrality were rated for each event type. For the six vicarious events, an additional rating scale of self-other overlap (IOS scale) was also included as a measure of the degree to which the participant felt merged with the protagonist at the time of the event.

General Overview of Findings

This dissertation had two primary aims. The first aim examined the ways in which autobiographical and vicarious events differ in terms of event phenomenology and event centrality. Autobiographical events were remembered as more believable, vivid, impactful, more central to identity, and rehearsed with others more frequently than vicarious events overall. Vicarious events, however, were rated highest in these aspects of event phenomenology and event centrality when such events occurred within socially-close (inner circle) rather than in socially-distant (middle circle) relationships and in events in which the self was more proximal (e.g., shared events) than distal (e.g., witnessed or hearsay events).

The second aim examined the extent to which age, gender, dispositional empathy, and self-other overlap accounted for individual differences in these effects. Older emerging adult females rated all seven event types as higher in event phenomenology and event centrality as compared to younger emerging adult women and men. Dispositional empathy was not associated with any of the four AMQ scales or event centrality across the seven events. As ratings of self-other overlap increased, shared events within close and distant social relationships were rated higher on event centrality. Interestingly, for impact, however, as ratings of self-other overlap increased, less proximal events (e.g., witnessed and hearsay events) were rated higher on impact relative to the sample as a whole. Contrary to expectations, no associations were confirmed

between self-other overlap and recall, rehearsal, or belief for either socially-close or socially-distant relationships.

In the following sections, each hypothesis associated with Aims 1 and 2 are discussed in relation to vicarious memory and identity.

Aim 1: How do autobiographical and vicarious events differ?

Hypothesis 1.1: Autobiographical vs. Vicarious Events

Hypothesis 1.1 specified that autobiographical events would have higher ratings of event phenomenology on the four AMQ scales and event centrality than vicarious events overall. In support of these predictions, autobiographical events were rated by participants as higher in event phenomenology on the four AMQ scales and even centrality than vicarious events overall. This finding is not surprising given that autobiographical events are, by definition, vivid, specific to time, place, and context, rehearsed frequently with others, and personally-relevant to one's life story (Nelson, 1993; Rubin, 1995; Tulving, 1983,1985). However, conceptualizing vicarious events in such a global manner oversimplifies the inherent complexity of the role of social relationships on vicarious memory. As noted by Antonucci et al. (2010), social relationships vary as a function of perceived level of social closeness and thus the influence vicarious events within both socially-close and socially-distant relationships warrant additional attention.

Hypothesis 1.2: Close vs. Distant Other

Hypothesis 1.2 specified that autobiographical events would have the highest ratings of event phenomenology on the four AMQ scales and event centrality followed by inner circle events (close-other) and middle circle events (less close-other). In partial support of hypothesis 1.2, participants rated autobiographical events higher than inner circle and middle circle events on all four AMQ scales and on event centrality. Inner and middle circle events did not differ on

any of the four AMQ scales, but did differ significantly on event centrality. Inner circle events were rated by participants as more central to identity than middle circle events.

Higher ratings of autobiographical events on the four AMQ scales and event centrality as compared to inner circle and middle circle events support a large literature on the self-defining nature of autobiographical events as described in hypothesis 1.1 (Blagov & Singer, 2004; Habermas & Bluck, 2000; McAdams, 1985/2015; McAdams & Pals, 2006; Pillemer, 2001; Rubin, 1995). Autobiographical memory is a specific subtype of episodic memory which is defined by its personal salience and connection to the life story (Brewer, 1986; Rubin, 1995; Singer & Moffitt, 1991-1992; Wood & Conway, 2006). Given that these events are personally-salient, and impactful, autobiographical events tend to be remembered as more believable, vivid, and rehearsed with others more frequently than less non-autobiographical events. As such, the most distinctive features of autobiographical memory involve a high degree of salience to the self. Vicarious memories, on the other hand, can be as important and salient to the self as autobiographical events, particularly when such events involve an individual with whom the individual is close. However, because vicarious events are not necessarily directly experienced and are often experienced from an observer perspective, they should lack these more elemental and integral features of autobiographical memory.

Adding to the established literature of autobiographical events shaping identity in this dissertation, I sought to better understand the features of social relationships that may play a role in how vicarious events can be connected to the self. Participants rated vicarious events within close relationships as significantly higher on event centrality than events within less close social relationships, even though the degree of social closeness did not differentiate memory phenomenology. While an individual may remember the experiences of both close and distant

others as equally memorable, believable, impactful, and rehearse those experiences with other more often, these results suggest that a close, emotional connection with another person fostered the greatest identity-relevant connection. It is likely, then, that the more intimate the connection between two people, the more likely that there are multiple representations between a person's own life and the events experienced by individuals with whom they are close. This is consistent with the notion that self-other overlap is generally more pronounced in close, rather than distant social relationships because the individual views the other as more of an extension of him or herself (Aron & Aron, 1986; Aron et al., 1991). For individuals who are socially connected to another person, the ways in which vicarious events affect that person's identity would be based on a sense of psychological connection rather than a social or material connection (Antonucci, 2001).

Close relationships also simultaneously exhibit multiple social functions, such as social support, instrumental support, intimacy, and sense of affiliation and belongingness whereas more distant social relationships are more likely to provide a singular function such as providing advice in a particular situation (Weiss, 1974; Fiori, Brown, Cortina, & Antonucci, 2006). Furthermore, close relationships operate in several contexts simultaneously such as at work, home, and during recreation activities. More distal relationships, on the other hand, tend to be context-specific and provide social functions that are limited to a uni-dimensional social role such as mentoring (Wellman & Worley, 1990). Because of the multiple social roles across multiple contexts in which close social relationships function, it is not surprising that inner circle events were rated by participants as most central to identity than middle circle events, but these distinctions should have no bearing on how the event itself is remembered phenomenologically.

Hypothesis 1.3: Proximity of the Self to the Event

Hypothesis 1.3 specified that the greater the proximity of the self to the event, the higher the event phenomenology rating on the four AMQ scales and event centrality as compared to events in which the self was more distal. In partial support of these predictions, I found that autobiographical and shared events did not differ significantly on the four AMQ scales or on event centrality, but autobiographical and shared events were rated as significantly higher than witnessed and hearsay events on these five dimensions. While witnessed events were rated as more believable and more vivid than hearsay events, they did not differ with respect to event centrality, rehearsal, or impact.

These findings are supported by several studies in group attention. Activities or events that are attended to simultaneously are rated by individual members as more memorable, emotionally intense, and more personally-relevant than events that are attended to by participants either alone, in parallel, or with out-group members (Eskanazi, Doerrfeld, Logan, Knoblich, & Sebanz, 2013; Shteynberg, 2010; Shteynberg & Apfelbaum, 2013). This experience of co-attention or being immersed in an event with another person is also most pronounced in close relationships and has been found to lead to increased closeness, intimacy, and relationship satisfaction (Aron, Norman, Aron, McKenna, & Heyman, 2000; Gable, Reis, Impett, & Asher, 2000). Since sharing an experience with an individual (in both close and distant social relationships) makes that event as memorable and as central as one's own autobiographical events, this dissertation adds to this burgeoning literature on co-attention, group dynamics, and social relationships. Active, rather than passive involvement in an event makes the event more salient and more relevant to the self-concept.

These results also parallel Libby and colleagues' work on memory and imagery (Bernsten & Rubin, 2006; Libby et al., 2005; Libby et al., 2009; Nigro & Neisser, 1983). It is likely that

autobiographical events and shared events are recalled from a 1st person perspective or field perspective in which an event is seen from one's own eyes or vantage point. Witnessed and hearsay events, on the other hand, are likely recalled from an observer or 3rd person perspective, given that such events represent an observer or bystander orientation. Bernstein and Rubin (2006) found that memories recalled from a field perspective contained more sensory and visual information, were rated as more believable, and more significant than memories recalled from the perspective of an observer. When asked to shift perspective from field to observer, ratings of phenomenology subsequently decreased, but there was no difference for an observer to field shift in perspective. Similarly, Libby et al. (2005) and Libby et al. (2009) also found that events recalled from an observer perspective were rated lower in phenomenological details than events recalled from a field perspective (Libby et al., 2005; Libby et al., 2009). Given the differential ratings in phenomenological details and event centrality for more proximal than distal events, it appears, then, that perspective may in fact influence the degree to which vicarious events are represented in memory.

It is also important to note that the literature in cognitive neuroscience and episodic memory may contribute to this active vs. passive distinction. When an individual is actively immersed in an experience, such as in an autobiographical or shared event, these events are experienced through multiple sensory modalities simultaneously, converging in the hippocampus (Battaglia, Benchenane, Sirota, Pennartz, & Wiener, 2011). Passive experiences in which an individual is not directly involved, on the other hand, are encoded via either a single (auditory) or dual sensory modality (auditory or visual). During the integration of a passive memory, the recipient only encodes a singular and restricted representation of the event. As such, witnessing or hearing about an event from another person results in a restricted diversity of sensory

information from which to reconstruct the event as a memory. This level of memory integration has fewer sources of neural inputs and is likely to be experienced as less memorable and less personally relevant than events in which an individual was directly involved.

In support of this multimodal integration, Plancher, Tirard, Gyselinck, Nicolas, and Piolino (2012) designed a virtual navigation task in which a participant was either the driver of a virtual car through a virtual environment (active-episodic memory) or a passenger in a virtual car going through the same virtual environment (passive-episodic memory). They found that, in the active-episodic condition, participants were more accurate in recalling specific details from the simulation as compared to the passive-episodic condition. Consistent with this multimodal integration of perceptual information in the hippocampus as described above, active-episodic participants also demonstrated increased levels of episodic memory binding, defined as the neurocognitive process of linking together participant-centric and contextual information from a specific episode, which is also strongly associated with hippocampal activation. The positive effect of active engagement improved memory and binding across normal controls, individuals with a minor cognitive impairments, and individuals with early stage Alzheimer's disease. Overall, then, these findings support the notion that "active" rather than "passive" engagement in an event is associated with vicarious events that are processed through multiple sensory inputs.

Hypothesis 1.4: Closeness by Proximity Interaction

The results of Hypotheses 1.2 and 1.3 parallel the findings in Hypothesis 1.4. Autobiographical events were hypothesized to have the highest level of centrality and memory phenomenology in comparison to all six vicarious events. Within vicarious events, close rather than distant relationships, and events in which the self was more proximal than distal were

expected to be rated highest on the four AMQ scales and event centrality. In support of these predictions, autobiographical events, shared-inner circle, and shared-middle circle events did not significantly differ from each other on all five dependent measures, but all three event types were rated as significantly higher than witnessed and hearsay events (regardless of convoy circle) on all five dependent measures. Moreover, witnessed events were rated significantly higher than hearsay events on belief and recollection, but there were no significant differences between these two events for centrality, impact, or recollection (regardless of convoy circle). These results provide additional support for the premise that active participation in an event within the context of social relationships not only contributes to the qualities of the vicarious event, but is also associated with a self-relevant, identity connection of that vicarious event to the self.

These results parallel the work of Aron and colleagues (Aron & Aron, 1986; Aron et al., 1991) and the body of literature on active vs. passive experience and co-attended features of the environment for jointly constructed events as discussed in Hypothesis 1.3 (Eskanazi et al., 2013; Shteynberg, 2010; Shteynberg & Apfelbaum, 2013; Shteynberg et al., 2014). These results also suggest that shared experiences with another person may be somewhat amplified as compared to events experienced in parallel with others, with strangers, at different time periods, or completed alone. For instance, recent work in social cognition suggests that merely sharing an experience with another person (even in the absence of direct communication and regardless of relationship closeness) was shown not only to amplify the intensity of that experience, but also contributes to a heightened level of awareness of the internal states of others. Specifically, a recent study by Boothby, Clark, and Bargh (2014a) found that sweet chocolate was rated as more flavourful, and bitter chocolate was rated as more bitter when the chocolate was eaten within the context of another person (study 1). Boothby et al. (2014b) also found that participants reported feeling

more absorbed in the experience of tasting the chocolate and were more likely to report "being on the same wavelength" as the other person at the time of the event. While future work into this amplified process is needed to better understand the mechanism through which shared experiences become amplified, this study does provide support for the notion that merely experiencing or attending to an event with another person makes that more deeply encoded and more memorable to both the individual and the dyad (Baron-Cohen, 1995; Tomasello, Carpenter, Call, Behne, & Moll, 2005). Shared events, independent of a close relationship, also intensify the pursuit of shared goals in context of in-group tasks (Shteynberg & Galinsky, 2011) and also leads to shared autobiographical memory representations in infancy, childhood, and adulthood (Fivush & Fromhoff, 1988; Reese, Haden, & Fivush, 1993; Nelson & Fivush, 2004).

Taken together, these findings from Aim 1 suggest that events which are attended to (1) simultaneously, co-attended, or "in-the-moment" with another person and (2) occur within the context of a close social relationship appear to result in the perception of the self and other as a "unified agent" and, consequently, shared events are not only remembered in ways that are similar to self-defining autobiographical events, but are also more salient to identity as compared to events in which a person was less proximally involved and had less of a direct connection to the other person in the event.

Aim 2: Between-Subject Differences in Story Effects

The second aim of this study was to examine the extent to which the predictors of participant age, gender, dispositional empathy, and the degree of self-other overlap accounted for individual differences in the relationships specified in Aim 1, hypothesis 4. I expected that there would be less of a distinction between events that happen to others and events that happen to the self when individuals were older, female, dispositionally empathic, and when the individual felt

highly merged with the protagonist at the time of the event. These predictions were based on a broad literature on the increasing social-cognitive and emotional capabilities that begin to consolidate during emerging adulthood (Habermas & Bluck, 2000; Labouvie-Vief, 2015), the relational orientation of women (DoCouto & Hennig, 2015; Gilligan et al., 1988; Prentice & Carranza, 2002) and the view that empathic individuals and individuals who feel more vicariously connected (Davis, 1994; Eisenberg et al., 2006; Hoffman, 2000; Myers & Hodges, 2012; Soucie et al., 2012) or merged with others (Aron & Aron, 1986; Wright et al., 2002) would be afforded with a greater ability to incorporate self-relevant information from more distal and less proximal vicarious events.

Hypothesis 2.1a-d: Age, Gender, and Age x Gender Interaction Across Story Type

Hypotheses 2.1a-c specified main effects of gender, age, an age x gender interaction on the four AMQ scales and event centrality across the seven stories. Age x story, gender x story and an age x gender x story interactions were also tested. Contrary to expectations, there were no significant main effects of age or gender on any of the dependent measures across the seven stories, with the exception that women rated their events as significantly more vivid than men. This latter result is consistent with the broader literature regarding gender differences in autobiographical memories in which women recall more vivid and detailed events than men (Buckner & Fivush, 1988; Pillemer et al., 2003). However, this gender difference cannot be reliably interpreted because of the high ratio of women ($N = 47$) relative to men ($N = 17$). There was, however, a significant age x gender across story interaction for all four AMQ scales and for event centrality, with older emerging adult women reporting higher scores on all five dependent variables across all seven story types. Again, given the substantial difference in the number of female participants relative to male participants, this interaction effect is largely a function of age

differences on the AMQ scales and event centrality for women rather than differences between men and women.

Contrary to expectations, there were no significant age effects on the four AMQ scales and event centrality across the seven stories. While this is inconsistent with predictions for hypothesis 2.1a, which was drawn from a burgeoning area of study on reported age differences in autobiographical reasoning (Bauer & McAdams, 2004; Bluck & Gluck, 2004; Pasupathi & Mansour, 2004) and meaning-making (McLean & Thorne, 2004; Pratt et al., 1999), the current null findings may be the result of a restricted age range in the present sample. For instance, 90% of participants were between the ages of 18-26 ($M_{age} = 22.59$). This age range falls within a distinct historical and socio-cultural stage of development referred to as *emerging adulthood* which occurs between the ages of 18-29 and is an extended period of social and identity development (Arnett, 2000; Erikson, 1958). The transition to adulthood is prolonged as emerging adults delay marriage, childbearing, and post-secondary education and retain very strong ties to family for financial, social, and emotional support (Arnett, 2006a). Hazan and Zeifman (1994) also note that the transition of support from parents to peers is somewhat delayed during emerging adulthood. Given that most participants in the total sample fall within the same distinct life period, age effects were difficult to ascertain. Moreover, many of the age differences found in studies of autobiographical memory are based on large cross-sectional samples spanning early adolescence to late adulthood (Bauer & McAdams, 2005) and are not representative of the early emerging adult sample in this study.

While main effects of neither age nor gender were significant, there was a significant age by gender interaction across the seven stories for all four AMQ scales and event centrality. Two and three-way interactions were not significant. Due to the disproportionate number of females

relative to males in the sample, the age by gender interaction was primarily a function of age differences in females. This assertion was supported by simple effects analyses examining age differences when males were excluded from the sample. These simple effects analyses demonstrated that older emerging adult women gave significantly higher ratings on recollection, rehearsal, impact, and centrality as compared to younger emerging adult women across all seven stories, consistent with hypothesis 2.1c (see Figure 3a-e).

Lifespan theorists suggest that normative developmental goals are at the forefront of particular life periods (Conway & Pleydell-Pearce, 2000; Elder, 1995; Erikson, 1968). Solidifying identity-related goals becomes particularly salient in emerging adulthood whereas fostering intimate social relationships is a goal of early adulthood. Younger emerging adult women ($M_{age} = 19.3$, range = 18-21, $N = 34$) and older emerging adult women ($M_{age} = 26.30$, range 22-44, $N = 30$) appear to be in these two distinct life periods. The midlife women rated autobiographical and vicarious memories as playing a more central role in their lives than the younger emerging adult women. Older emerging adult women also remembered less proximal events within both close and distant social relationships (e.g., witnessed and hearsay events for both inner and middle circles, see Figure 3) as more vivid, more frequently rehearsed with others, more impactful, and more central to identities than younger emerging adult women. These findings suggest that the developmental goals of either constructing a personal identity from past events or developing intimacy through social relationships may perhaps guide these age differences present in the vicarious events of women. Additional rating scales unrelated to these aspects of memory would be useful for distinguishing developmental change from variation due to response style.

Another substantive explanation for these findings relates to changing social convoys across emerging adulthood. There are substantial changes in the structure of women's social

networks over the course of the emerging adulthood period. During late adolescence and the early phases of emerging adulthood, social networks tend to be larger and tied to specific social contexts such as school, work, and recreational activities. As individuals transition out of emerging adulthood and into adulthood (ages 25 to 35 years) their social networks become smaller, less context-dependent, and comprised primarily of more intimate relationships (Carmichael, Reis, & Duberstein, 2015). Older emerging adult females' vicarious events may have involved individuals with whom they have achieved more emotional intimacy over a longer period of time than younger emerging adult women. A more distal event, such as a witnessed or hearsay event, is thus more meaningful when such events arise from within a smaller, more intimate social network. Furthermore, older emerging adult women in the current sample may have had a greater diversity of social experiences centering on more important life and social structure changes involving both close and socially-distant family members and peers in comparison to younger emerging adult women.

Hypothesis 2.2. Dispositional Empathy

Participants higher in dispositional empathy were expected to have higher scores on the four AMQ scales and event centrality across all seven stories. In addition, it was expected that the magnitude of the discrepancies between inner and middle circle events would be reduced for more dispositionally empathic individuals because such individuals have a greater propensity to identify with others on a more personal level, particularly during more distal (witnessed or hearsay) events (Eisenberg et al., 2006; Hoffman, 2000; Selman, 1975). Only one study to date, by Soucie et al. (2012), examined real-life empathic events in relation to dispositional empathy. They found more dispositionally empathic individuals gleaned higher levels of meaning-making, higher prosocial engagement, and a more salient empathic identity from real-life empathic and

non-empathic life events. One general conclusion from the work of Soucie et al. (2012) was that empathic individuals have a greater propensity to connect with the plights of individuals on a much deeper and subjective level than less empathic individuals (Hoffman, 2000; Selman, 1977). These predictions were not supported by the data. The composite score of dispositional empathy (comprised of empathic concern and perspective taking subscales) was unrelated to the pattern of means across the seven story types all five dependent measures.

There are several possible explanations for why these predictions were not supported. Despite the fact that empathy creates a connection between individuals, this connection is a projection of the self into the thoughts and feelings of another person during "emotionally-evocative situations" (Davis, 1994; Wispe, 1987). Most researchers assess this matching of emotion and cognition are via hypothetical vignettes or experimentally-induced procedures with the focus rarely being on real-life or personal experiences (Eisenberg et al., 1991; Eisenberg & Fabes, 1990; Strayer, 1987). The events elicited in this study, however, were events during which participants (or a convoy member) displayed moral virtues and thus, were substantially different from the protocols ("need-based" protocols) that prime specific empathic orientations in participants. Moreover, as reported in Aim 1, vicarious events that were most memorable and most central to identity were events in close relationships and when the self was most proximal (e.g., autobiographical and shared events). While these events involve a great deal of connection and unity between the self and other, this process was not driven by empathic thoughts or feelings, but rather by the level of intimacy and closeness in a relationship. This premise is further supported by self-other overlap discussed below (Aron & Aron, 1986).

Hypothesis 2.3. Self-Other Overlap

It was expected that, in the absence of a socially-close relationship or direct participation in an event, greater self-other overlap between the participant and his or her convoy member,

would serve the same vicarious memory function as social closeness and event proximity. As such, if there is a high degree of self-other overlap with the protagonist for events involving less socially-close individuals and in which the self was more distal to the event, vicarious memories will be rated by participants as higher on the four AMQ scales and event centrality in comparison to individuals who report lower self-other overlap in these more distal events.

In order to investigate self-other overlap, five LGMs were specified using self-other overlap as a story-varying covariate. Including self-other overlap as a story-varying covariate estimates the covariance between self-other overlap and the residuals of event phenomenology on each AMQ scale and event centrality after taking into account the variance associated with relationships closeness and proximity of the self to the event. The path coefficients from self-other overlap to the residuals of event phenomenology and event centrality are unbiased because this overlapping variance was accounted for in the models.

Using this approach, a significant positive relationship between self-other overlap and event centrality for shared-inner circle and shared-middle circle events was found. More specifically, as ratings of self-other overlap increased, shared events within both socially-close ($\beta=.22$) and socially-distant relationships ($\beta=.17$) were rated by participants as higher on event centrality. Similarly, a significant positive relationship between self-other overlap and impact on the AMQ was found for witnessed ($\beta=.26$) and hearsay middle circle events ($\beta=.32$).

In order to more clearly illustrate the way in which the inclusion of self-other overlap in these growth models affects the expected mean values of both impact and centrality, model estimated means were plotted for both unconditional and conditional (including self-other overlap) growth models (see Figure 10). In addition to the model estimated mean plots, the underlying structural equations with model estimated parameter are also provided in Figure 10.

These equations more explicitly demonstrate how model estimated means were calculated. From these equations and corresponding plots, one can see that, where significant, self-other overlap scores that are +1SD above the sample mean increased the expected event centrality scores for shared-inner and shared-middle circle events by approximately half a unit. Similarly, for impact on the AMQ, IOS scores +1SD higher than the sample mean increased the expected impact scores by again approximately half a unit for witnessed and hearsay middle circle events.

Moreover, this increase produced expected values for these two story types that were equivalent to the expected value for shared-inner circle events. There were, however, no significant associations between self-other overlap and measures of recall, rehearsal, or belief scales on the AMQ for either socially-close or socially-distant events. These results suggest that increased self-other overlap with the story protagonist at the time of the event may be a more salient feature of identity construction and development, rather than tied to the specific features of the events themselves (e.g., how vivid, how believable, and how frequently the event was talked about with others). The inherent focus is, thus, on the meaning or connection of the vicarious event to the self and the details of the event appear to be less personally relevant to the individual. This is consistent with Aron's (Aron & Aron, 1986 and Aron et al., 2001) self-expansion theory which suggests that higher levels of self-other overlap result in less of a discrepancy between the self and the other in terms of identity, perspectives, and experiences which enhance the growth of a shared identity. Individuals inherently seek to expand the self within these identity-relevant domains (e.g., "I know why she acted that way - like me, she really appreciates the value of doing a good deed for others"), and such domains are not necessarily concerned with the details of the experience, but rather with enhancing the self via the social relationship (Aron et al., 1991).

These findings also parallel results in group processes (Aron & McLaughlin-Volpe, 2001; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). For instance, these studies found that in-group members are largely an extension of the self (e.g., feeling empathy for their troubles, celebrating their achievements, sharing resources, etc) and have the highest levels of overlap whereas out-group members have the lowest levels of overlap because they are perceived to be distinct from the self. However, when out-group members are included as part of the self through experimental manipulations declines in stereotyping and prejudice occurs. Self-other overlap, therefore, appeared to foster a heightened connection between self and other in identity-relevant domains of centrality and impact for more socially-distant and less proximal events, consistent with these areas of research.

Moreover, as discussed in reference to hypotheses 1.3 and 1.4, the AMQ scales are in many ways dependent upon the participant being an active rather than passive participant in an event in which he or she is socially close (i.e., an event that happened directly to him or her rather than an event that he or she witnessed or overheard from a person who was present during the event). While self-other overlap does foster a sense of closeness with the other individual (Aron & Aron, 1986; Aron et al., 2001) it is unrelated to the phenomenological experience of the event. Witnessed and hearsay events, then, should have relatively low ratings of belief, recollection, and rehearsal in comparison to autobiographical and shared events regardless of the degree of self-other overlap with the protagonist. Thus, it is not surprising that they feel as impacted by events which happened to someone with whom they feel close, although such events are not remembered with great detail or frequently discussed with others (Aron et al., 2004).

Limitations and Future Directions

Limitations

There are a number of limitations in the present study. In the original protocol, I intended to collect 12 stories (3 autobiographical and 9 vicarious events) to allow for the comparison of shared, witnessed, and hearsay events across the inner, middle, and outer circle convoy members. However, during the pilot testing of the original protocol, participants required between 3 to 4 hours to complete the study. There were also substantial fatigue effects. As such, the stories for the outer-circle convoy member were removed from the protocol, thus making the protocol more manageable for participants to complete. Furthermore, during the pilot testing phase, participants found it challenging to provide witnessed and hearsay stories for the outer-circle convoy members which was another reason to drop the outer-circle convoy rather than the middle-circle convoy. While this decision made the study protocol more manageable and elicited more complete stories than the original full protocol, the distinction between inner- and middle-circle convoy members was likely less substantial than inner-circle and outer-circle convoy members. This may have reduced mean-level differences between the two convoy circles. In future studies, we hope to compare inner and outer-circle stories for each event type to determine if other-circle stories elicit lower levels of event phenomenology and identity centrality than both inner and middle circle stories.

Following from this first limitation, the length of the protocol resulted in substantial participant fatigue effects, and this may have had a negative impact on the witnessed and hearsay middle-circle stories as they were the final stories in the protocol. I attempted to counterbalance the interview protocol, but the participants in the pilot testing phase had significant trouble keeping track of which convoy member and which story they were instructed to write about. In a future study with fewer stories, we plan to explicitly counterbalance.

The sample size for this study was relatively smaller than samples using narrative designs in the larger literature. However, given the number of story ratings in the present sample ($N = 576$), the within-subject comparisons were robust to detect story differences in story ratings. Furthermore, based on the power analyses conducted for the primary hypotheses, the study had an adequate sample size. However, because the participation in studies conducted using undergraduate college samples tend to be predominantly female, we did have an under representation of male participants. This did limit the degree to which we could interpret the gender by age interactions for males. In future studies, we intend to take a more targeted approach to recruiting male participants.

Directions for Future Research

These findings have sparked several additional research questions. Given that shared experiences within close (rather than distant) relationships were as memorable and as central to identity as one's own personal experiences, it would be worthwhile to explore several outcomes of these processes. An inherent need for affiliation and social cohesion is one such need that may be satisfied by shared events. Given that Baumeister and Leary (1995) posit that self-esteem is tied to the satisfaction of an affiliative need, it may be reasonable to suggest that shared experiences satisfy this basic human need, but also have the potential to unveil previously unrecognized aspects of the self within the context of these relationships.

Following from this body of work, I would also like to examine whether the emotional valence of the shared event is related to how shared experiences become part of who we are and how such experiences foster both personal (e.g., identity, meaning) and social connections (e.g., belongingness and social cohesion). Given that difficult personal life events have the potential to transform the life story in redemptive ways (King, 2001; King & Raspin, 2004; Pals, 2006)

leading to increased physical and psychological well-being (Bauer & McAdams, 2004; King et al., 2000). It is likely, then, that simultaneously experiencing (or overcoming) a negative rather than positive event with another person might bring two individuals closer together. This shared event may also inform identity development in much the same way as tales of redemption represent "the hard road to the good life" (King, 2001).

Additionally, I would like to explore the relationship between shared experiences and a range of physical and psychological health and well-being outcomes. Because shared experiences foster a sense of social connection and increased affiliation between individuals, it is likely that this connection reduces physiological responses to stress, promotes adaptive coping resources, and leads to higher levels of well-being. Given that personal disclosure in a coherent narrative with another person is associated with greater immune system functioning (Gortner, Rude & Pennebaker, 2006; Pennebaker & Francis, 1996, 1997; Pennebaker & Seagal, 1999), similar health benefits may be reported for events that are jointly experienced and co-constructed.

Another area of study concerns vicarious memory and culture. In Western societies, such as in America and New Zealand, for example, the self is considered to be independent or distinct from others. In Eastern societies, such as Asia and the Middle East, however, the self is more relational and communal, connected to social, familial, and community relationships, and one's identity strongly tied to these social and cultural groups (Markus & Kitayama, 1991; Wang, 2001; Wang & Brockmeier, 2002; Wang et al., 1998). Given that shared vicarious events were largely tied to the self when such events were in close relationships, during events in which the self was more proximal, and during contexts in which self-other merging was highest, it may be that individuals with more relational self construals evidence more memorable vicarious events

that are more central to their self-concepts than individuals who are more autonomous in orientation.

Overall Conclusion

In summary, vicarious events can be rated in similar ways as autobiographical events on several dimensions of event phenomenology and centrality to identity. These events are most salient to the self when they involve (1) someone who is socially-close to the participant and (2) the participant is actively engaged in the vicarious event. Events involving someone who was less socially-close and/or when the participant was less directly involved did, however, result in higher ratings on the four AMQ scales and event centrality when the participant was a late-emerging adult female. When the participant perceived a higher level of self-other merging between him or herself and the protagonist, shared-events in close and distant relationships were rated as more central to the self in relative to the sample average. Higher levels of self-other merging also predicted greater impact for more distal events involving someone less socially close to the participant. Taken together, the results of this dissertation suggest that vicarious events may a salient role in shaping both memory and identity during emerging adulthood.

Table 1

Descriptives for belief, recall, rehearsal, impact on the AMQ, and centrality on the CES for each event type (with the three autobiographical events averaged).

Variable	Event Type	Mean	SD	Range
Centrality	Autobiographical	3.30	.74	1-5
	Shared Inner	3.30	1.13	1-5
	Witnessed Inner	2.80	1.09	1-5
	Hearsay Inner	2.56	1.29	1-5
	Shared Middle	2.99	1.24	1-5
	Witnessed Middle	2.49	1.12	1-5
	Hearsay Middle	2.55	1.24	1-5
Belief	Autobiographical	5.59	.86	1-7
	Shared Inner	5.51	1.15	1-7
	Witnessed Inner	5.02	1.37	1-7
	Hearsay Inner	3.72	1.54	1-7
	Shared Middle	5.38	1.38	1-7
	Witnessed Middle	4.73	1.38	1-7
	Hearsay Middle	3.87	1.39	1-7
Recall	Autobiographical	5.07	1.18	1-7
	Shared inner	5.12	1.40	1-7
	Witnessed Inner	4.50	1.54	1-7
	Hearsay Inner	3.50	1.56	1-7
	Shared Middle	4.99	1.71	1-7
	Witnessed Middle	4.46	1.64	1-7
	Hearsay Middle	3.63	1.59	1-7
Impact	Autobiographical	3.68	.94	1-7
	Shared Inner	3.72	1.26	1-7
	Witnessed Inner	3.15	1.28	1-7
	Hearsay Inner	2.82	1.40	1-7
	Shared Middle	3.44	1.44	1-7
	Witnessed Middle	2.92	1.18	1-7
	Hearsay Middle	2.79	1.25	1-7
Rehearsal	Autobiographical	4.12	1.03	1-7
	Shared Inner	3.91	1.43	1-7
	Witnessed Inner	3.45	1.44	1-7
	Hearsay Inner	3.23	1.51	1-7
	Shared Middle	3.90	1.68	1-7
	Witnessed Middle	3.31	1.47	1-7
	Hearsay Middle	3.31	1.39	1-7

Table 2

Descriptives for reaction time (recorded in seconds), self-other overlap, perspective taking, and empathic concern

Variable	Event Type	Mean	SD	Range
Reaction time	Autobiographical	35.48	69.94	0-500
	Shared Inner	58.96	113.90	1-700
	Witnessed Inner	37.47	59.53	1-313
	Hearsay Inner	70.65	113.22	0-850
	Shared Middle	61.17	118.22	1-62
	Witnessed Middle	38.98	66.96	0-360
	Hearsay Middle	59.52	82.69	0-400
Self-Other Overlap	Shared Inner	5.70	1.57	1-7
	Witnessed Inner	5.54	1.74	1-7
	Hearsay Inner	5.61	1.70	1-7
	Shared Middle	5.34	1.61	1-7
	Witnessed Middle	4.80	1.85	1-7
	Hearsay Middle	4.60	1.94	1-7
Dispositional Empathy	Empathic Concern	22.13	4.21	10-28
	Perspective Taking	19.02	5.11	7-28

Note. Reaction times are reported in seconds. Reaction time for the three autobiographical events were averaged.

Table 3

Means, standard deviations for belief, recall, rehearsal, impact, and centrality for autobiographical events vs. vicarious events.

Event Type	Belief	Recall	Rehearsal	Impact	Centrality
Avg. Autobiographical	5.59(.86)	5.07(1.18)	4.12(1.03)	3.68(.94)	3.30(.73)
Avg. Vicarious	4.71 (.99)	4.36(1.17)	3.52(.99)	3.14(.86)	2.79(.84)

Note: Standard deviations are in parentheses. N=64

Table 4

Means, standard deviations, and post hoc analyses for autobiographical, inner, and middle circle events

Event Type	Belief	Recall	Rehearsal	Impact	Centrality
Avg. Autobiographical	5.59(.86)	5.07(1.18)	4.12(1.03)	3.68(.94)	3.30(.73)
Avg. Inner circle	4.75 (1.06) ^a	4.37(1.18) ^a	3.53(1.11) ^a	3.27(.99) ^a	2.90(.88) ^a
Avg. Middle circle	4.67 (1.13) ^a	4.35 (1.38) ^a	3.51(1.12) ^a	3.08(1.04) ^a	2.68(.99) ^{ab}

Note: Standard deviations are in parentheses. N=64

^apost hoc test significantly different from autobiographical event $p < .05$

^bpost hoc test significantly different from inner circle event $p < .05$

Table 5

Means, standard deviations, and post hoc analyses for autobiographical, shared, witnessed, and hearsay events

Event Type	Belief	Recall	Rehearsal	Impact	Centrality
Avg. Autobiographical	5.59(.86)	5.07(1.18)	4.12(1.03)	3.68(.94)	3.30(.73)
Avg. Shared	5.44(1.02)	5.05(1.33)	3.90(1.29)	3.61(1.10)	3.16(.99)
Avg. Witnessed	4.88(1.14) ^{ab}	4.48(1.37) ^{ab}	3.38(1.17) ^{ab}	3.06(.98) ^{ab}	2.65 (.89) ^{ab}
Avg. Hearsay	3.80(1.34) ^{abc}	3.56(1.44) ^{abc}	3.27(1.33) ^{ab}	2.84(1.18) ^{ab}	2.56(1.13) ^{ab}

Note: Standard deviations are in parentheses. N=64

^apost hoc test significantly different from autobiographical event $p < .05$

^bpost hoc test significantly different from shared event $p < .05$

^cpost hoc test significantly different from witnessed event $p < .05$

Table 6

Pairwise comparisons for belief, recollection, rehearsal, impact, and centrality from autobiographical events.

Event Ratings	Belief	Recall	Rehearsal	Impact	Centrality
Avg.	5.59(.86)	5.07(1.18)	4.12(1.03)	3.68(.94)	3.30(.73)
Autobiographical					
Inner Circle	5.51(1.15)	5.12(1.40)	3.91(1.43)	3.72(1.26)	3.30(1.13)
Shared					
Inner Circle	5.02(1.37)**	4.50(1.54)*	3.45(1.44)**	3.15(1.28) [†]	2.80(1.09)**
Witnessed					
Inner Circle	3.72(1.54)**	3.50(1.56)**	3.23(1.51)**	2.82(1.40)**	2.56(1.28)**
Hearsay					
Middle Circle	5.38(1.38)	4.99(1.71)	3.90(1.68)	3.44(1.44)	2.99(1.24)
Shared					
Middle Circle	4.73(1.38)**	4.46(1.64)*	3.31(1.47)**	2.92(1.18)**	2.49(1.12)**
Witnessed					
Middle Circle	3.87(1.39)**	3.63(1.59)**	3.31(1.39)**	2.79(1.25)**	2.55(1.24)**
Hearsay					

Note: Standard deviations are in parentheses. N=64

[†]Sidak-Bonferroni post hoc significantly different from autobiographical event $p < .08$

*Sidak-Bonferroni post hoc significantly different from autobiographical event $p < .05$

**Sidak-Bonferroni post hoc significantly different from autobiographical event $p < .01$

Table 7

Pairwise comparisons for belief, recollection, rehearsal, impact, and centrality from shared-inner circle events

Event Ratings	Belief	Recall	Rehearsal	Impact	Centrality
Avg.	5.59(.86)	5.07(1.18)	4.12(1.03)	3.68(.94)	3.30(.73)
Autobiographical					
Inner Circle	5.51(1.15)	5.12(1.40)	3.91(1.43)	3.72(1.26)	3.30(1.13)
Shared					
Inner Circle	5.02(1.37)	4.50(1.54)*	3.45(1.44)	3.15(1.28)*	2.80(1.09) [†]
Witnessed					
Inner Circle	3.72(1.54)**	3.50(1.56)**	3.23(1.51)*	2.82(1.40)**	2.56(1.28)**
Hearsay					
Middle Circle	5.38(1.38)	4.99(1.71)	3.90(1.68)	3.44(1.44)	2.99(1.24)
Shared					
Middle Circle	4.73(1.38)**	4.46(1.64)	3.31(1.47)	2.92(1.18)**	2.49(1.12)**
Witnessed					
Middle Circle	3.87(1.39)**	3.63(1.59)**	3.31(1.39)	2.79(1.25)**	2.55(1.24)**
Hearsay					

Note: Standard deviations are in parentheses. N=64

[†]Sidak-Bonferroni post hoc significantly different from shared-inner event $p < .08$

*Sidak-Bonferroni post hoc significantly different from shared-inner event $p < .05$

**Sidak-Bonferroni post hoc significantly different from shared-inner circle event $p < .01$

Table 8

Pairwise comparisons for belief, recollection, rehearsal, impact, and centrality from witnessed-inner circle events

Event Ratings	Belief	Recall	Rehearsal	Impact	Centrality
Avg.	5.59(.86)**	5.07(1.18)*	4.12(1.03)**	3.68(.94) [†]	3.30(.73)**
Autobiographical					
Inner Circle	5.51(1.15)	5.12(1.40)*	3.91(1.43)	3.72(1.26)*	3.30(1.13) [†]
Shared					
Inner Circle					
Witnessed					
Inner Circle	3.72(1.54)**	3.50(1.56)**	3.23(1.51)	2.82(1.40)	2.56(1.28)
Hearsay					
Middle Circle	5.38(1.38)	4.99(1.71)	3.90(1.68)	3.44(1.44)	2.99(1.24)
Shared					
Middle Circle	4.73(1.38)	4.46(1.64)	3.31(1.47)	2.92(1.18)	2.49(1.12)
Witnessed					
Middle Circle	3.87(1.39)**	3.63(1.59)**	3.31(1.39)	2.79(1.25)	2.55(1.24)
Hearsay					

Note: Standard deviations are in parentheses. N=64

[†] Sidak-Bonferroni post hoc significantly different from witnessed-inner event $p < .08$

*Sidak-Bonferroni post hoc significantly different from witnessed-inner event $p < .05$

**Sidak-Bonferroni post hoc significantly different from witnessed-inner event $p < .01$

Table 9

Pairwise comparisons for belief, recollection, rehearsal, impact, and centrality from hearsay-inner circle events

Event Ratings	Belief	Recall	Rehearsal	Impact	Centrality
Avg.	5.59(.86)**	5.07(1.18)**	4.12(1.03)**	3.68(.94)**	3.30(.73)**
Autobiographical					
Inner Circle	5.51(1.15)**	5.12(1.40)**	3.91(1.43)*	3.72(1.26)**	3.30(1.13)**
Shared					
Inner Circle	5.02(1.37)**	4.50(1.54)**	3.45(1.44)	3.15(1.28)	2.80(1.09)
Witnessed					
Inner Circle	3.72(1.54)**	3.50(1.56)**	3.23(1.51)	2.82(1.40)	2.56(1.28)
Hearsay					
Middle Circle	5.38(1.38)**	4.99(1.71)**	3.90(1.68)	3.44(1.44)	2.99(1.24)
Shared					
Middle Circle	4.73(1.38)**	4.46(1.64)**	3.31(1.47)	2.92(1.18)	2.49(1.12)
Witnessed					
Middle Circle	3.87(1.39)	3.63(1.59)	3.31(1.39)	2.79(1.25)	2.55(1.24)
Hearsay					

Note: Standard deviations are in parentheses. N=64

† Sidak-Bonferroni post hoc significantly different from hearsay-inner event $p < .08$

*Sidak-Bonferroni post hoc significantly different from hearsay-inner event $p < .05$

**Sidak-Bonferroni post hoc significantly different from hearsay-inner event $p < .01$

Table 10

Pairwise comparisons for belief, recollection, rehearsal, impact, and centrality from shared-middle circle events

Event Ratings	Belief	Recall	Rehearsal	Impact	Centrality
Avg.	5.59(.86)	5.07(1.18)	4.12(1.03)	3.68(.94)	3.30(.73)
Autobiographical					
Inner Circle	5.51(1.15)	5.12(1.40)	3.91(1.43)	3.72(1.26)	3.30(1.13)
Shared					
Inner Circle	5.02(1.37)	4.50(1.54)	3.45(1.44)	3.15(1.28)	2.80(1.09)
Witnessed					
Inner Circle	3.72(1.54)**	3.50(1.56)**	3.23(1.51)	2.82(1.40)	2.56(1.28)
Hearsay					
Middle Circle	5.38(1.38)	4.99(1.71)	3.90(1.68)	3.44(1.44)	2.99(1.24)
Shared					
Middle Circle	4.73(1.38)**	4.46(1.64)	3.31(1.47)	2.92(1.18)†	2.49(1.12)*
Witnessed					
Middle Circle	3.87(1.39)**	3.63(1.59)**	3.31(1.39)	2.79(1.25)**	2.55(1.24)†
Hearsay					

Note: Standard deviations are in parentheses. N=64

†Sidak-Bonferroni post hoc significantly different from shared-middle event $p < .08$

*Sidak-Bonferroni post hoc significantly different from shared-middle event $p < .05$

**Sidak-Bonferroni post hoc significantly different from shared-middle event $p < .01$

Table 11

Pairwise comparisons for belief, recollection, rehearsal, impact, and centrality from witnessed-middle circle events

Event Ratings	Belief	Recall	Rehearsal	Impact	Centrality
Avg.	5.59(.86)**	5.07(1.18)*	4.12(1.03)**	3.68(.94)**	3.30(.73)**
Autobiographical					
Inner Circle	5.51(1.15)**	5.12(1.40)	3.91(1.43)	3.72(1.26)**	3.30(1.13)**
Shared					
Inner Circle	5.02(1.37)	4.50(1.54)	3.45(1.44)	3.15(1.28)	2.80(1.09)
Witnessed					
Inner Circle	3.72(1.54)**	3.50(1.56)**	3.23(1.51)	2.82(1.40)	2.56(1.28)
Hearsay					
Middle Circle	5.38(1.38)**	4.99(1.71)	3.90(1.68)	3.44(1.44) [†]	2.99(1.24)*
Shared					
Middle Circle	4.73(1.38)	4.46(1.64)	3.31(1.47)	2.92(1.18)	2.49(1.12)
Witnessed					
Middle Circle	3.87(1.39)**	3.63(1.59)**	3.31(1.39)	2.79(1.25)	2.55(1.24)
Hearsay					

Note: Standard deviations are in parentheses. N=64

[†]Sidak-Bonferroni post hoc significantly different from witnessed-middle event $p < .08$

*Sidak-Bonferroni post hoc significantly different from witnessed-middle event $p < .05$

**Sidak-Bonferroni post hoc significantly different from witnessed-middle event $p < .01$

A
(Event Type – within person)

a1	a2	a3	a4	a5	a6	a7
Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

Autobiographical

Vicarious

$$H1.1: (a1) \neq (a2 + a3 + a4 + a5 + a6 + a7)$$

a1	a2	a3	a4	a5	a6	a7
Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

Autobiographical

Inner-Circle

Middle-Circle

$$H1.2: (a1) \neq (a2 + a3 + a4) \neq (a5 + a6 + a7)$$

a1	a2	a3	a4	a5	a6	a7
Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

Autobiographical

Hearsay

Shared

$$H1.3: (a1) \neq (a2 + a5) \neq (a3 + a6) \neq (a4 + a7)$$

a1	a2	a3	a4	a5	a6	a7
Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

H1.4: (a1) ≠ (a2) ≠ (a3) ≠ (a4) ≠ (a5) ≠ (a6) ≠ (a7)

Hearsay

		a1	a2	a3	a4	a5	a6	a7
		Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
b1	Male	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>
b2	Female	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

H2.1a: b1 ≠ b2 across (a1 – a7)

		a1	a2	a3	a4	a5	a6	a7
		Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
c1	Young	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>
c2	Old	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

H2.1b: c1 ≠ c2 across (a1 – a7)

		a1	a2	a3	a4	a5	a6	a7
		Autobiographical	Shared Inner-Circle	Witnessed Inner-Circle	Hearsay Inner-Circle	Shared Middle-Circle	Witnessed Middle-Circle	Hearsay Middle-Circle
b1, c1	young female	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>
b1, c2	old female	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>
b2, c1	young male	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>
b2, c2	old male	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>	<i>CES score</i> <i>AMQ score</i>

H2.1c (b1,c1) ≠ (b1,c2) ≠ (b2,c1) ≠ (b2,c2)

Figure 1: Analytic Strategy for Aims 1 and 2

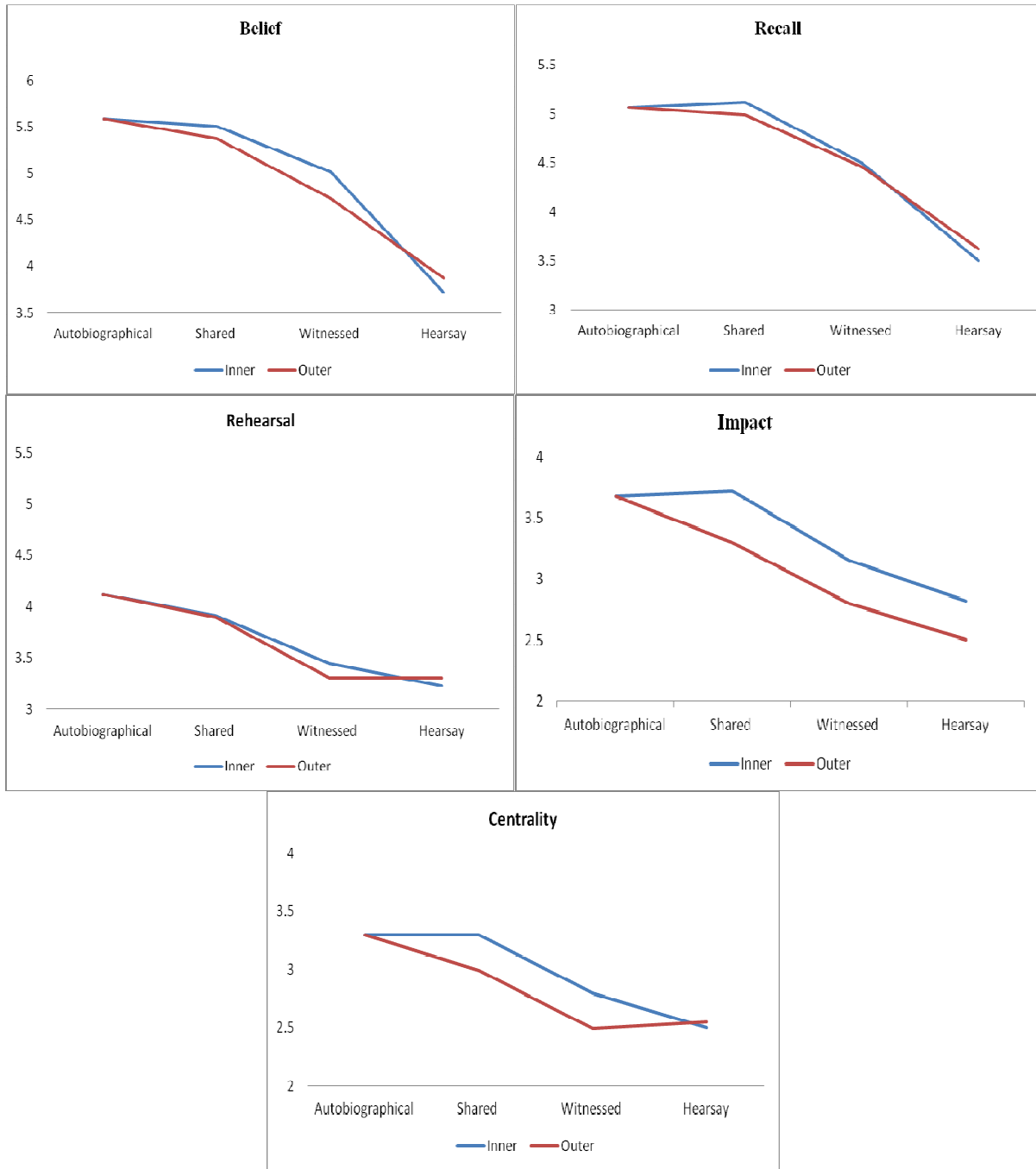


Figure 2a-e. Plot of the interaction of social closeness and proximity of the self to the event as specified in hypothesis 1.4.

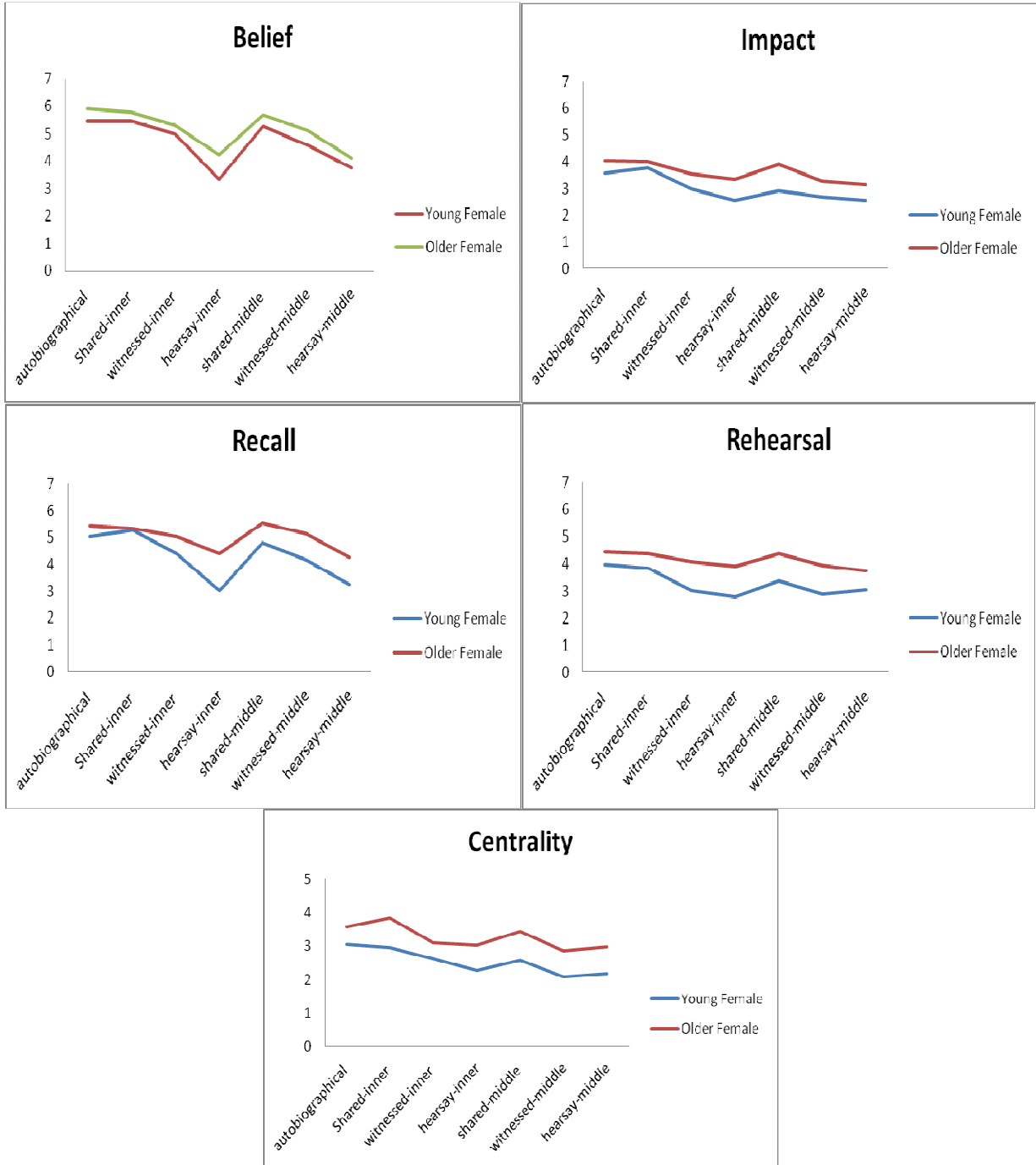


Figure 3a-e. Plots of all four AMQ subscales and event centrality across all seven event types for younger and older females.

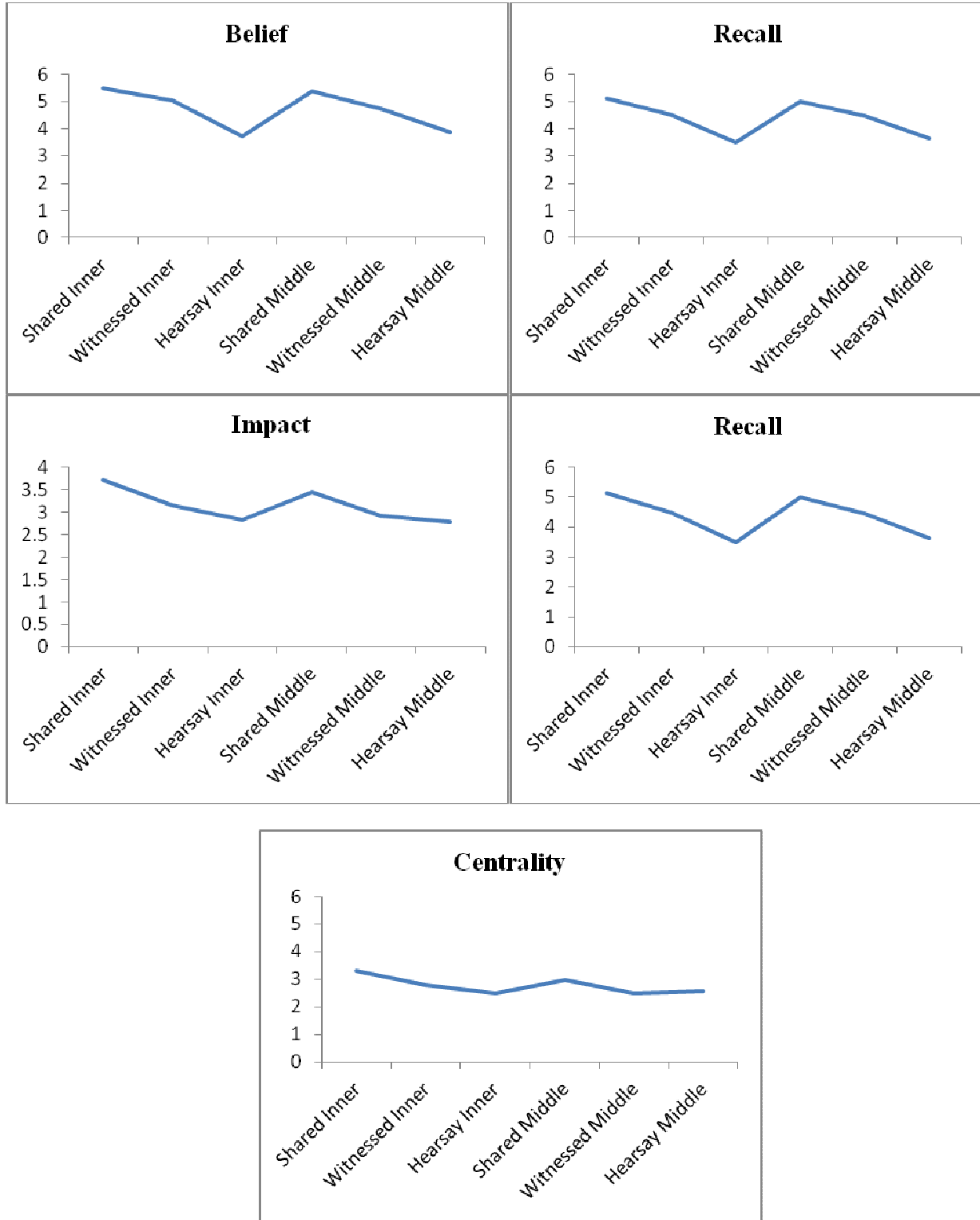


Figure 4a-e. Plot of sample averages for all four AMQ scales and event centrality across all 6 vicarious events.

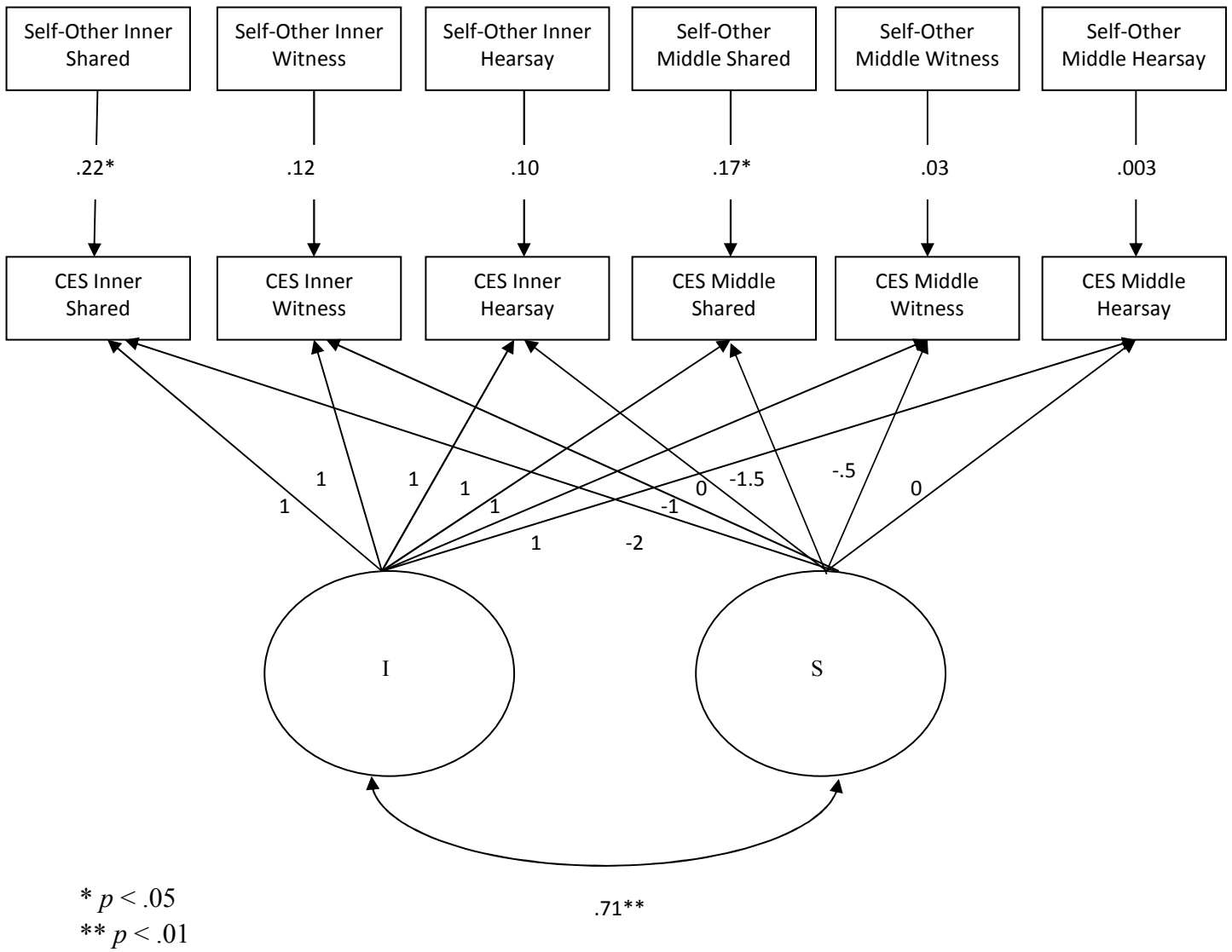
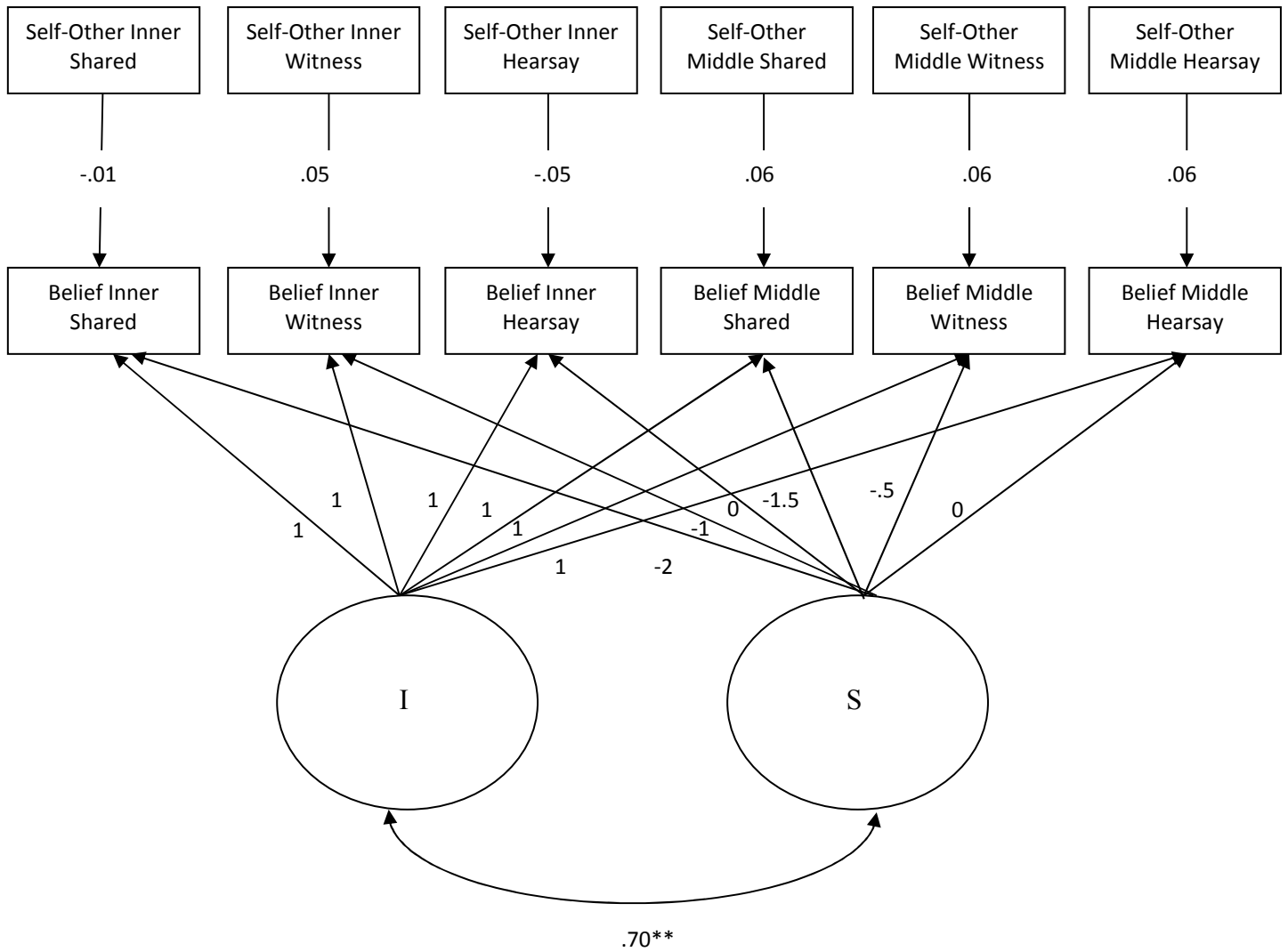
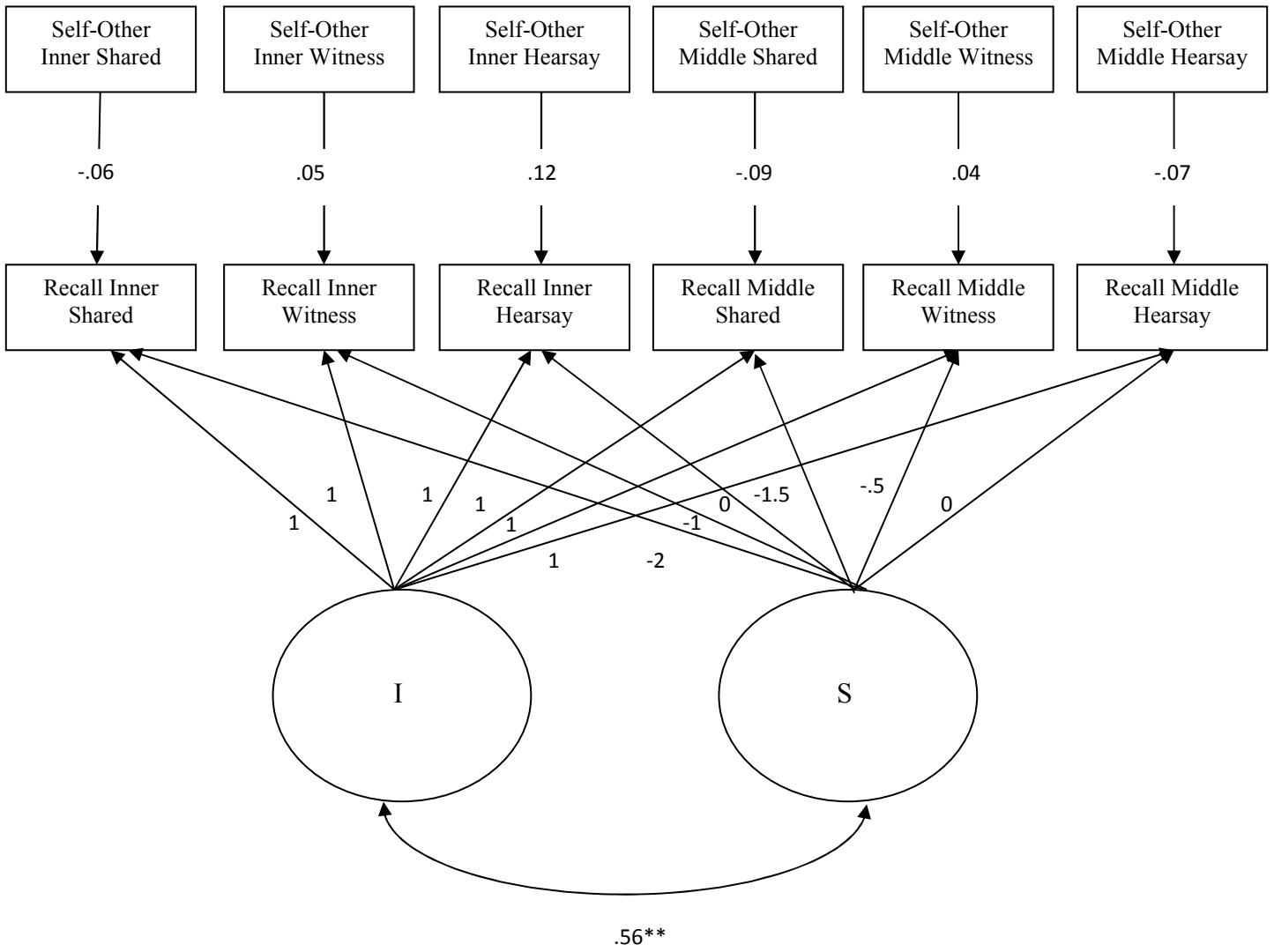


Figure 5. Latent growth model of self-other overlap as a story-varying covariate for event centrality.



* $p < .05$
 ** $p < .01$

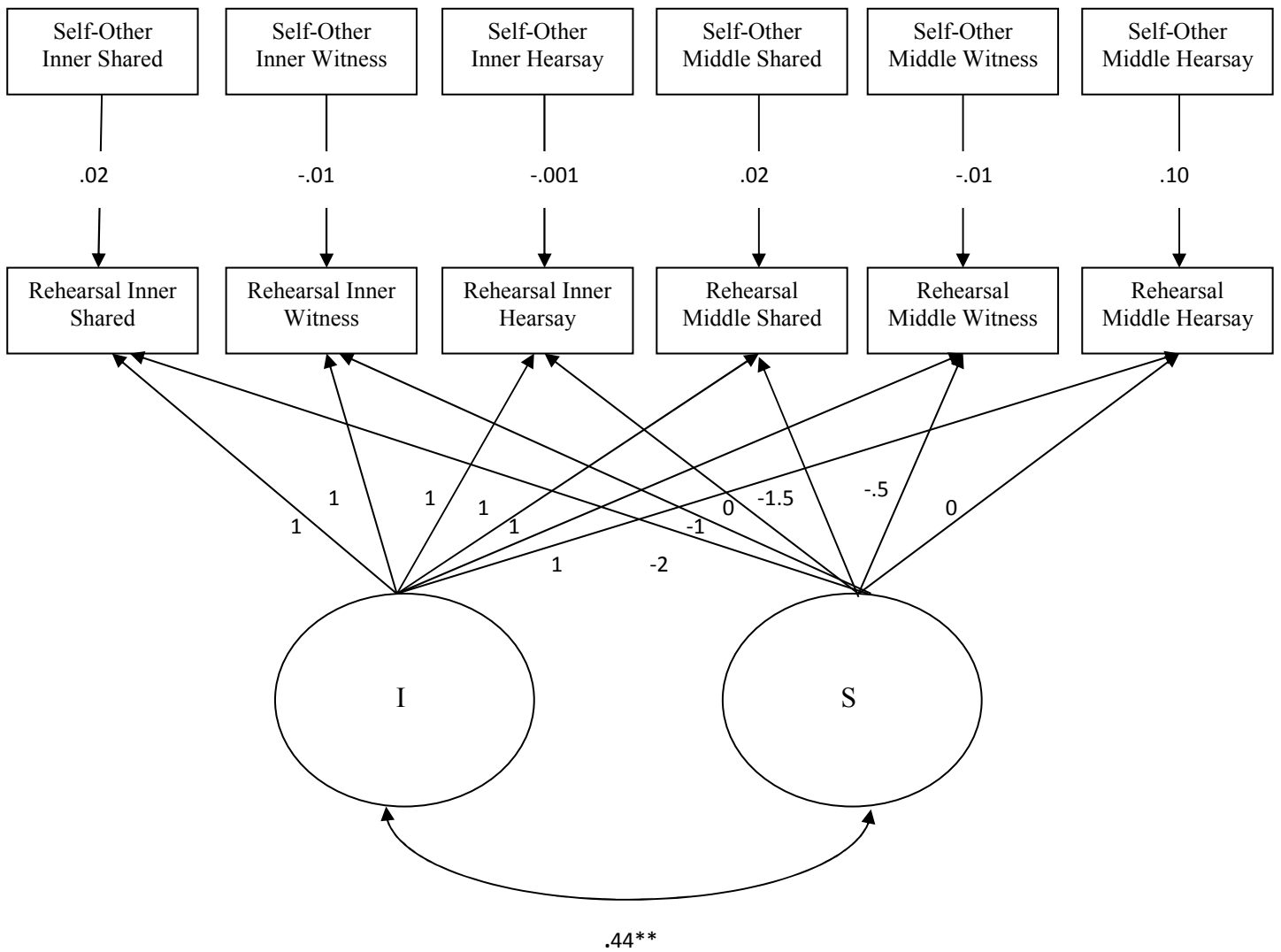
Figure 6. Latent growth model of self-other overlap as a story-varying covariate for belief



* $p < .05$

** $p < .01$

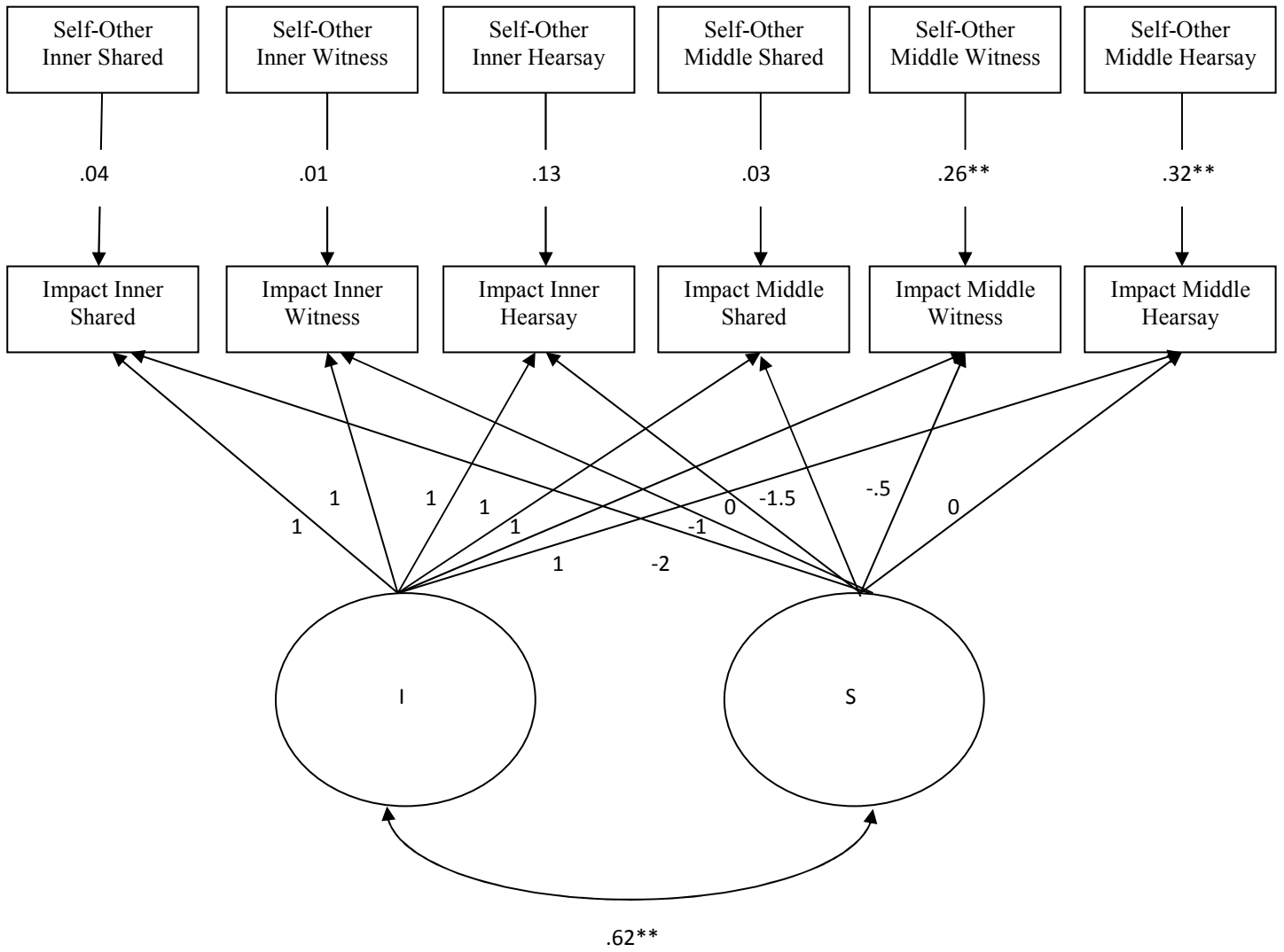
Figure 7. Latent growth model of self-other overlap as a story-varying covariate for recall



* $p < .05$

** $p < .01$

Figure 8. Latent growth model of self-other overlap as a story-varying covariate for rehearsal



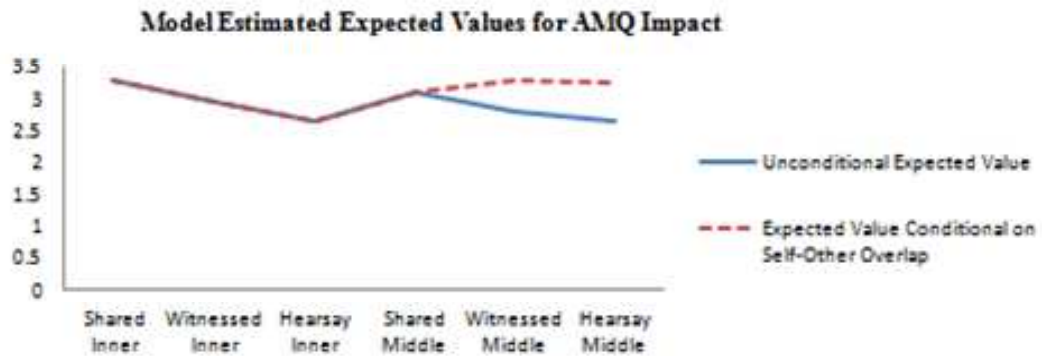
* $p < .05$
 ** $p < .01$

Figure 9. Latent growth model of self-other overlap as a story-varying covariate for impact on the AMQ.

AMQ Impact ($\mu_{Inner} = -2.65$, $\mu_{Middle} = -.315$)

$E[Y_{ij}] = \mu_{Inner}(\text{factor loading}) + \mu_{Middle}(\text{factor loading}) + (1 - \sigma \ln(IOS))(\text{path coefficient}) = Y \text{ (unconditional Y)}$

Shared Inner:	$2.65(1) + (-.315)(-2) + 2.06(0) = 3.28$
Witnessed Inner:	$2.65(1) + (-.315)(-1) + 2.01(0) = 2.96$
Hearsay Inner:	$2.65(1) + (-.315)(0) + 2.13(0) = 2.65$
Shared Middle:	$2.65(1) + (-.315)(-1.5) + 2.04(0) = 3.12$
Witnessed Middle:	$2.65(1) + (-.315)(-.5) + 1.99(.26) = 3.28 (2.81)$
Hearsay Middle:	$2.65(1) + (-.315)(0) + 1.98 (.32) = 3.27 (2.65)$



CES ($\mu_{Inner} = -2.71$, $\mu_{Middle} = -.168$)

$E[Y_{ij}] = \mu_{Inner}(\text{factor loading}) + \mu_{Middle}(\text{factor loading}) + (1 - \sigma \ln(IOS))(\text{path coefficient}) = Y \text{ (unconditional Y)}$

Shared Inner:	$2.71(1) + (-.168)(-2) + 2.06(0) = 3.49 (3.04)$
Witnessed Inner:	$2.71(1) + (-.168)(-1) + 2.09(0) = 2.87$
Hearsay Inner:	$2.71(1) + (-.168)(0) + 2.13(0) = 2.71$
Shared Middle:	$2.71(1) + (-.168)(-1.5) + 2.03(0) = 3.31 (2.96)$
Witnessed Middle:	$2.71(1) + (-.168)(-.5) + 1.99(.26) = 2.79$
Hearsay Middle:	$2.71(1) + (-.168)(0) + 2.05 (.32) = 2.71$

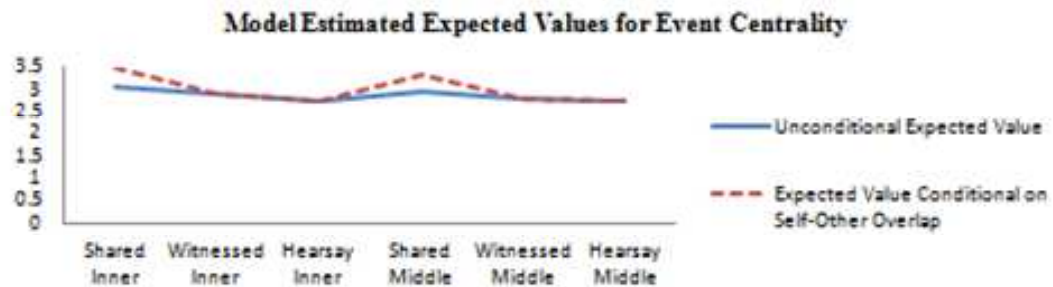


Figure 10a-b. Plot of model estimated means from latent growth models with self-other overlap as a story-varying covariate for impact on the AMQ and event centrality.

APPENDIX A

Background Questionnaire

Please respond to the following questions (where applicable):

1) Age (in years): _____

2) Gender: _____Female _____Male

3) Which of the following best describes your ethnicity? (check one)

Caucasian African American Hispanic
Indian Pakistani Chinese
Korean Arab/Middle Eastern Other _____

4) What is your current GPA? _____

5) Who do you live with (check all that apply)?

Alone
 Mom
 Dad
 Grandparents (please specify) _____
 Siblings
 Roommate
 Friend/Romantic partner
 Spouse
 Other (please specify) _____

6) Are you employed?

Occupation _____
 Part Time or Full Time

7) Which of the following best describes your marital status? (check one)

Single Married Divorced
 Separated Widowed Other _____

8) What is the highest level of education you have completed?

a) completed college
 b) completed high school d) completed university
 c) some college or university e) post-university degree

APPENDIX B

Dispositional Empathy

Please choose the response that best describes you by circling the appropriate number on the following scale:

0	1	2	3	4
Does not describe me well				Describes me well

1. ___ Before criticizing somebody, I try to imagine how I would feel if I were in their place.
2. ___ If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (-)
3. ___ I sometimes try to understand my friends better by imagining how things look from their perspective.
4. ___ I believe that there are two sides to every question and try to look at them both.
5. ___ I sometimes find it difficult to see things from the "other guy's" point of view. (-)
6. ___ I try to look at everybody's side of a disagreement before I make a decision.
7. ___ When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
8. ___ When I see someone being taken advantage of, I feel kind of protective toward them.
9. ___ When I see someone being treated unfairly, I sometimes don't feel very much pity for them.(-)
10. ___ I often have tender, concerned feelings for people less fortunate than me.
11. ___ I would describe myself as a pretty soft-hearted person.
12. ___ Sometimes I don't feel sorry for other people when they are having problems. (-)
13. ___ Other people's misfortunes do not usually disturb me a great deal. (-)
14. ___ I am often quite touched by things that I see happen.
15. ___ When I see someone who badly needs help in an emergency, I go to pieces.
16. ___ I sometimes feel helpless when I am in the middle of a very emotional situation.
17. ___ In emergency situations, I feel apprehensive and ill-at-ease.
18. ___ I am usually pretty effective in dealing with emergencies. (-)
19. ___ Being in a tense emotional situation scares me.
20. ___ When I see someone hurt, I tend to remain calm. (-)
21. ___ I tend to lose control during emergencies

APPENDIX C**Centrality of Events Scale (CES)**

Please think about the memory that you just recalled while answering these questions. Read each item carefully and circle the number that most closely reflects your opinion from 1 (totally disagree to 5 = totally agree).

1 2 3 4 5

1. I feel that this event has become a part of my identity.
2. This event has become a reference point for the way I understand myself and the world.
3. I feel that this event has become a central part of my life story.
4. I feel that this event has colored the way I think and feel about other experiences.
5. This event has permanently changed my life.
6. I often think about the effects this event will have on my future.
7. This event was a turning point in my life.

APPENDIX D

Autobiographical Memory Questionnaire

Please think about the memory that you just recalled while answering these questions. Read each item carefully and circle the number that most closely reflects your opinion.

1. As I remember the event, I feel as though I am reliving the original event.

1	2	3	4	5	6	7
not at all		Vaguely		distinctly		as clearly as if it were happening right now

2. As I remember the event, I can hear it in my mind.

1	2	3	4	5	6	7
not at all		Vaguely		distinctly		as clearly as if it were happening right now

3. As I remember the event, I can see it in my mind.

1	2	3	4	5	6	7
not at all		Vaguely		distinctly		as clearly as if it were happening right now

4. As I remember the event, I know its spatial layout.

1	2	3	4	5	6	7
not at all		Vaguely		distinctly		as clearly as if it were happening right now

5. As I remember the event, I can feel now the emotions that I felt then.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as clearly as if it were happening right now

6. Since it happened, I have thought about this event.

1	2	3	4	5	6	7
not at all		sometimes		many times		as often as any event in my life

7. Thinking back, would you say “**I was very involved with what was taking place during the event**” or “**It all seemed unreal, more like a dream.**”?

1	2	3	4	5	6	7
Very Dreamlike		Somewhat Involved		Involved		Very Involved

8. As I remember the event, I can recall the **setting** where it occurred.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as clearly as if it were happening right now

9. Sometimes people know something happened to them without being able to actually remember it. As I think about the event, I can actually **remember** it rather than just knowing that it happened.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as much as any memory

10. As I remember the event, it comes to me **in words**.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as much as any memory

11. As I remember the event, I feel that I travel **back to the time when it happened**, that I am a participant in it again, rather than an outside observer tied to the present

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as much as any memory

12. Would you be confident enough in your memory of the event to **testify** in a court of law.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as much as any memory

13. As I remember the event, it comes to me in words or in pictures **as a coherent story** or episode and not as an isolated fact, observation, or scene.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as much as any memory

14. This memory is **significant** for my life because it imparts an important message for me or represents an anchor, critical juncture, or a turning point.

1	2	3	4	5	6	7
not at all		moderately		Quite significant		as much as any memory

15. I believe the event in my memory **really occurred** in the way I remember it and that I have not imagined or fabricated anything that did not occur.

1	2	3	4	5	6	7
100%						100% real
imaginary						

16. How **typical** is this event of the events that took place during the time period when the event took place.

1	2	3	4	5	6	7
Not at all		Somewhat		Somewhat		Very typical
typical		non- typical		typical		

17. While remembering the event the emotions that I feel are **extremely intense**.

1	2	3	4	5	6	7
Not at all		Hardly		somewhat		extremely

18. As I recall them now, I would you rate the **emotions** I experienced during the event?

-3	-2	-1	0	+1	+2	+3
As negative as		Mildly	Neutral		Mildly	As positive as
any event I have		Negative			Positive	any event I have
experienced						experienced

19. Since it happened, I have **talked about** this event.

1	2	3	4	5	6	7
not at all		sometimes		many		as often as any
				times		event in my life

20. This memory has **consequences** for my life because it influenced my behavior, thoughts, or feelings in noticeable ways.

1	2	3	4	5	6	7
not at all		moderate		Quite a bit		as much as any
						memory

21. As I remember the event, I am aware of the **time of day**.

1	2	3	4	5	6	7
not at all		vaguely		distinctly		as clearly as if it
						were happening
						right now

22. While remembering the event, I had a **physical reaction**. (I laughed, felt tense, sweaty, felt cramps or butterflies in my stomach, felt my heart pounding or racing, etc.)

1	2	3	4	5	6	7
not at all		vaguely		distinctly		Strongly

23. While remembering the event, I feel I see it **out of my own eyes** rather than that of an outside observer.

1	2	3	4	5	6	7
Outside observer						my own eyes

24. Since it happened, I have **willfully** gone back to the episode in my mind and thought about it and/or talked about it.

1	2	3	4	5	6	7
not at all		sometimes		many times		as often as any event in my life

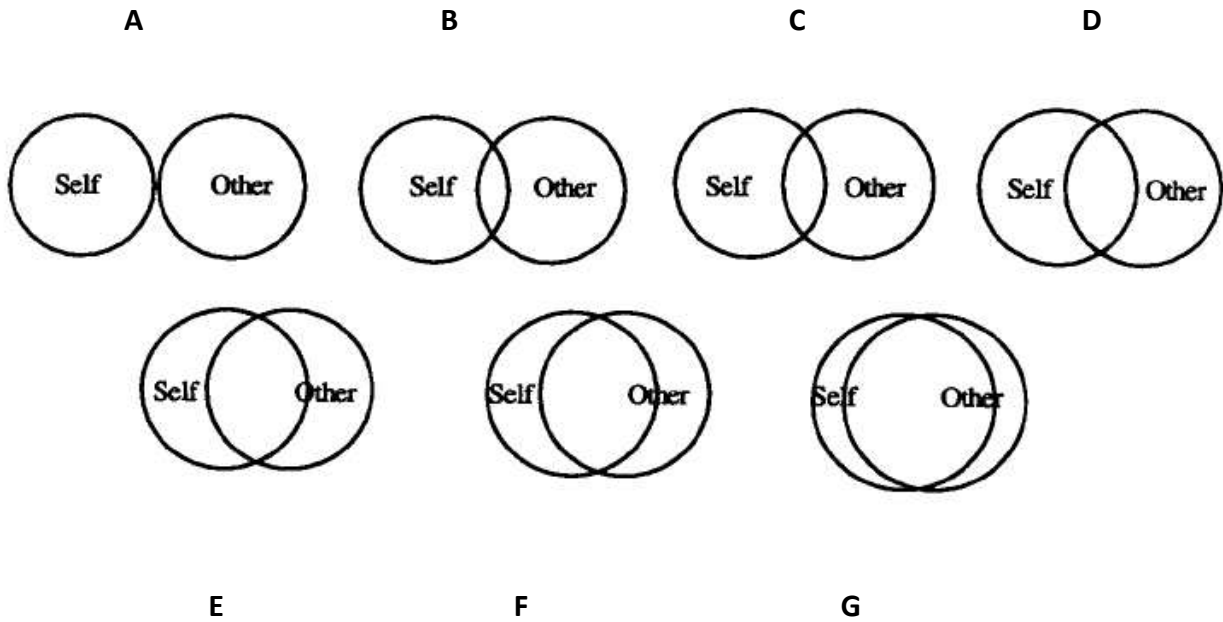
25. Has the memory of the episode suddenly **popped up in your thoughts by itself** – that is, without you having attempted to remember it?

1	2	3	4	5	6	7
not at all		sometimes		many times		as often as any event in my life

APPENDIX E

Inclusion of the Other in the Self Scale

Which picture best describes your relationship? There are letters which coincide with the series of overlapping circles on the web page. Select the letter which coincides with the picture that best describes your relationship with the individual you are imagining.



APPENDIX F

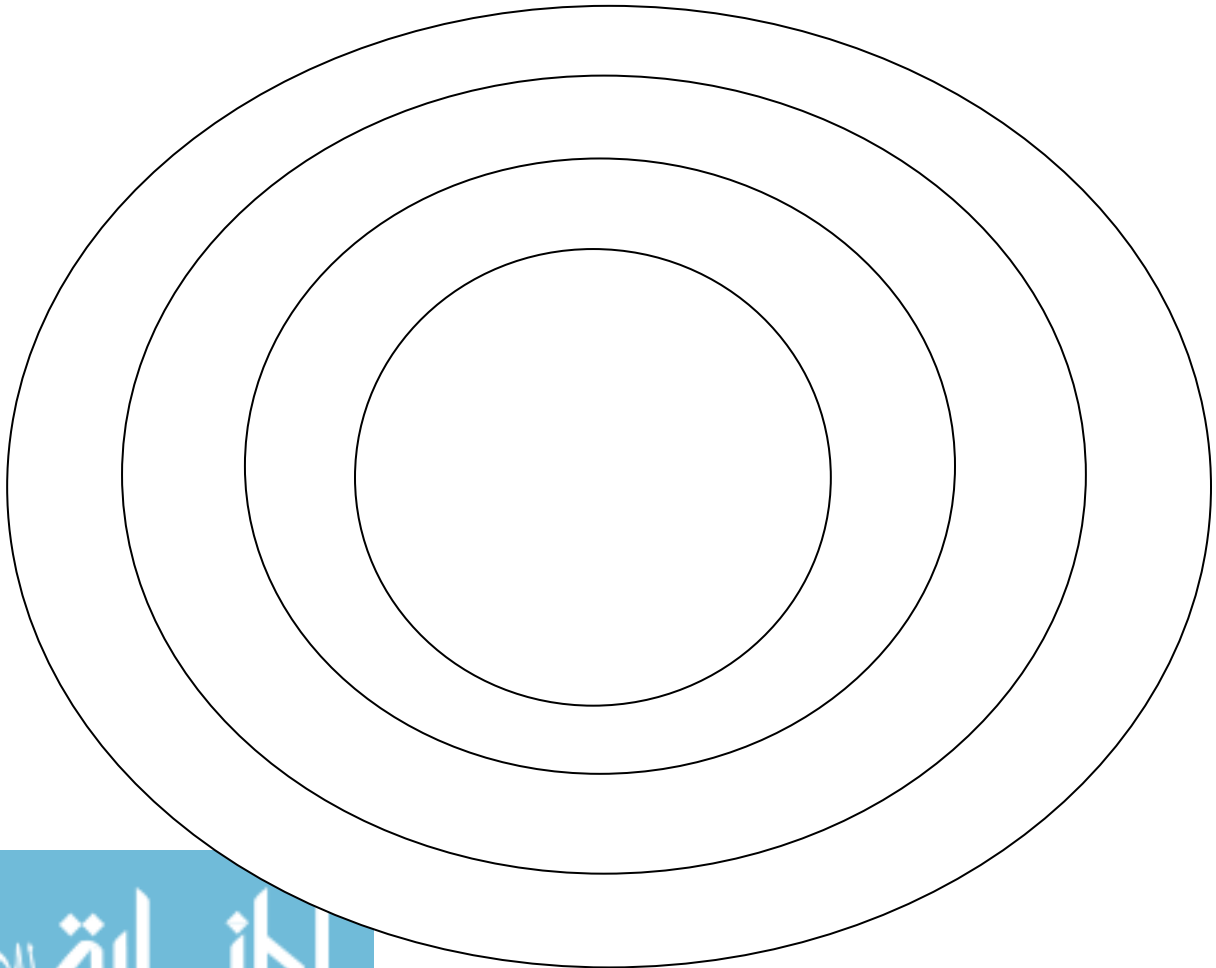
Convoy Mapping Procedure

This a blank diagram is made up of a series of circles. **You sit at the very centre of the circle.** Please write your name in the center.

The next circle is for those individuals in your life who are the **closest and most important to you** - people you love the most and who love you the most - e.g., a parent, sibling, grandparent, boyfriend/girlfriend, best friend, etc. **Please include THREE people in this circle.**

The next circle is for those individuals in your life who are **not quite as close but who are still really important to you** e.g., - a friend, a mentor, a religious leader, coach, aunt/uncle, babysitter, teacher, etc. **Please try to include at least THREE people in this circle.**

The outermost circle is for those individuals who are **not as close as the others, but who are still important to you** - e.g., a distant cousin, other extended family, a distant friends, acquaintance, colleagues, neighbors or characters in a story you feel you relate to, etc. **Please try to include at least THREE people in this circle.**



APPENDIX G**Personal Value Ranking Task**

Below is a list of qualities that are important to people in terms of who they are. Please indicate the characteristics that are most important to you by **ranking your first, second, and third most important quality from this list.**

- 1) _____ **Caring**
- 2) _____ **Compassionate**
- 3) _____ **Fair**
- 4) _____ **Friendly**
- 5) _____ **Generous**
- 6) _____ **Helpful**
- 7) _____ **Hardworking**
- 8) _____ **Honest**
- 9) _____ **Kind**

APPENDIX H

Autobiographical and Vicarious Memory Interview

[Experimental Protocol for Research Assistants to read aloud]

Thank you for participating in a study of **memory and identity**.

Today, we're going to ask you for several **self-defining memories** about the types of values you consider to be important to who you currently are. These memories will be from your life and from the lives of other people with whom you are close.. You will likely remember these events very clearly because **they were important to you and led to strong positive or negative feelings**. They are the kinds of memories that might help you understand who you are. They also convey powerfully how you have come to be the person that you are today.

The events that we are going to ask you to remember should be **specific events**. A specific event is an event that happened at a particular time and place and stands out in your mind. This could be a conversation you had with your mom when you were 12 years old, or a surprise birthday party that your friends put together for you when you turned 21. Your last summer's vacation, regular trips to the beach, or a difficult week at work, by contrast, are **not** specific events because they occurred over an extended period of time, even though they may be very important to you. Thus, your vacation or regular trips to the beach would be more like a series of repeated events rather than a specific event. **We want you to concentrate on single events rather than on a series of events, or events over an extended period of time.**

We are going to ask you for three **autobiographical memories** and for six **vicarious memories** about the values that you ranked as important to who you are. To make sure that you understand these types of memories and the procedures of the study, we will provide you with general definition of both memory types. We know that these events can be difficult to remember.

We are also interested in the length of time it takes participants to come up with these events and so we plan to use a stop watch to record how long it takes for you to remember each event.

Now, we are going to talk about the difference between autobiographical memories and vicarious memories.

An **autobiographical memory** is a specific memory for an event from your life that lasted anywhere from a few seconds to a few hours. For example, if I asked you to think of a memory from your life, you might report "*I remember seeing a friend of mine get off the train after they had been away for a couple of years*". The event is very brief, but it is specific and tied to a particular time and place. You might have also said "*I remember taking the ACT exam last spring. I was really nervous about how I would do*". This event lasted a couple of hours, but it is a specific event and would also qualify as an autobiographical memory. Do you have any questions about autobiographical memories?

For your sample memory, we would like you to think of any autobiographical memory that took place in your life from any time period. When you remember the event, please say OK. Please describe this event as you remember it.

For the research assistant: If you have any doubt that the memory is not a specific event, but rather a repeated event, please say: "I am not sure that is the type of event that we are looking for. The event that you mentioned was [repeat event] and that description is more of a repeated event because [explain why the event was a repeated event]."

When the sample memory meets the parameters of an autobiographical memory, please proceed to the next sample memory.

That's a great sample memory. Thank you for sharing that. For the next task, we ask that you think about and reflect on events that happened to someone other than yourself (e.g., a friend, family member, co-worker, etc) but nevertheless influenced you. This is a difficult task, so we will discuss some examples of these events.

A **vicarious memory** is a specific memory for an event **from another person's life** such as a friend, family member, or classmate and, while the event may not have happen directly to you, it did influence who you are in some important way.

We can think of **vicarious events** in **three** ways: **shared events, witnessed events, and hearsay events**

1. **Shared Events:** Shared events are events in which you and another person were both involved and actively participated in the event. You can think about these events as a **shared experience** with another person. Here are two examples of **shared events**.

*"My friend and I were gift wrapping for a local charity. We were 14 years old at the time, I think. The last customer of the day stopped and asked that we wrap a bottle of wine for him. We did such a great job. The wine bottle was decked out in shiny blue paper and we completed the gift wrapping with a fancy gold bow. The man was grateful and donated 20.00 in the donation box. He also handed my friend and I another \$20.00 for doing such a great job. He told us to go spend this money on our selves, like on dinner or dessert somewhere. **When he left, my friend and I went back and forth about what we should do with the money. We did earn it, but we also thought that donating it to charity would be a better choice, so we included the money in the donation box because someone needs that money more than we do. For the first time, both of us were on the same page, and I felt very proud that we made this decision together**".*

*"My brother and I were jogging and came across a lost dog. At first it didn't want to be caught, but we chased it until we were able to catch him. It had a collar but no contact information. We took the dog home, bathed it, fed it, and then drove it to the animal shelter. Later that week we called to check on the dog and found out that owners had claimed it. I thought, we could have just let the dog go, **but I learned that I truly enjoy helping others and I feel that there is***

no greater thing we can do in our life than sacrifice our time and energy to be helpful. My brother and I acted together, we "fed" off of each other that day."

Do you have any questions about this type of event?

2. **Witnessed Events:** Witnessed events are events during which you were present, but not actively or directly involved in the event, much like an **observer or bystander**. You likely watched these events unfold as they occurred, but were not part of these events directly. Here are two examples of **witnessed events**:

*A time that my friend displayed compassion and I witnessed it was the day that my friend's grandpa on his mother's side had a stroke. It was a beautiful fall day and we were driving around (I believe back from the park) and we received a phone call from his grandmother saying this grandpa was acting strange and she couldn't get his response. We headed over to his grandparents house and his grandfather had most definitely had a stroke and we both knew it. But my friend, so compassionate, somehow knew what to do. He told us (myself and his frantic grandmother) to sit and stay still, then he picked up his grandfather (whom was 6'3" and at least 220lbs) and put him in the car and drove him to the hospital and just was so controlled and level-headed. He then instructed me to stay at the house with his grandma to console her. **The way that he had the compassion to take care of his grandpa that day when I knew it would be so hard for him and to take care of everyone just blew my mind. I knew that this was one of the hardest times of his life because his grandpa was his idol, mentor, his everything.***

*One day when I was 12 years old, a man was driving his car in our street. Suddenly, a problem happened to the engine of his car and it stopped dead. My neighbor who is an engineer went to the man and told him he can fix the car for him. **They needed my help so I went to help them but I mostly watched my neighbor work on the car from the curb.** My neighbor fixed the car and then invited the man and me in for lunch. The man thanked us and he tried to give my neighbor some money for fixing the car. My neighbor didn't take the money. The man tried and tried, but my neighbor didn't agree to take the money. When I asked him why? He told **me that it is important to help people when they need you, even if you don't know that person. By watching my neighbor work on this man's car all day and then refusing to take the money, I learned a big lesson that day; that it's important to help people who are in need, even if it's an inconvenience to you"***

3. **Hearsay Events:** Hearsay events are events which you **heard about from someone who was present** in the event, but you were not present yourself or directly involved in the event. You merely heard about the event from a person who was there. Here are two examples of **hearsay events**:

"B is a friend of mine from the Marine Corps. He had bought a house with another Marine named J. On a deployment to Afghanistan, J was shot in the head, but survived. While many of his intellectual functions were not impaired, his speech and motor skills were affected, much like

*a stroke victim. While B and J were not related and merely roommates, **I heard from J** that every day B would help him get in and out of the shower, help him get dressed, and cook for him. The night J told me this, it brought a tear to my eye because of how selfless and helpful B had been to a wounded comrade. I realized at that moment, we could fight as many wars as possible in a life time but what really mattered was helping those in need was of greater impact. **This caused me to leave the Marine Corps and seek a career with helping people at the center. This event showed that even though I was not involved in the situation, I can learn from others.**"*

*"My dad decided to fly up to Michigan to re-do my grandmas apartment. She has lived in her apartment for 18 years and smokes in it and has never had it painted. My dad made it a point to go up there and do it for her. He had to wash the walls with the smoke re-mover and then paint afterward. He also changed faceplates on electrical sockets, did some re-wiring, fixed the AC and other miscellaneous things. My Grandma has a lot of medical problems and cannot do it for herself. She also has a mild OCD where she likes things to be a certain way and very clean. My Dad knew that this was something that she wanted done but she would never ask for it to be done. The fact that he made it a point to have it done was very compassionate of him. **When my dad told me about this event, it really reminds me that we have to take care of the people who were there for us, even if it is a major inconvenience to you.**"*

Do you have any questions about this type of event?

Now, we are ready to move on to the procedure of this specific study.

INTERVIEW PROTOCOL

Memory: Self #1

You ranked your top three personal characteristics. The **top ranked** characteristic you chose was _____.

Please take a moment and think about a specific event associated with that top ranked characteristic from your own personal experience. **For this event, we ask that you recall a time when you displayed this particular characteristic.** We will be using a stop watch to record how long it takes to come up with the memory for this event so when you think of the event please say ok [*start stop watch, stop when participant says OK*]

Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- a) How old were you when this event happened?
- b) How has this event influenced you? Has it changed you or impacted you in any way? Please describe.
- c) What does this event says about who you are as a person? Please describe.
- d) Have you learned anything about yourself from this experience? If so, please describe.

Memory: Self #2

Your **second highest** ranked characteristic was _____. Please take a moment and think about a specific event associated with that characteristic from your personal experience. **For this event, we ask that you recall a time when you displayed this particular characteristic.** We will be using a stop watch to record how long it takes to come up with the memory for this event so when you think of the event please say ok [*start stop watch, stop when participant says OK*]

Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- a) How old were you when this event happened?
- b) How has this event influenced you? Has it changed you or impacted you in any way? Please describe.
- c) What does this event says about who you are as a person? Please describe.
- d) Have you learned anything about yourself from this experience? If so, please describe.

Memory: Self # 3

The **third highest ranked** characteristic you chose was _____. Please take a moment and think about a specific event associated with that characteristic from your personal experience. **For this event, we ask that you recall a time when you displayed this particular characteristic.** We will be using a stop watch to record how long it takes to come up with the memory for this event so when you think of the event please say ok [*start stop watch, stop when participant says OK*]

Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- a) How old were you when this event happened?
- b) How has this event influenced you? Has it changed you or impacted you in any way? Please describe.
- c) What does this event says about who you are as a person? Please describe.
- d) Have you learned anything about yourself from this experience? Please describe.

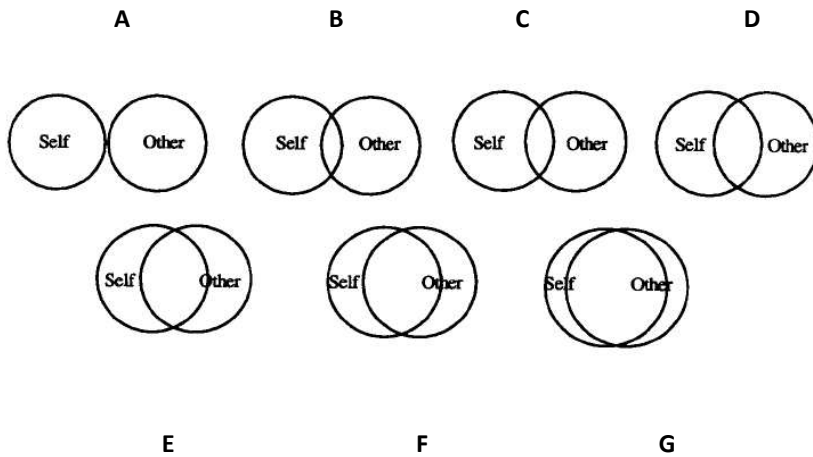
MEMORY: OTHER

I. INNER CIRCLE: SOMEONE CLOSE AND IMPORTANT TO YOU

You listed the following three people as closest and most important to you *[list the three people]*. Please take a moment to think about specific times in which **one** of these three people in your inner circle displayed the characteristic of *[insert characteristic]*.

EVENT 1: SHARED EVENT: Please think of a **specific time** when *[insert person]* displayed the characteristic of *[insert characteristic]* and you were **directly involved and actively participated in the event with [insert person]**. When you think of the event please say ok *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

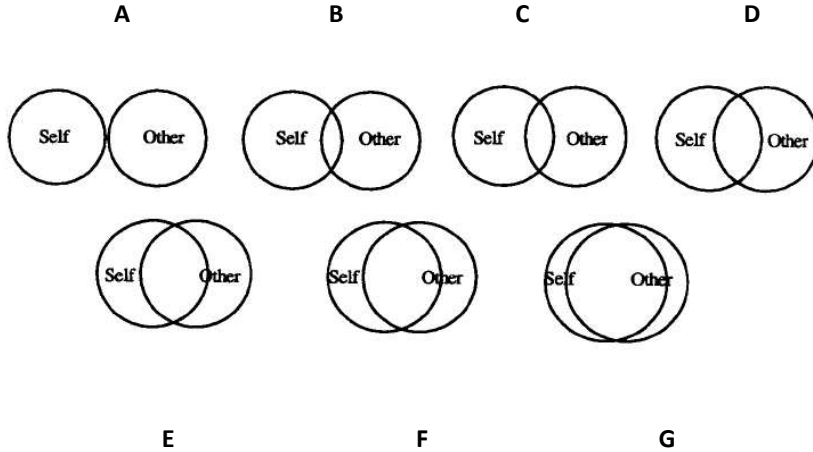
[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- a) How old were you when this event happened?
- b) How has this event influenced who you are as a person? Has it changed you or impacted you in any way? Please describe.
- c) Have you learned anything about yourself from being involved in this event? Please describe.

EVENT 2: WITNESSED EVENT For the second event, please think of a **specific time** when that same person displayed the characteristic of *[insert characteristic]* and **you were present, but not actively involved in the event. Your role in this event was that of a witness, observer, or bystander.** When you think of the event please say ok *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

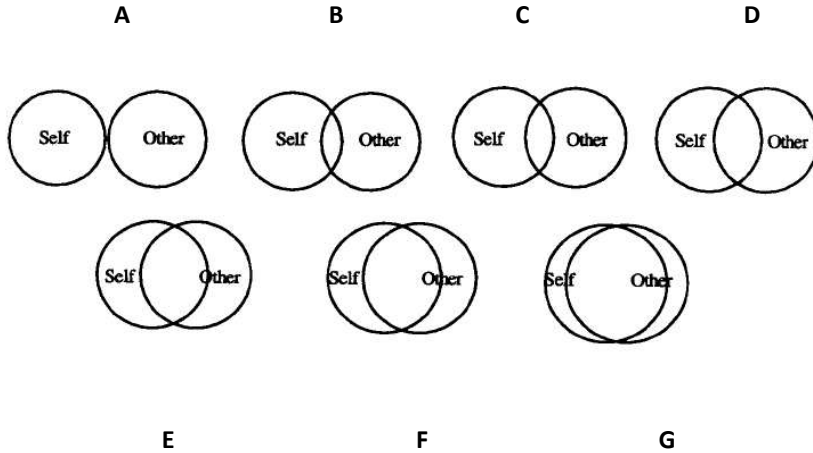
[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- a) How old were you when this event happened?
- b) How has witnessing this event influenced who you are as a person? Has it changed or impacted you in any way? Please describe.
- c) Have you learned anything about yourself from learning of/hearing about this event? Please describe.

EVENT 3: HEARSAY EVENT: Please think of a **specific time** when that same person displayed the characteristic of *[insert characteristic]* and you **heard about the event from [insert person]**. *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- How old were you when this event happened?
- How has learning of/hearing about this event influenced who you are as person? Has it changed you or impacted you in any way? If so, please describe.
- Have you learned anything about yourself from learning of/hearing about this event? If so, please describe.

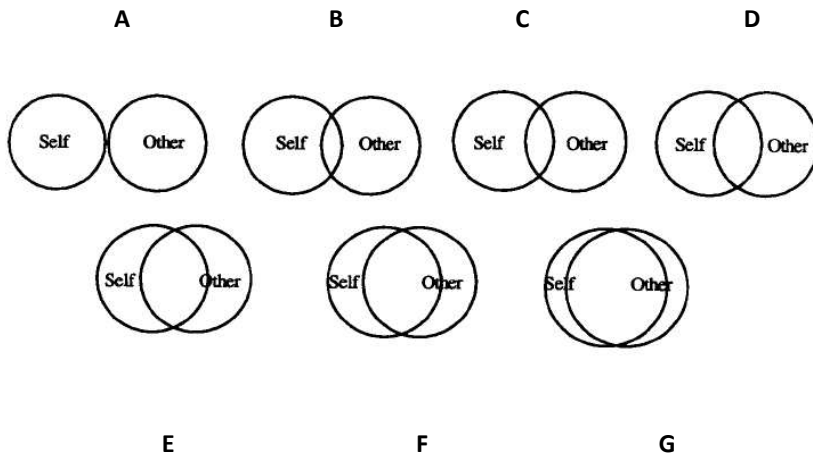
II. MIDDLE CIRCLE: SOMEONE WHO IS NOT QUITE AS CLOSE TO YOU BUT IS STILL IMPORTANT TO YOU,

You listed the following three people as not quite as close to you, but still important to you [*list the three people*]. Please take a moment to think about specific times in which **one** of these three people in your inner circle displayed the characteristic of [*insert characteristic*].

EVENT 1: SHARED EVENT: Please think of a **specific time** when [*insert person*] displayed the characteristic of [*insert characteristic*] and you were **directly involved and actively participated in the event with** [*insert person*]. When you think of the event please say ok [*start stop watch, stop when participant says OK*]

When you think of the event please say ok [*start stop watch, stop when participant says OK*]

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

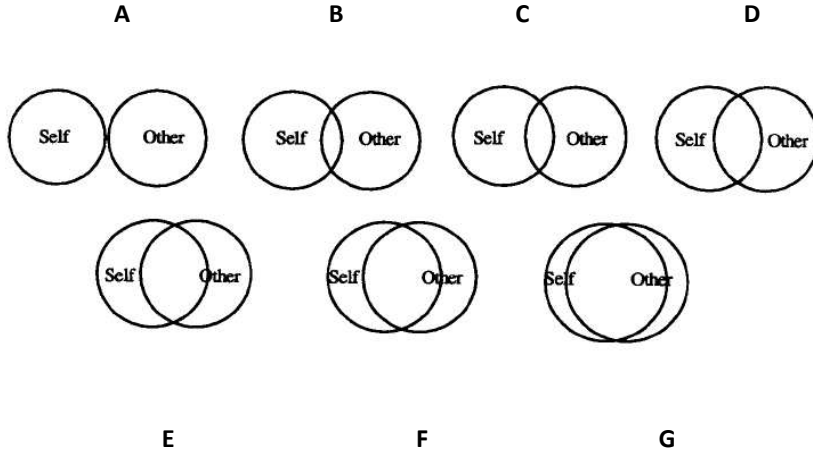
[*after they describe the event on the computer, have the participant fill out the AMQ and CES*]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- How old were you when this event happened?
- How has this event influenced who you are as a person? Has it changed you in any way? Please describe.
- Have you learned anything about yourself from being involved in this event? Please describe.

EVENT 2: WITNESSED EVENT For the second event, please think of a **specific time** when that same person displayed the characteristic of *[insert characteristic]* and **you were present, but not actively involved in the event. Your role in this event was that of a witness, observer, or bystander.** When you think of the event please say ok *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

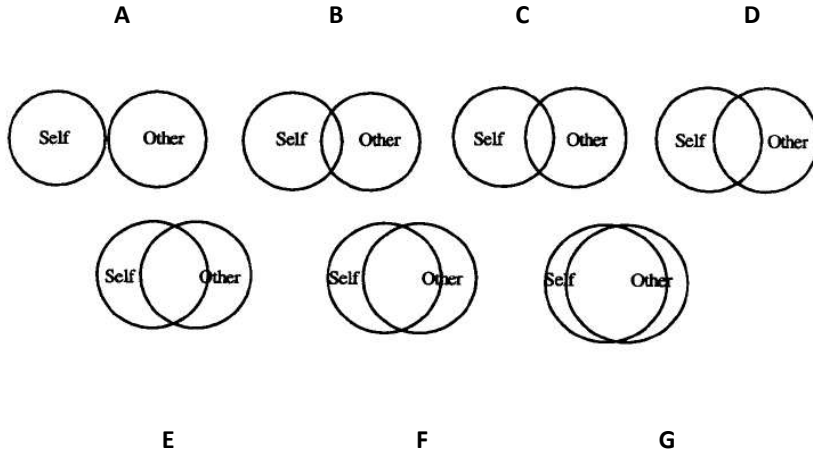
[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- How old were you when this event happened?
- How has witnessing this event influenced who you are as person? Has it changed you or impacted you in any way? Please describe.
- Have you learned anything about yourself from learning of/hearing about this event? Please describe.

EVENT 3: HEARSAY EVENT: Please think of a **specific time** when that same person displayed the characteristic of *[insert characteristic]* and you **heard about the event from [insert person]**. *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

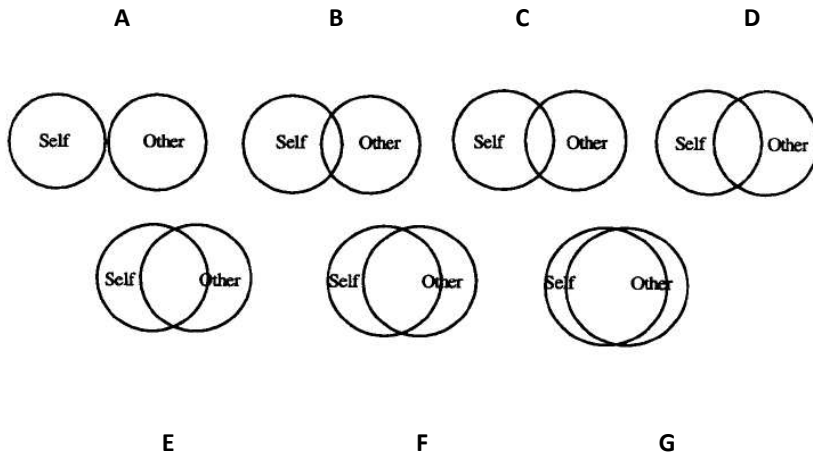
- How old were you when this event happened?
- How has learning of/hearing about this event influenced who you are as person? Has it changed you or impacted you in any way? If so, please describe.
- Have you learned anything about yourself from learning of/hearing about this event? If so, please describe.

III. OUTER CIRCLE: NOT AS CLOSE AS THE OTHERS, BUT STILL IMPORTANT TO YOU

You listed the following three people as not as close as the others, but still important to you [*list the three people*]. Please take a moment to think about specific times in which **one** of these three people in your inner circle displayed the characteristic of [*insert characteristic*].

EVENT 1: SHARED EVENT: Please think of a **specific time** when [*insert person*] displayed the characteristic of [*insert characteristic*] and you were **directly involved and actively participated in the event with** [*insert person*]. When you think of the event please say ok [*start stop watch, stop when participant says OK*]

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

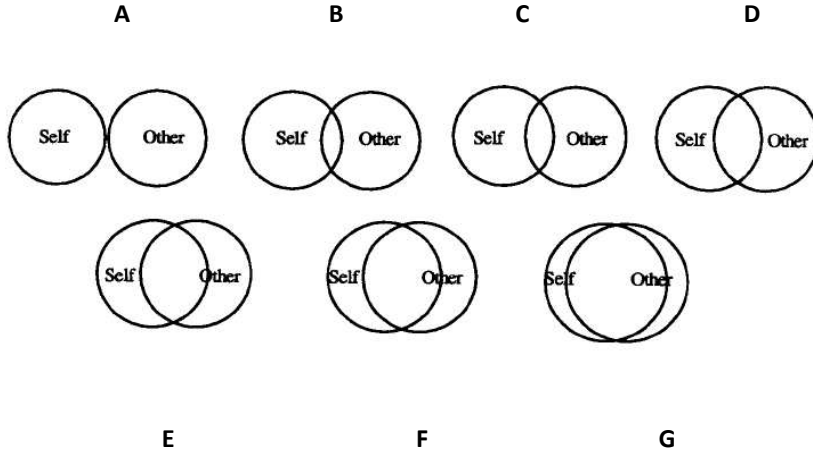
[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- How old were you when this event happened?
- How has this event influenced who you are as a person? Has it changed you in any way? Please describe.
- Have you learned anything about yourself from being involved in this event? Please describe.

EVENT 2: WITNESSED EVENT For the second event, please think of a **specific time** when that same person displayed the characteristic of *[insert characteristic]* and **you were present, but not actively involved in the event. Your role in this event was that of a witness, observer, or bystander.** When you think of the event please say ok *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

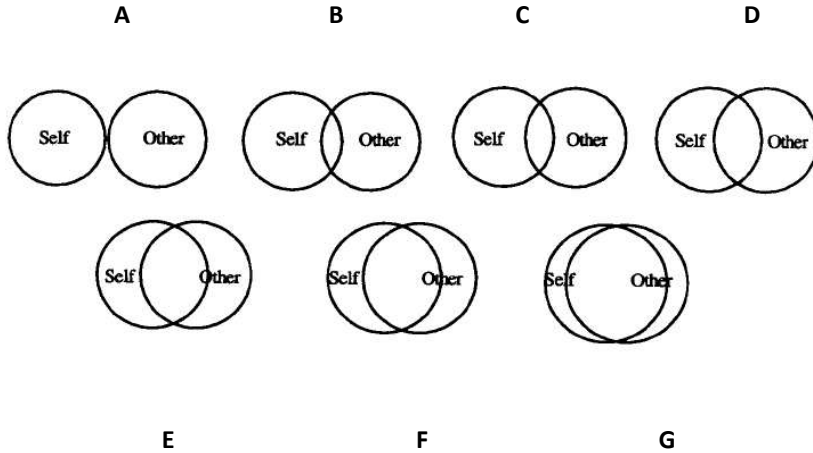
[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- a) How old were you when this event happened?
- b) How has witnessing this event influenced who you are as person? Has it changed you or impacted you in any way? If so, please describe.
- c) Have you learned anything about yourself from learning of/hearing about this event? If so, please describe.

EVENT 3: HEARSAY EVENT: Please think of a **specific time** when that same person displayed the characteristic of *[insert characteristic]* and you **heard about the event from [insert person]**. *[start stop watch, stop when participant says OK]*

Which letter (A-G) best represents your relationship with this person at the time of this event?



Please write a brief description of this event on the laboratory computer provided. We ask that you describe your memory in enough detail so that a person who was not present during the event would be able to fully understand the event.

[after they describe the event on the computer, have the participant fill out the AMQ and CES]

Please answer the following questions by typing your responses on the laboratory computer. The research assistant will help guide you through these questions.

- How old were you when this event happened?
- How has learning of/hearing about this event influenced who you are as person? Has it changed you or impacted you in any way? If so, please describe.
- Have you learned anything about yourself from learning of/hearing about this event? If so, please describe.

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ABSTRACT**THE IMPACT OF AUTOBIOGRAPHICAL AND VICARIOUS EVENTS ON
NARRATIVE IDENTITY**

by

KENDALL SOUCIE**December 2015****Adviser:** Dr. Joseph M. Fitzgerald**Major:** Psychology (Developmental)**Degree:** Doctor of Philosophy

The primary aim of this dissertation was to elucidate the process by which we incorporate the life events of others (vicarious events) into our own lives and, by extension, into our own sense of identity. It was hypothesized that vicarious events from within a person's social network can be as germane to identity development as autobiographical events if the vicarious event involves someone with whom the person is socially-close rather than socially-distant and is an event in which the self was more proximal (shared events) than distal (witnessed or hearsay). The extent to which age, gender, dispositional empathy, and the degree of self-other overlap accounted for individual differences in both social closeness and proximity of the self to the event were also investigated. Participants ($N = 64$; $M_{age} = 22.59$, $SD = 4.84$, range = 18-44) completed a semi-structured interview in which they were asked to recall and write descriptions of three autobiographical and six vicarious events (a shared, witnessed, and hearsay event for inner and middle circle convoy members) associated with a moral value and completed a social convoy model. Results indicated that autobiographical events were rated significantly higher on event phenomenology and event centrality in comparison to vicarious events overall. Among vicarious events, highest ratings of event phenomenology and event centrality were found for

events involving socially-close rather than socially-distant relationships, and in events in which the self was more proximal (e.g., shared events) than distal (e.g., witnessed or hearsay events). Older emerging adult females rated all seven event types as higher in event phenomenology and event centrality as compared to younger emerging adult females and males. Dispositional empathy was not associated with event phenomenology or centrality across the seven events. Higher ratings of self-other overlap predicted higher levels of centrality for shared events within close and distant social relationships. For impact, however, as ratings of self-other overlap increased, less proximal events (e.g., witnessed and hearsay events) were rated higher relative to the sample as a whole. Contrary to expectations, no associations were confirmed between self-other overlap and recall, rehearsal, or belief for either socially-close or socially-distant relationships. These results suggest that events which occur in close social relationships and which are attended to simultaneously or "in-the-moment" with another person appear to foster the perception of the self and other as a "unified agent" as compared to events in less socially-close relationships, and in events in which the self was more distal than proximal. These story type effects differed as a function of several individual difference factors (e.g., age and gender) and relationship factors (e.g., self-other overlap). These findings suggest that vicarious events within close social relationships and in events in which the self was most proximal (e.g., shared events) appears to play a salient role in shaping both memory and identity processes during emerging adulthood.

AUTOBIOGRAPHICAL STATEMENT

Kendall M. Soucie received her B.A in Psychology from the University of Windsor in 2005 and her M.A. in Social and Developmental Psychology from Wilfrid Laurier University in 2008. She is currently completing the requirements for a Ph.D. in Developmental Psychology at Wayne State University, and has accepted a position as an Assistant Professor of Psychology in the Child Clinical area at the University of Windsor commencing in September 2015.

Her primary research interests include autobiographical memory, self and identity development, and the role of context and culture in shaping the life story across the life span. She is also interested in mixed method research designs, and has integrated structural equation modeling, hierarchical linear modeling, and latent growth curves, as well as qualitative, discourse, and narrative analyses into these domains of research.

As part of her pre-doctoral training, she worked alongside several multidisciplinary teams to promote team science initiatives in the Department of Pediatrics at Wayne State University School of Medicine and in the Office for the Vice Provost of Research (OVRP). She has also served on internal (CDS area) and external committees, and is very fortunate to have been able to spend time working with the Rotary Club of Windsor Roseland in her hometown of Windsor, Ontario.