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The Interplay of Personal Traits and Autobiographical Memory

A thesis submitted in partial fulfillment of the requirements

for the degree of Masters of Science in Experimental Psychology

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Dedication

To my spouse, Kevin Specter, for always having a comforting word and a willingness to make an emergency ice cream run. Also to John R. Smith, Liz Gaffney, Allegra Clark, Kevin Hayes, and Virginia Mulgrew, for reminding me to take a few moments every now and then to indulge my imagination and creativity.

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Abstract

This study investigated the effects of social setting and perceived audience on autobiographical memories shared with a stranger in written formats. The influence of experimenter presence individual differences in biological sex and gender identity (feminine, masculine, undifferentiated, androgynous) on narrative length, content, structure, and theme were explored. Sex differences included men expressing more overall and negative emotionality in an individual rather than in a group setting, and women wrote lengthier narratives than men.

Gender differences included feminine individuals using more emotion words in a groups rather than individual setting, and using more negative emotions in the presence of a group with the experimenter absent as compared to other conditions; Masculine and Androgynous individuals used more negative emotion words in the individual setting when the experimenter was present; Undifferentiated individuals using more negative emotions words in the individual setting when the experimenter was absent; Androgynous individuals wrote more socially-themed narratives in a group setting; and Masculine individuals wrote more socially-themed narratives in an individual setting. Overall, participants wrote more detailed narratives in the individual setting than when writing in a group. Findings are somewhat consistent with previous research regarding such areas as narrative length and theme, with areas of discrepancies and implications for future research discussed.

Keywords: autobiographical memory, perceived audience, gender, sex roles, written narratives, narratives length, narrative structure, narrative emotionality, narratives theme, sex differences, gender differences

Introduction

Autobiographical memories are specific memories of personally experienced events that reflect aspects of identity and stable beliefs about oneself; these memories reference the self and important moments of one's life (Harley & Reese, 1999; Reese, 2002; Fivush & Buckner, 2003; Nakash & Brody, 2007). Narratives about autobiographical memories often describe location, action, people and thoughts (Thorne, 2000), and can have many different purposes, from relaying advice to making a statement about whom one is as a person (Bamberg, 1997). The concept of autobiographical memory assumes that individuals use their storied narratives of personal memories to create meaning (Bohanek, Fivush & Walker, 2004) and self-continuity (Niedzwienska & Swiezy, 2010) within a cultural and temporal context (Conway & Pleydell-Pearce, 2000). These memories are shared in the presence of others, and provide information of how one acted in the past or may behave in the future (Niedzwienska & Swiezy, 2010).

What individuals recount can be influenced by many factors, including who is present, the social context of a situation (for example, an office environment versus a family gathering), and individuals' gender roles (Echterhoff, Higgins & Groll 2005; Echterhoff, Lang, Krämer & Higgins, 2009; Fivush & Marin, 2007; Fivush & Buckner, 2003). The purpose of the present study is to gain a clearer understanding of the ways that some of these factors interact to influence the narrative reports of meaningful moments that individuals share, in particular the presence of an assumed "audience" for a particular memory narrative, and the type of interpersonal setting in which the past is reported, as well as both the biological sex and gender identity of the narrator (feminine, androgynous, undifferentiated, masculine).

Autobiographical memory plays many different roles in people's lives; as such how memories of the past give shape to one's life story in the present is theoretically relevant. Thus,

the primary focus in this thesis was to address how one's continuously evolving identity is engaged in constructing narrative reports of the past. As human beings exist in communities and exert influences upon each other, the social implications of autobiographical memory must also be drawn out as to the ways in which gendered socialization can impact how and what one remembers. All of these factors are addressed in the literature review substantiating the hypotheses of the present study.

Functions of autobiographical memory

A functional approach to autobiographical memory seeks to understand how memory operates as opposed to how accurate it is (Bluck, 2003). Autobiographical memory can be thought of as having three cognitive uses: directive, self-oriented, and social/communicative functions (Bluck, Alea, Habermas & Rubin, 2005). The *directive* function helps guide behavior and aids with problem solving by focusing attention on experiences and outcomes. The self function helps integrate past experiences into a cohesive narrative timeline for identity purposes. The social function contributes to developing and maintaining social relationships, for example by building intimacy through self-disclosure (Bluck et. al. 2005; Alea & Bluck, 2003). In light of said functions, gender differences have been observed among many aspects of these uses for memory. For instance, women report talking about experiences to regulate emotion more so than men, but men seem to get a greater emotional benefit from reminiscing as compared to women; that is, men tend to experience less negative emotion while reminiscing, as well as being more likely to tell more positive events and experience positive emotion than were women (Pasupathi, 2003). Thus, the emotional impact of disclosing personal narratives others may have different uses based on content for men and women.

Development

Autobiographical memory is not continuous until children are approximately four-and-a-half-years-old (Fivush & Nelson, 2004; Haden, Haine & Fivush, 1997). Before then, memory content can be thought of as being more akin to "flashes" of disconnected moments of remembrance, rather than as a storied narrative centered on a theme (Fivush & Nelson, 2004). Autobiographical memory involves events that are ordered within the memory itself as well as its overall temporal location in the past. Since linguistic development requires social input from early in life, exposure to and participation in family conversations provide a key component of autobiographical memory development (Fivush & Nelson, 2004; Fivush & Baker-Ward, 2005). As children's language abilities increase, they learn from those around them how to both express and structure memory content. Thus, parental scaffolding of conversations helps aid children's recall abilities, as well as helping children understand that memories are subjective representations of past occurrences (Fivush & Nelson, 2004). This testifies to the fact that from an early age, social rehearsal with remembering partners and audiences can hold important implications for individuals' memories. Put another way, the argument is made that children's memory partners aren't just showing children *what* to remember, but perhaps more importantly, *how* to remember these experiences.

The way in which a memory is recounted can affect the way it is later remembered (Crawley, 2010). This is true in person-to-person interactions, as well as in broader cultural contexts. For example, Fivush and Nelson (2004) found that "adult females and individuals from Western cultures have an earlier age of first memory, and have longer and more detailed memories of their childhood, than adult males and individuals from Asian countries" (p. 573).

Fivush and Nelson (2004) also note that disagreements can occur among those reminiscing about the emotional evaluation of events, bringing individual's perspectives on a past event into conflict. Such conflicts in conversation can lead to heightened attention on the metacognitive aspects of the processes of remembering, of thinking about and evaluating the self, and upon the act, purpose and outcomes of recollecting the past.

Identity

The self and autobiographical memory are interdependent, facilitating self-continuity (Bluck, 2003). The life stories individuals construct from their autobiographical memories involve making sense of, and taking meaning from, past experiences (Thorne, 2000). Indeed, cognitive research conducted decades ago reveals that those with committed identity statuses (reflecting a stability of beliefs and values) are able to better recall a greater number of autobiographical memories in comparison to others with less decisive beliefs (more instability) about who they believe they are (Neimeyer & Rareshide, 1991; Marcia, 1966). In fact, sometimes, while remembering personal experiences, people evaluate who they were in the past as inferior to their current self in order to elevate their present self or make themselves feel better about who they believe they currently are (Brown, Buckner & Hirst, 2001; see also Bluck, 2003).

All told, then, one way in which the self and autobiographical memory converge is through narrative identity (Fivush & Marin, 2007). Narrative identity allows individuals to connect their past experiences to their present concept of self (Mclean & Mansfield, 2011). Written narratives offer a window into a person's construction of identity, as well as offering a way to bring coherency to her or his experiences and emotions (Horrocks & Callahan, 2006). This process evolves over time, but it is particularly important in late adolescence and early adulthood; this is a vital time period for identity development in terms of narrative identity and

encoding autobiographical memories (Pasupathi & Hoyt, 2009). Specifically, late adolescents are in a developmental period concerned with identity-making, and the construction of a life story allows them to integrate past experiences into their evolving identity (McLean, 2005). The telling of narratives is an interpersonal exchange, and this sharing provides the opportunity to not just reminisce about the facts of a past event, but to find meaning through our own experiences and emotional processes and the reactions of those with whom we share. As such, we actively construct our identity--our relatively stable representation of who we are--as we construct our life story via narratives as we relate them to others (Horrocks & Callahan, 2006).

Social implications

Since reminiscing is performed in a social context, disclosing autobiographical memories promotes the development and maintenance of interpersonal relationships (Dindia & Allen, 1992), since such activities help people empathize with and understand the private worlds of others, and certainly provides material for conversations (Bluck, 2003). It follows, then, that one's sociocultural situation affects what experiences one has access to and how one may go about interpreting life events. Power dynamics, whether at an interpersonal level or in a larger social context, create differences in what stories are told, and who can tell them (that is, who has "authorship rights" to claim the accuracy of the events, the participants in the experiences, the meaning of said experiences, etc.). Thus, power dynamics should be considered as a factor that shapes narrative retelling, and by extension, a life story (Fivush & Marin, 2007). For example, Ely and Ryan (2008) discuss how both research and clinical observation indicate that affectively-charged statements from higher status individuals can have long-lasting consequences for individuals. At a more personal level, audience reactions that are incongruent with an

individual's self-defined meaning for a memory can cause the individual to feel the need to re-evaluate the meaning of the memory and how it fits into his or her identity (Thorne, 2000).

To whom one is speaking can also affect how a message or story is relayed. Audience tuning is adapting one's message to those to whom one is speaking (Echterhoff, Higgins & Groll 2005; Echterhoff, Lang, Krämer & Higgins, 2009). People typically tailor their communications to their audience; this can bias the communicators' remembrance of the message (Higgins, Echterhoff, Crespillo & Kopietz, 2007). This is important because individuals are not always aware that they are tailoring their stories to fit perceived audience demands (Pasupathi & Hoyt, 2009). Nonetheless, a particular message would not exist in the context it was made if not for the particular addressee for whom it was intended (Krauss, 1987). Social statues and trust between people involved in reminiscing can influence what is later recalled (Echterhoff et. al., 2009), and listeners as essential, though not always equal, "co-narrators (Bavelas, Coates & Johnson, 2000)." Nonetheless, an inherent collaborative relationship between a speaker and listener exists in narrative contexts. Thus, based on prior research (Cvasa, 2007), it would be interesting to examine differences in perceived audiences when someone is reminiscing alone as compared to with others.

Sex and Gender

The sex of the target or conversational partner can also affect what content is disclosed (Nakash & Brody, 2007). On average, female dyads disclose the most, followed by opposite sex dyads, with male dyads having the lowest level of self-disclosure (Hill & Stull, 1987). There is even the possibility that this pattern could extend to the influence of the sex of a researcher on participant responses (Cvasa, 2007). As such, it is important to keep in mind the social context of reminiscence. For example, a study by Nakash and Brody (2007) indicated that both men and

women who completed a task with a female partner used more "other" words in their recollections. One reason for this may be because the presence of males may cause male and female speakers to limit emotional and personal conversations to a more intimate audience (Buckner & Fivush, 2000). Levels of self-disclosure increase when females are present in conversational dyads of groups.

Yet, whereas sex is a biological reality, gender is an expression of traits that have cultural and temporal associations, and in most cultures these are often dualistically divided into masculinity and femininity. Different from sex, which is based upon anatomical features, gender is determined by patterns of behavior and choices through which people relate to themselves and one another (Buckner & Fivush , 2000); different aspects of gender and identity can be highlighted in different situations and interpersonal context (Fivush & Buckner, 2003; Fivush, Brotman, Buckner & Goodman, 2000). What a narrator feels comfortable sharing with others may indeed be selected based upon the perceived expectations and perceptions of what they believe others are thinking about them.

Gender-specific socialization is pervasive; experimental data reveal that girls are encouraged to focus on traditionally feminine traits such as emotions in their reminiscing than boys are (Ely & Rand, 2008; Buckner & Fivush, 2000). In an experimental study of young adults, females produced longer narratives than males, and that the length of their memory reports were positively correlated with reported speech (speech estimated by others) for both males and females, respectively (Ely & Rand, 2008). However, research indicates that women do not talk more than men (Ely & Rand, 2008; Mehl, Vazire, Ramirez-Esparza, Statcher & Pennebaker, 2007), nor do they differ from men in terms of overall word count (Newman, Groom, Handelman & Pennebaker, 2008). Additionally, Ely and Rand (2008) found that men and women

did not significantly differ in reported speech for the Thematic Apperception Test, leading them to conclude that gender differences may be limited to autobiographical memories and reflect "broader qualitative" differences in self-identification as well as autobiographical content. That is, while gender differences could be due to biological sex differences, it is likely that differences in socialization explain gender differences in identity beliefs and autobiographical memories (Ely & Rand, 2008). Interestingly, in one Swedish study, women did better than men on episodic memory tasks, but performed the same as their male counterparts on general or semantic memory (Herlitz, Nilsson,& Backman, 1997). The authors do note, however, that women may reminisce for a variety of different reasons than men do (Pillemer et. al., 2003).

Linking gender differences only to biological sex cannot account for rapid social changes—such as reliable birth control, changes in family structures, or newly accessible occupational roles for women--or cultural differences, such as expressions of aggression (Bussey & Bandura, 1999). The distinction between sex and gender is relevant to this study as reducing individuals' experiences to dichotomous, physiologically-based roles may not adequately reflect an individual's perception of himself or herself. In support of the socialization hypothesis, researchers have found that parental reminiscing style can affect how children's autobiographical skills develop (Fivush & Nelson, 2004), such as by creating internalization templates (Nakash & Brody, 2007). Parents validate their children's experiences and share power to create a mutual understanding of the past (Fivush & Marin, 2007). Children probably learn internal states language through parental scaffolding (Fivush and Baker-Ward, 2005). These scaffolding experiences can contribute to gender-based differences in socialization. For example, mothers tend to be more elaborative and emotional with their daughters than with their sons (Fivush & Nelson, 2004), girls tend to elaborate more than boys even though they are not more advanced in

overall language skill (Haden, Haine & Fivush, 1997), and both mothers and fathers tended to place more emphasis on interpersonal factors when discussing emotions with daughters as opposed to sons (Fivush, Brotman, Buckner & Goodman, 2000). As discussed by Buckner and Fivush (2000), parents tend to refer to daughters more than sons, focusing more the girls' identity and experience within the narrative context. Children show more "gendered" talk than their parents. Female children demonstrate a more social orientation as compared to male children, such as referring to others more than boys did. Girls made twice as many self-references as boys, referred more to other people than boys, and also used a greater number of emotions words by age six (for similar patterns, see also Bauer, Stennes & Haight, 2003).

As children mature, autobiographical memory continues to inform identity and thus informs one's concept of gender, as well. Increasing levels of autobiographical reasoning continue to develop as people age (Pasupathi & Mansour, 2006). Additionally, the co-construction of narratives continues into adolescence, with mothers continuing to scaffold narratives, particularly for boys (McLean & Mansfield, 2011). While boys and girls seem to come to similar conclusions from their narratives, girls continue to elaborate more than boys (Pasupathi & Wainryb, 2010). As parental scaffolding continues, so does the modeling of cultural norms and ways in which to interpret past events. This indicates that reminiscing is a "gendered activity," that is, gender is a lens through which the events are viewed.

One way to conceptualize gender is with gender schemas. A schema is a cognitive structure of associations that organize information and guide perception (Bem, 1981a). Sex typing is a way that society transmits expectations concerning behavior, ascribing masculinity to males and femininity to females (Bem, 1981a). That is, masculine and feminine describe gender presentation or identity, whereas male and female describe biological sex. Gender schemas

theory asserts that children will learn to categorize concepts in terms of culturally relevant aspects of masculinity and femininity (Bem, 1984). When gender schemas become prescriptive, they can lead to an individual to regulate his or her own behavior in accordance with the societal mandate (Bem, 1981a). These mandates can constrict or alter an individual's perception of how one relates to the world and others, and how they relate these concepts to their own personal identity, and thus also coloring their subjective recollections of the past and the meaning they take from them.

Following up on work regarding gender schemas, Resenhoeft (2011) examined narrative differences in oral and written autobiographical memories due to gender roles in emerging adults. Resenhoeft utilized the Extended Personal Attributes Questionnaire (Spence, Helmreich & Holahan, 1979) to classify gender roles. While the research did not examine both the participants' biological sex and gender identity, it still lends support to ways in which gender can influence the self or emotional content in a memory narrative. For example, the written narratives of feminine-identified (high in positive feminine traits but low in positive masculine traits) and undifferentiated-identified individuals (low in both positive masculine and feminine traits) exhibited greater levels of negative emotionality as compared to oral narratives.

As another example, in an experiment by Markus, Crane, Bernstein & Siladi (1982) that examined participants' self-ratings on different scales of masculinity and femininity, androgynous subjects endorsed slightly more masculine words in an experiment, but also did not distinguish among masculine, feminine and neutral words in terms of latency. Those with masculine schemas were "slow to endorse feminine items and not at all certain when they did so" (Markus et. al., 1982) (p. 48). Markus et. al. (1982) present another way to conceptualize schemas as "... summaries and constructions of past behavior that enable individuals to

understand their own social experience and to organize a wide range of information about themselves." In this sense, schemas are concerned with meaning-making, as is autobiographical memory (Bohanek, Fivush & Walker, 2004).

Audience, social setting, and gender

As suggested by Chafe and Tannen (1987), spoken thoughts and even written discourse are inherently social in nature, especially when they involve an actual or perceived audience (a listener, reader, conversational partner, or target recipient). This very nature renders the content of communication open to the influence of sociocultural factors.

Not surprisingly, the power dynamics of a situation can affect what individuals report as remembered (Nakash & Brody, 2007). Indeed, perceived authority of the audience matters; for example, participants tend to give more detailed narratives to, or in the presence of, experimenters as opposed to other participants (Hyman, 1994; Cvasa, 2007). In terms of gender differences, Pillemer et. al. (2003) found that although women's memory advantage in terms of recalling specific episodic memories was not related the sex of the interviewer, men and women's *preference* for a female listener may have impacted the number of self-references of male participants in the presence of a male experimenter (for a discussion see Cvasa, 2007). Others have also suggested that male participants may be more influenced by the experimenter's sex than female peers (Etaugh, Houtler & Ptasnik, 1988). There is also evidence that in some cases women may inhibit themselves when self-disclosing to men (Dindia & Allen, 1992). Yet, curiously, there is no study done to date which has examined the effect of a female experimenter in terms of individuals' memory reports.

Social Setting

These kinds of gender differences emerge in context-specific situations. Differences between males and females are greater in unfamiliar contexts (Buckner & Fivush, 2000). Moreover, Cvasa (2007) discovered differential effects of gender that may also be related to social setting. He reported striking differences regarding the length and content of males' and female's memory narratives only in situations where they produced their narratives in a social setting. Although females wrote approximately the same amount in memory reports regardless of whether they produced these documents while alone (a solitary setting), or in a room with others (group recall), their male counterparts wrote *longer narratives than females* in the solitary setting but *shorter narratives than females* in a social setting. What's more, memories written down by participants in the group setting were rated as being more self-focused in theme than others. These self-oriented memories were more detailed and emotionally-charged than other memories as well.

Narrative Contents

Narrative length. Past work does suggest that the length of a narrative may be related to the emotional intensity of a recalled event but findings do not fall into a neat pattern. For example, Bohanek, Fivush, and Walker (2004) report that narratives rated higher in subjective intensity (of an event) were longer overall, in comparison to less intense narratives (regardless of gender). But in Cvasa's study (2007) only men showed this tendency, and only in memories written in a room where others were present (albeit writing their own memories as well). Additionally, in most studies cited, females tend to provide longer, more detailed and more vivid narratives than males, suggesting that perhaps due to gendered beliefs, roles, and expectations

about the appropriateness of emotion, emotionally charged memories may be more available to women to report in more verbose ways (Bauer, Stennes, Haight, 2003).

Narrative theme. An analysis of 14,000 text samples indicated that women, on average, focus on interpersonal and psychological processes in their writing, whereas men tend to report events or impersonal topics (Newman et al., 2008). In their narrative memories, females tend to mention other people and relationships, whereas males talk about independence and accomplishments (Buckner & Fivush, 2000). This pattern represents the traditional sociocultural roles applied to males and females in industrialized, western gender stereotypes. On average, males' sense of self reflects agency, whereas females' sense of self reflects interdependence; and indeed, people who have higher "agentic" qualities tend to remember events involving agency whereas people with a focus on interdependence recall more social memories (memories featuring others) (Nakash & Brody, 2007). Men tend share events about which they were more confident, and do so utilizing fewer internal states terms as confidence levels increases (Bauer, Stennes, Haight, 2003). Further research corroborates this, adding that women recounted more specific memories than men (Pillemer et. al., 2003).

Emotionality. Given the stereotypical relegation of emotional roles to females in our Western notions of gender, it is no wonder that females in our country have been found to refer to their own and other's emotions more so than males (Bauer, Stennes, Haight, 2003). Specifically, women use more references to internal states and emotions than men, express more positive and negative emotions words than men do, and recall more overall emotional information than men (Newman et. al., 2008; Bloise & Johnson, 2007).

Narrative Structure. Gender differences can lead to differences in elaboration, such as in disparate use of adjectives and adverbs. Buckner & Fivush (2000) note that girls recount more

vivid memories than boys by age eight, with vividness being measured by amount of details, emotional qualities, and using utterances containing new information. At older ages, women also rate their memories as more vivid than men do (Pillemer et. al., 2003) (Interestingly, males include more references to numbers than females do (Newman, et. al., 2008)).

Purpose

The study sought to manipulate the social setting and perceived audience of narrative memories in order to clarify some of the disparate findings regarding gender effects in autobiographical memory. More specifically, our goal was to investigate how individual differences in self-concept and gender roles interact with audience and recall setting variables to influence length, emotionality, structure, and theme of autobiographical narratives. The study was restricted to college-aged individuals who were asked to report their narratives in the same mode—as written memories.

To carry this study out, we followed up on the recommendation that Cvasa's (2007) research be replicated with a female experimenter. In this way, we hoped to determine if and how experimenter sex influences participants' narratives. Thus, we provided the "other side of the coin" as it were: how not male but female experimenter presence as well as social setting, would produce patterns similar to those reported by Cvasa (2007)—that is, in narrative length, theme, content, and structure. Moreover, this study extended Resenhoeft's (2011) work, in that we hypothesized that narrative length, content, structure and themes would vary in particular ways according to the gender identification of the participants themselves.

Thus, based upon the literature we expected the following pattern of narrative results based on participants' categorization in recall settings:

- Audience: Males and females in a female-experimenter condition would report longer narratives than would participants in a male-experimenter condition.
- Setting: Overall, participants would write more in the individual setting as compared to the group setting. However, an interaction between setting and gender was expected; the group setting would likely make gender more salient and therefore heighten gender differences in the narratives. We believed it was likely that feminine-identified individuals would write longer narratives as compared to others, particularly in the group condition, as gender salience should be elevated.
- Sex: It was anticipated that females would have more social narratives than males, and that their narratives would contain a greater number of emotion words as compared to men's narratives (Resenhoeft, 2011). Overall, we expected that women's narratives would include more descriptions and intensifiers (adjectives and adverbs) than men's narratives.
- Gender: We anticipated that the predicted sex differences would also be mirrored in a similar pattern of differences between gender groups (feminine-identified vs. masculine-identified individuals). Moreover, it is expected that feminine-identified narratives would reflect more social themes as compared to masculine, androgynous and undifferentiated individuals. It was anticipated that feminine and undifferentiated participants would express a greater number of negative emotions words in their narratives compared to masculine and androgynous individuals (Resenhoeft, 2011).

Table 1
Expected Results Summary

	Length	Content	Structure	Theme (Ind., Soc.)
Audience (EP, ENP)	Participants should write longer narratives in the presence of an experimenter (Cvasa, 2007)			
Setting (I, G)	Participants should write more in the Individual setting (Cvasa, 2007)			
Sex (F, M)	Women should write lengthier narratives than men (Ely & Rand, 2008)	Women should have more emotional narratives than men (Bauer, Stennes & Haight, 2003; Newman et. Al, 2008; Bloise & Johnson, 2007; Fivush & Buckner, 2003)	Women should have more detailed narratives than men (Buckner & Fivush, 2000; Pillemer et. al., 2003; Haden, Haine & Fivush, 1997)	Women should express more socially-focused narratives, whereas men should express more individually-focused narratives (Buckner & Fivush, 2000; Nakash & Brody, 2007)
Gender (Fem., Mas., Undif., And.)	Feminine individuals should write lengthier narratives than other gender groups (Resenhoeft, 2011).	Feminine and Undifferentiated individuals should express more emotionality than masculine or androgynous individuals (Resenhoeft, 2011).		Feminine individuals should express more social themes in their narratives as compared to other gender groups (Resenhoeft, 2011).

Method

Participants

Participants were 185 undergraduate students of at least eighteen years of age (131 women, 54 men, *M* age = 19.18, *SD* age= 3.11, range = 18-57) who were recruited via an online recruitment system employed by a Psychology Department at a private northeastern university.

Procedure

Participants were randomly assigned into one of four conditions based on experimenter presence (experimenter present-EP/experimenter not present-ENP) and setting (narratives written in group [G] or individual [I] sessions). A group consisted of at least three participants.

Participants were given a packet of materials beginning with the informed consent sheet (see Appendix for instruction packet). After the informed consent sheet was read and signed, the experimenter read the directions for the memory task. During this phase, the experimenter asked the participants to choose a unique code number. Participants were directed to university-provided laptops where they opened a blank Microsoft Word document to input their memory. All participants responded to the same memory cue, "Please write about your first day at Seton Hall University." All participants had five minutes to type their narrative, which was monitored by a timer. Participants were instructed not to spend time editing their narrative. In the EP condition, the experimenter remained in the room, maintaining a neutral presence and only responding to questions during the narrative collection with neutral comments (e.g., "Is that all?"). The participants in the EP condition were fully informed that the experimenter would remain in the room with them but would not be answering questions. In the ENP condition, after reviewing all directions, the experimenter set a timer and exited the room while the participants typed their narratives. The experimenter returned upon the conclusion of the five minute interval.

When the participants completed their narrative, they were directed to save their Word document to a provided flash drive; their document was saved under their previously chosen code number. Participants were then instructed to complete a general demographics questionnaire and the BEM Sex Role Inventory. Finally, participants were given a debriefing sheet and provided with the opportunity to ask any questions, then the research session ended and participants exited the laboratory.

Coding

Narratives were coded based on narrative length, content, structure, and theme using a coding system adapted from Buckner and Fivush (1998). Inter-rater reliability for 5% of the coded narratives yielded a Pearson's *r* of .967 and a Cronbach's alpha of .974.

Length was determined by on-task word count. Off task words or phrases (e.g., "I don't remember anything else.") were not be included in the total.

Narrative content focused on identifying and counting words relating to emotion, and included the total number of emotion words used as well as separate totals for positive and negative emotions words.

Narrative structure was determined by counting the frequency of descriptive words as well as intensifiers (adjectives and adverbs).

Narrative theme was coded as either socially focused or individually focused. Narratives that involved the emotions and/or experiences of others in the written memory were coded as socially focused narratives. Individually focused narratives were those that related only to the participant's past experience and made no mention of other people or their participation in the event.

Materials

Bem Sex-Role Inventory. The BSRI is designed to assess one's psychological masculinity or femininity using rating scales that contain twenty stereotypically feminine traits, twenty stereotypically masculine traits, and twenty filler items. The BSRI is used to assess gender roles (Bem, 1981a; Brown, 2010). Participants rated sixty items on a scale of 1 (never or almost never true) to 7 (always or almost always true) regarding how well a particular trait describes them. Scores that are high on femininity and low on masculinity are considered feminine; scores that are high on masculinity and low on femininity are considered masculine;

scores that are low on masculinity and femininity are considered undifferentiated; and scores that are high on femininity and masculinity are considered androgynous. The BSRI has good reliability. Brown (2010) notes that the measure has for females a Cronbach's alpha of .75 for the Femininity scale and .87 for the Masculinity scale; for males, .78 for Femininity and .87 for Masculinity. The BSRI was chosen over the Extended Personal Attributes Questionnaire (Spence, Helmreich & Holahan, 1979) due to its basis in gender schema theory and clear delineation between biological sex and gender presentation and identity.

Demographics questionnaire. A general demographics survey, which contained such items as biological sex, age, etc., was given to participants.

Design

This study utilized a 2 (presence of experimenter) x 2 (recall setting) x 2 (sex) x 4 (gender) between-subjects overall design in which the presence of the experimenter (EP or ENP) and the setting (G or I) was manipulated via random assignment. In cases where a minimum of three participants were not present for the group condition, the remaining participants were treated as though they were assigned to the individual condition.

Results

Given the import concerning self, social context, and mode of recall the goal of the present study was to explore how the presence of an experimenter, setting, sex, and gender interacted to directly shape contents and the structure of autobiographical memory narratives. After coding and tabulation of all narrative data, word counts for the respective content categories were converted into proportions (relative to narrative length) for on-task words. Only proportional data was analyzed here. In the following section, only results of significant main effects and interactions are reported (where $p<.05$).

The Bem Sex Role Inventory was scored manually in accordance with the method suggested by the scoring manual (Bem, 1981b) by summing each scale and dividing by the number of rated items. Participants were then categorized, as shown in Table 2, on the basis of median splits: if participants scored above the sample median on femininity but not masculinity they were classified at feminine; those who scored above the sample median on masculinity but not femininity were categorized as masculine; those who scored above the sample median on both were classified as androgynous; finally, those who scored below the sample median on both masculinity and femininity scales were classified as undifferentiated.

Table 2
Participant Gender Identity

Measure	*Feminine*	*Masculine*	*Undifferentiated*	*Androgynous*	*Overall*
N	50	42	33	60	185
Sex F | M	46 | 4	23 | 19	20 | 13	42 | 18	131 | 54
F | M % within sex*	35.1 | 7.4	17.6 | 35.2	15.3 | 24.1	32.1 | 33.3	100 | 100

*Note: F/M % within sex indicates percentage of women and men falling into each gender category

Separate 2 x 2 x 2 analyses of variance (ANOVA) were performed on narrative length, theme, content and structure, respectively, using Presence (EP or ENP), Setting (G or I), and Sex (M or F) as independent variables. Additionally, separate 2 x 2 x 4 ANOVAs examined narrative length, theme, content and structure, respectively, using Presence (EP or ENP), Setting (G or I), and Gender role (feminine, undifferentiated, androgynous and masculine). All data was analyzed using SPSS software.

Narrative length

Table 3 depicts the mean length of narratives when sex is a variable. It appears that women wrote longer narratives than men did, and is this supported by the statistical results.

Table 3
Mean Length of Narratives by Presence, Setting, Sex.

Word Count	Presence	Setting	Total
	EP | ENP	*I | G*	
Male	140.71 | 148.43	143.26 | 145.93	160.8
Female	170.94 | 174.29	169.49 | 183.53	167.83
Total	160.86 | 167.83	162.18 | 171.00	164.32

For the ANOVA that included participants' sex category as a variable: A main effect was found for sex [$F(1, 185)= 9.458, p = .002, \eta^2_p =.051$]. A follow-up t-test indicated that women wrote lengthier narratives than men did [$t(183) = 3.201, p = .002$]. No interactions or other main effects were found to be significant (Presence $p = .327$; Setting $p = .397$).

Table 4 below depicts the mean length of narratives when gender is a variable.

Table 4
Mean length of Narratives by Presence, Setting, Gender

Word Count	Presence	Setting	Total
	EP| ENP	*I / G*	
Masculine	163.29 | 163.94	165.85 | 159.88	163.67
Feminine	176.84 | 181.76	176.48 | 190.60	179.30
Androgynous	155.11 | 167.76	157.29 | 181.17	162.07
Undifferentiated	143.06 | 150.56	145.54 | 151.00	146.70
Total	160.86 | 167.83	162.18 | 171.00	164.32

Regarding the ANOVA where participants' gender identity as a variable, no interactions were found, nor were there any significant main effects (Presence $p = .380$; Setting $p = .312$; Gender $p = .156$).

Narrative content

Overall emotionality

The hypothesis concerning narrative contents was partially supported by results. Word counts for emotionality are shown below in Table 5, and visualized in Figure 1.

Table 5
Total Emotionality by Presence, Setting, Sex, and Gender

Emotion Words	Presence	Setting	Sex	Gender
	EP | ENP	*I | G*	*M | F*	*M | F | U | A*
Positive	95 | 58	109 | 44	39 | 114	29 | 47 | 25 | 52
Negative	147 | 135	211 | 71	57 | 225	56 | 97 | 45 | 84
Overall	242 | 193	320 | 115	96 | 339	85 | 144 | 70 | 136

When analyzing the effects of presence, setting and participant sex, no significant main effects were found for Presence ($p = .634$), Setting ($p = .724$), or Sex ($p = .116$). However, we did find a significant interaction between Setting x Sex [$F(1, 185) = 4.800, p = .030, \eta^2_p = .026$]. Follow-up testing for men approached significance, indicating that men demonstrated more emotionality in the individual rather than in the group condition [$t(52) = 1.76, p = .084$], as shown below in Figure 1.

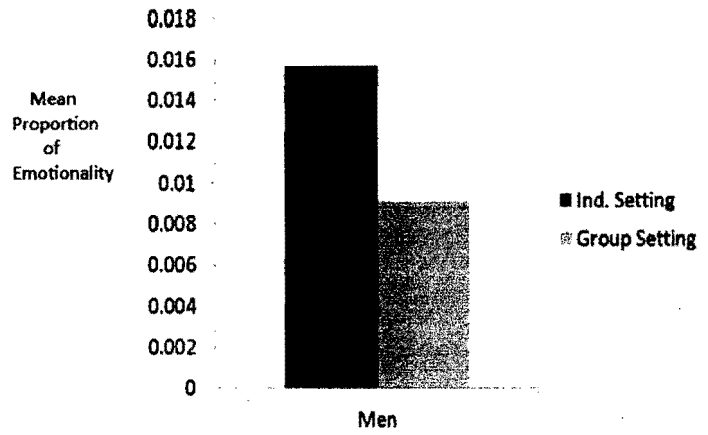

Figure 1: Effect of Setting and Sex on Overall Emotionality

Results of the Presence x Setting x Gender ANOVA revealed no significant main effects for Presence ($p = .712$), Setting ($p = .421$), or Gender ($p = .097$), but a significant interaction was found for Setting x Gender [$F(3, 185) = 3.421, p = .019, \eta^2_p = .057$] . As shown in Figure 3, Feminine individuals wrote more emotion words in the group setting as opposed to the individual setting [$t(51) = 2.74, p = .008$. Other gender groups did not largely differ in their use of emotion words in terms of setting.

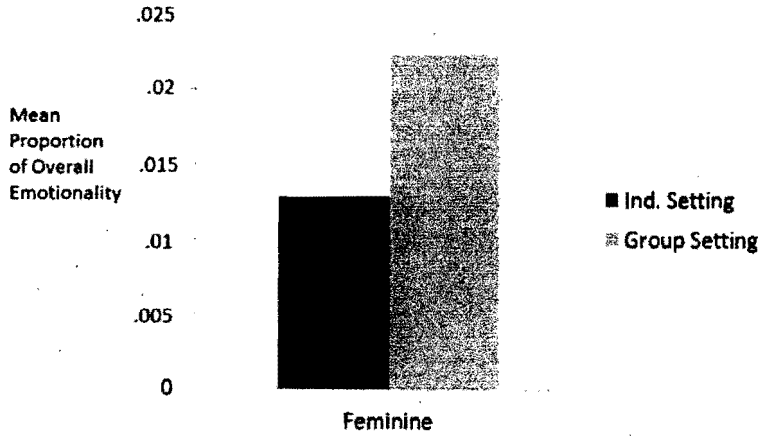

Figure 2: Effect of Setting and Gender on Overall Emotionality

Positive emotionality

No significant main effects or interactions were found in the 2x2x2 ANOVA employing participant Sex as a factor Presence ($p = .385$), Setting ($p = .598$) or Sex ($p = .668$).

The 2x2x4 ANOVA that included participant Gender also revealed no significant main effects or interactions, of Presence ($p = .283$), Setting ($p = .319$), or Gender ($p = .492$).

Negative emotionality

For the 2x2x2 ANOVA (with Sex as a factor) no significant main effects were discovered for Presence ($p = .949$), Setting ($p = .330$), or Sex ($p = .094$), but the Setting x Sex interaction was indeed significant [$F(1, 185) = 4.621, p = .033, \eta^2_p = .025$] . Men used more negative-valenced words in the individual setting as opposed to the group setting [$t(52) = 2.17, p = .034$]. See Figure 3 for depiction of this effect.

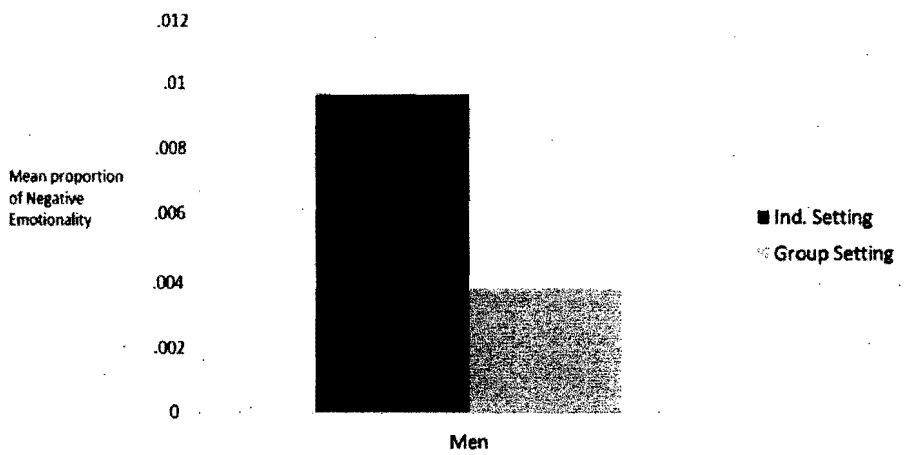

Figure 3: Effect of Setting and Sex on Negative Emotionality

With regard to the factor of participant Gender, a 2x2x4 ANOVA showed no significant main effects for Presence ($p = .862$), Setting ($p = .901$), or Gender ($p = .248$). The three-way interaction approached significance, [$F(3, 185) = 2.571, p = .056, \eta^2_p = .044$] .

As may be seen in Figure 4 (below), Feminine individuals for the most part did not differ in their use of negative emotion words in the presence of the experimenter in the individual setting, but expressed more negative emotions in the presence of a group with the experimenter absent [$t(24) = -3.22, p = .004$]. Masculine individuals largely did not differ in their use of negative emotion words in the presence of a group regardless of experimenter presence, but did use more negative emotion words in the individual setting when the experimenter was present [$t(23) = -2.38, p = .026$]. Undifferentiated individuals expressed a greater number of negative emotion words in the individual setting when the experimenter was absent [$t(24) = 2.11, p = .045$], but expressed more negative emotionality in the group setting when the experimenter was present, though a follow-up *t*-test did not reach significance. Interestingly, androgynous individuals wrote more negative emotion words in the individual setting when the experimenter was present [$t(46) = -2.19, p = .033$], and utilized slightly more negative emotions in the group setting when the experimenter was not present, though follow-up testing did not reach significance. See the Figure 4 below for a depiction of this interaction.

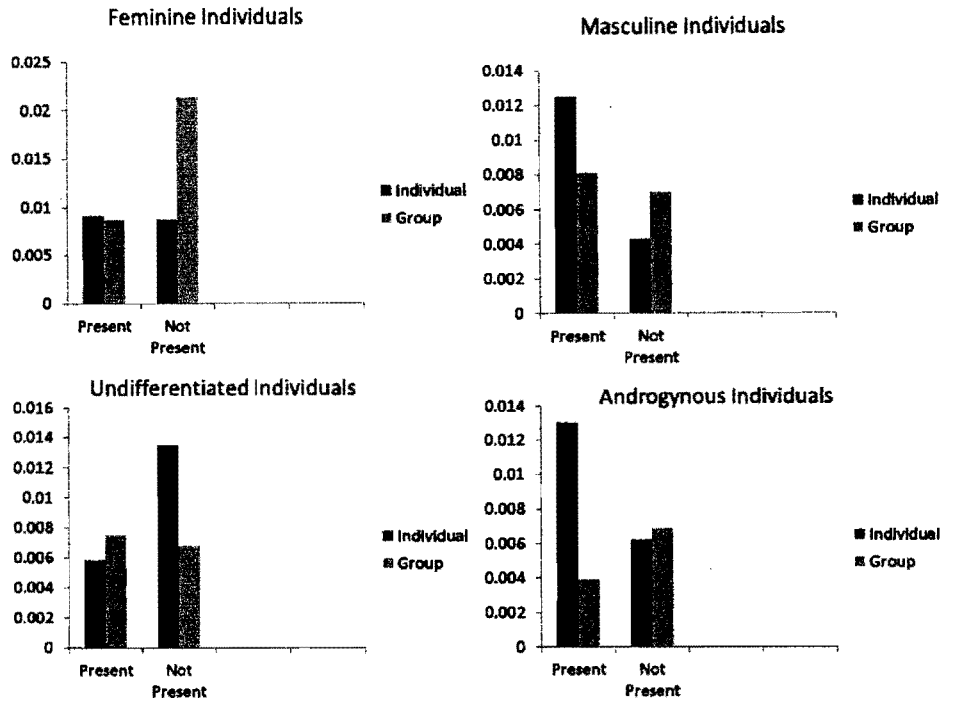

Figure 4: Effect of Presence, Setting, and Gender on Negative Emotion

Narrative structure

Details. The ANOVA employing the variable of participants' sex yielded a main effect for Setting [$F(1, 185) = 4.108, p = .04, \eta^2_p = .023$]. A follow-up t-test indicated that participants in the individual setting wrote more details than those in the group setting [$t(183) = 2.066, p = .040$]. No other main effects or interactions were significant (Presence $p = .098$, Sex $p = .582$).

A main effect for setting was also found when computing an ANOVA using participant gender as a variable: Setting [$F(1, 185) = 5.111, p = .025, \eta^2_p = .029$]. A follow-up t-test indicated that participants in the individual setting wrote more details than those in the group setting [$t(183) = 2.066, p = .040$]. No other significant main effects or interactions were significant (Presence $p = .217$; Sex $p = .823$).

Narrative theme

The number of narratives (out of a total of 185 narratives) that were distributed across variable conditions is displayed below, in Table 6.

Table 6
Narrative Theme Breakdown for Presence, Setting, Sex, and Gender

Theme	Presence (EP | ENP)	Setting (I | G)	Sex (M | F)	Gender (M | F | U | A)
Individual	16 | 11	22 | 5	10 | 17	4 | 6 | 5 | 12
Social	77 | 81	118 | 40	44| 114	38 | 44 | 28 | 48
Total	93 | 92	140 | 45	54 | 131	42 | 50 | 33 | 60

For the ANOVA exploring participants' biological sex as a variable of interest: No significant main effects were found (Presence $p = .177$; Setting $p = .369$; Sex $p = .499$). No interactions were found between factors.

Regarding the ANOVA which examined the effect of participants' gender identity: No significant main effects were found (Presence $p = 3793$; Setting $p = .628$; Gender $p = .580$). However, an interaction of Setting x Gender approached significance [$F(3, 185) = 2.439, p = .066, \eta^2_p = .041$].

Androgynous individuals wrote more socially-themed narratives in the group setting, with a follow-up t-test approaching significance [$t(58) = 1.96, p = .054$], whereas masculine individuals wrote more socially-themed narratives in the individual setting as opposed to those produced in group contexts [$t(37) = 2.24, p = .031$]. This is shown below in Figure 5. Follow-up testing concerning feminine and undifferentiated individuals did not reach significance.

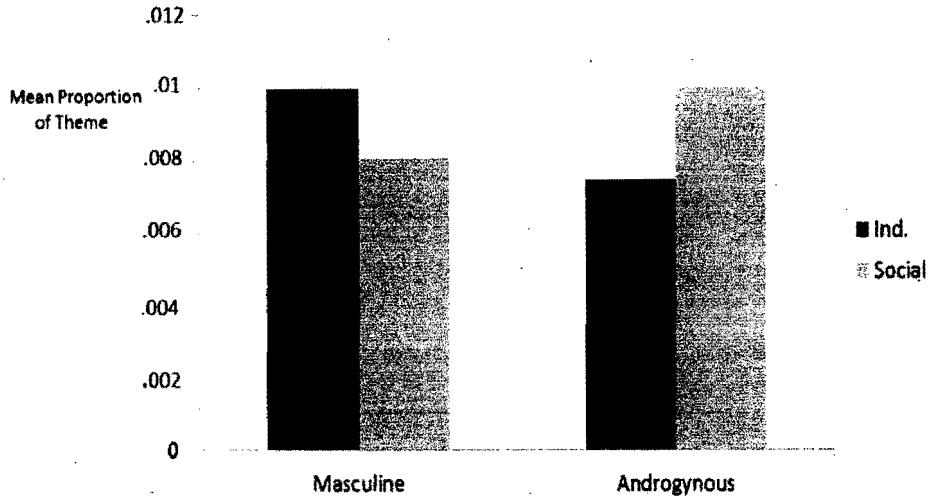

Figure 5: Effect of Setting and Gender on Theme

Discussion

To summarize general patterns, overall, fewer participants self-identified as having masculine or undifferentiated gender identities than the other two categories (feminine and androgynous types). Also, on average, most individuals reported more social themes than individual themes. The contents of the narratives themselves were emotional and detailed, even while being fairly typical in terms of length. The significant and non-significant findings reported in this study are somewhat consistent with previous studies, but in a few cases there remain some discrepant patters worth exploring. Table 7 outlines significant findings from this study, and table 8 summarizes the Presence x Setting x Gender interaction for negative emotionality, showing which factors lead to the greater usage of negative emotion words by gender group.

Table 7

Summary of Significant Results

	Length	Overall Emotionality	Negative Emotionality	Structure	Theme
Audience					
Setting		Men used more emotion words in the individual setting	Men used more negative emotion words in the individual setting	Participants wrote more details in the individual setting	
Sex	Women wrote longer narratives than men				
Gender		Feminine individuals used more emotion words in the group setting			Androgynous individuals wrote more socially-themed narratives in a group setting; Masculine individuals wrote more socially-themed narratives in an individual setting

Table 8

Summary of Three-Way Interaction for Negative Emotions

	EP	ENP	I	G
Feminine		✓		✓
Masculine	✓		✓	
Undifferentiated		✓	✓	
Androgynous	✓		✓	

Narrative length

This study found that women on average wrote lengthier autobiographical narratives than men did. This is consistent with previous research (Bauer, Stennes, Haight, 2003; Ely & Rand, 2008). But unlike Cvasa (2007), this study did not find any interactions between sex and social setting; specifically, we did not find that males wrote more in the individual setting than in the group setting. It is likely that women's longer narratives are a reflection of broader socialization factors that encourage females to be more elaborative (Ely & Rand, 2008; Fivush & Nelson, 2004; Haden, Haine & Fivush, 1997; Pasupathi & Wainryb, 2010). The presence of the experimenter, the social setting, and gender role did not appear to influence the length of participants' narratives. It is possible that the apparent conflict between the present results and those of Cvasa may be due to participants' portrayals of expected sex role socialization. That is, external factors such as others' responses due to the participants' biological sex over the course of their lives—rather than their internal sense of gender identity—may have influenced this discrepancy. Regardless of how individual's felt about their roles, they may nonetheless have written stories typical of the stereotyped male or female, even if self-perceptions of their personality traits might not have shaped individuals' experiences or recollections of their beginning college stories.

Narrative content

Overall emotionality

No significant results were found for presence, setting, sex, or gender. However, interactions were found for both Setting x Sex and Setting x Gender. Women wrote more overall emotion words in the group setting than in the individual setting (a finding that would confirm stereotypical expectations), and men expressed more emotionality in the individual setting (also

consistent with stereotypes). Again, it is possible that social expectations played a role in these results. Women may have felt heightened expectations to present more emotionality when in the presence of others. In keeping with Cvasa's (2007) work, men may have been more comfortable expressing their feelings while writing in absence of peers rather than disclosing them in group situations.

As discussed, it is clear that there were fewer participants who self-identified as masculine or undifferentiated individuals than the other two categories (feminine and androgynous types). Masculine and undifferentiated individuals did not vary significantly in terms of the amount of emotion words they used in their memories whether written alone or in a room with others. However, feminine individuals wrote more emotion words in the group setting as opposed to the individual setting. In the opposite direction, androgynous individuals used more emotion words in the individual setting than in the group setting. This is similar to the pattern discovered for overall word length. It is possible that in the individual setting participants' preference for disclosing to a female researcher (Clark, 1994) was pertinent. The sex of group members in the group condition was allowed to freely vary; the potential presence of men (Dindia & Allen, 1992) in a group may have inhibited the emotional disclosure of androgynous individuals.

Positive emotionality

No main effects were found for presence, setting, sex, or gender, and no interactions were found. This may be due in part to the prompt, as it related to a transitional life experience that may have contributed to the type of emotionality displayed in the narratives.

Negative emotionality

No main effects were found for presence, setting, sex, or gender. Interactions were found for Setting x Sex and approached significance for Presence x Setting x Gender. Women appeared to use more negative emotions words in the group setting, though follow-up testing failed to reach significance. Men, on the other hand, expressed more negative emotionality in the individual setting. As with overall emotionality, women may have felt more salient social pressures in the group setting compared to the individual setting, whereas men may have been more comfortable expressing themselves in the individual setting.

Findings for gender were not consistent with the hypothesis or previous research (Resenhoeft, 2011) that feminine and undifferentiated individuals would utilize for negative emotionality than other gender groups. Instead, results of the three-way interaction between Presence, Setting, and Gender, showed that each gender group used more negative emotions words in very specific circumstances, as can be seen above in Table 8. Thus, it is interesting in light of prior research that the perceived audience and social setting interacted in a way to inversely influence feminine and undifferentiated individuals. It is possible that, with regard to feminine individuals, the group setting rendered traditionally feminine gender roles more salient, which combined with the absence of a perceived authority figure may have influenced the amount of negative emotionality participants were comfortable writing. For undifferentiated individuals, the absence of a physical audience in the individual setting may have led to the greater expression of negative emotionality. In the group setting, it is possible that participants' preference for a female experimenter (Clark, 1994) may have led to the greater disclosure of negative emotionality in the group setting.

Both masculine and androgynous individuals wrote more negative emotion words in the individual setting when the experimenter was present as compared to what they wrote in the

group setting in the experimenter's absence. Again, this may relate to participants' preference for a female researcher (Clark, 1994).

Narrative structure

As predicted, participants wrote more detailed narratives in the individual setting as compared to in the group setting. Interestingly, there did not appear to be sex or gender differences in the use of descriptive words, which runs counter to prior research (Fivush & Nelson, 2004; Pasupathi & Wainryb, 2010). We believe, in hindsight, that perhaps the specific social circumstances of the participants and the prompt itself may have contributed to this similarity in descriptiveness across participants. It is possible that the specific prompt used in this experiment, which focused upon an academic achievement may have minimized differences, as it is possible that participants were socialized with relatively similar expectations and underwent similar experiences on their first day of university. In fact, a closer look into literature about this very issue lead the author to a study by Mello (2008) which reported little difference in the academic expectation of young adults and that educational achievement can reduce gender differences in educational expectation by 50%. That is, the participants may reflect a specialized population in which their internal gender identity (though not necessarily how they are treated by society as large due to their perceived sex role) differences in their current life situations may be downplayed.

Narrative theme

Experimenter presence, setting, sex, and gender did not appear to have an effect on whether a narrative was individually or socially focused. However, an interaction between setting and gender did approach significance. It may be that the group setting heightened social perceptions of gender differences, thus leading to feminine and androgynous individuals writing

more socially focused narratives in the group setting in comparison to the other gender categories, and masculine and undifferentiated individuals writing more socially-focused narratives individually, where gender expectations were likely less salient. Additionally, there was an uneven distribution of narratives themes, with 158 narratives, or 85.4%, being socially oriented, whereas only 27 narratives, or 14.6%, were individually-focused. This would seem to follow the same pattern as Cvasa (2007), in which participants seemed to produce more socially-themed narratives overall, with 76% of men and 83% of women producing socially-focused narratives as opposed to individually themed ones. While this pattern runs counter to what would be expected from prior research (e.g., Buckner & Fivush, 2000; Nakash & Brody, 2007), these results may be due to a combination of undergraduate participants and the prompt used.

Limitations and Conclusion

This study did not overall support the predicted results, specifically with regard to sex and gender differences. This could be due to a number of factors, including women signing up for the study at a higher rate than men, as well as an unbalanced ratio between participants in the individual setting versus the group setting. Further, the study has issues with power. The study did not reach its minimum *N* of 200 individuals or its optimal *N* of 240 participants. Among all statistically significant main effects, effect sizes were small. Additionally, as the study was limited to undergraduate students at a private university, it is possible that due to various socio-cultural factors sex and gender role differences may be minimized compared to the general population. Further, the measure used to assess gender roles is over twenty-five years old and may reflect outdated norms, particularly with regard to the sample population. Another consideration would be to examine the amount matches and mismatches between sex and gender categorization; for example, when a female is classified as masculine by the BSRI.

As this experiment combined aspects of two previous studies, recreating this particular protocol with a male experimenter could help explain discrepancies in these results. For example, it is possible that though individuals report a preference for disclosing to a female experimenter, a female experimenter may also be perceived as less authoritative than a male experimenter. This could potentially render the individual setting into a de facto social setting when a female experimenter is present. Other possible avenues on which to follow up include examining narratives recalled in same-sex versus mixed-sex groups, and providing the opportunity for participants to briefly reflect on their gendered socialization after narrative collection.

Additionally, eliminating the discrepancy between individual and group sign-up rates could add more illumination to potential narratives differences due to setting and audience factors. One aspect of concern relates to the way in which we address audience effects relates to the recall setting (whether individuals recalled memories alone, by themselves, or in a room with uninterested others doing the same task). An Alone/Group setting would enable the possibility of assessing the mere presence of others. The study design would be more insightful if a third factor were assessed, whereby participants were able to report whether others in the room in the group setting were known by the participants and the degree to which they were known (familiar others, close friends, or strangers).

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Appendices

Appendix A: Informed Consent

Appendix B: Experimenter Present Protocol

Appendix C: Experimenter Not Present Protocol

Appendix D: Bem Sex Role Inventory

Appendix E: Demographics Questionnaire

Appendix F: Participant Debriefing

Appendix G: Recruitment Flyer

Appendix A
Informed Consent Form

Title of Study: Who's listening? A study of the interplay of personal traits and autobiographical memory

Before agreeing to participate in this research study, it is important that participants read the following explanation of the study. This informed consent describes the purpose, procedures, benefits, risks, discomforts, and precautions of the study.

Researcher's Affiliation

Tracy Grogan is a graduate student in the Experimental Psychology program at Seton Hall University and is conducting this study for completion of her master's thesis. This study is under the advisement of Dr. Janine Buckner, Associate Professor and Director of Graduate Studies in the Department of Psychology at Seton Hall University.

Purpose and Duration

The purpose of this study is to investigate differences in how people recall a specific memory. The study will last approximately 20 minutes.

Description of Procedure

In this study, participants will complete a demographic sheet, which will ask specific questions regarding themselves (e.g. age, year in college, ethnicity, and biological sex). Each participant will also complete one questionnaire, where he or she will provide information regarding his or her personality. The participants will then be asked to recall a specific memory, which will be collected.

Instruments

Participants will be asked to take the Bem Sex Role Inventory (BSRI, 1981), which will ask questions regarding his or her personality traits.

Voluntary Nature

Participation in this study is voluntary. If a participant feels discomfort and wishes to discontinue, he or she may do so at any time by notifying the experimenter. At that time, their participation in the study will end and their information will be discarded. A decision to end the study will not result in any penalty to the participant.

Anonymity

Data will remain anonymous and will only be identified by a unique code that will be randomly assigned to the participant. This code will not be associated with the participant's name, so no one will be able to link the data to the participant.

Confidentiality

All data will remain confidential, and will be combined with others' data for analysis, such that each participant's individual data cannot be identified. In addition, data will be stored on a USB memory key in a locked, secure physical site in the Human Research Participants Lab in Jubilee Hall. Only the principal investigator in this study, Tracy Grogan, and her adviser, Dr. Janine Buckner, will have access to this data.

Extent of Confidentiality

No individual data will be reported, and results of this study will also be presented in group form. Access to the data will be restricted to the principal investigator, Tracy Grogan or her adviser, Dr. Janine Buckner.

Discomfort and Risks

There are no foreseeable risks or discomforts associated with taking these tests. Participants should not experience any stress.

Benefits

The study will not benefit participants directly; however, data collected from the study will be used to gain a better understanding of how individuals differ within narratives and personality criteria.

Compensation

There is no monetary compensation associated with this study. Participants in this study who are currently enrolled in Introduction to Psychology will receive half of a research credit applied to this class.

Referral

This study is not expected to cause undue stress. If a participant does feel extreme discomfort, it may be helpful to speak to a friend, family member, or professional at a counseling center. The University Counseling Center can be reached at (973) 761-9500. Participants are responsible for all costs of treatment.

Alternates

Participation in this study is voluntary. If a professor offers course credit for participation in this experiment, he or she may also offer a non-experiment alternative for course credit.

Contact Information

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Audio and Video-Tapes

No portion of this study will be audio-taped or video-taped.

Consent

Participants will receive a signed and dated copy of this form.

By signing this form, participants certify that they have read and understood the above material, and all questions have been answered to their satisfaction. They agree to participate, and realize that they may withdraw this consent at anytime without fear of prejudice or penalty. In addition, they certify that they are at least 18 years old.

_____ _____

Participant: (Print Name and Sign)

Appendix B

Experimenter Present Protocol

Choose a secret code number to identify yourself. The code number should be at least 4 numbers long and end with your mothers initials. To avoid numbers that other people might choose, you should not use your zip code, any part of your phone number, in case other people have similar numbers. Likewise, do not put numbers in a sequence (e.g., 1234, 8642), or use your birth year. After your mother's initials please place the letters "EP".

To give you an example, my mother's initials are JG so I might pick the number 8701JGEP.

Write YOUR Code Number here: _____

GIVE THE PARTICIPANT A PIECE OF SCRAP PAPER TO WRITE HIS/HER CODE DOWN FOR LATER USE!!

Say: **Please write your unique code on this piece of paper because you will be using again at the end of the research.**

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

Do you have any questions?

Instructions:

READ THE FOLLOWING TO THE PARTICIPANT:
STATE: **I WILL BE READING THE DIRECTIONS TO YOU, SO ALL PARTICIPANTS GET THE SAME DIRECTIONS!**

Instructions:

I am interested in the study of autobiographical memories, that is, remembered experiences and personal events that occurred in a particular place and time that are ***not of a repeated nature***. I am interested in single memories of ***single*** experiences. These are memories of distinct moments in ***YOUR*** life that you are sure happened at a specific moment in your own personal history – not an event in someone else's life that you did not consciously experience. What I am going to ask is to recite about a particular experience in your life.

Provide example.

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!
Do you have any questions?

READ THE FOLLOWING TO THE PARTICIPANT!
MEMORY INSTRUCTIONS:

STATE: **YET AGAIN, I WILL BE READING THE DIRECTIONS TO YOU, SO ALL PARTICIPANTS GET THE SAME DIRECTIONS!**

1. Please start up the computer if you already haven't done so.
2. Open Microsoft Word
3. At the top of the new Word document, please type:
4. Your code number (and hit enter)
5. **"SHU MEMORY"** (and hit enter a few more times)

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!
Do you have any questions?

SHU MEMORY INSTRUCTIONS:
***STATE:* I AM READING THIS TO YOU AGAIN.**

1. Now I want you to write about a very specific memory.

2. **Please use whole words**. Do not use any texting or shorthand language (e.g. BTW, 411, 2G2BT, and ROTFLMAO) while typing this memory:

3. We are not looking at spelling or sentence structure. You ***do not*** have to go back to correct or change anything you have written.

4. The researcher will be remaining in the room while you write your memory, but will not answer any specific questions.

5. The researcher will signal you when the memory recall segment of this research study is over.

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

Do you have any questions?

Please follow these instructions:

1. Now I want you to write about a very specific memory.

Please write about your first day at Seton Hall University.

State: **Please begin typing your memory into the provided computer into Microsoft Word.**

START TIME On Stop Watch.

Only say: **Is there anything else?**

If individual: If the participant continues to type more of his or her memory keep recording the time until either time runs out or the participant states he or she is done and there is nothing else, please tell them:

Thank you so much!

If group: Continue recording the time until either time runs out or all participants indicate that they have finished typing. Please tell them:

Thank you so much!

Proceed with to the next page.

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

SHU MEMORY:

1. You have now completed typing your memory. Please save the file by using your code number as the file name with the letters 'EP' after it. For instance, if your code number was 8701CK, you would save the file as 8701CKEP.

2. Once you have completed this memory, please signal to the experimenter who will save the document onto her flash drive:

This step is very important in that it ensures you will receive credit for participating in this experiment for your respective class!

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

Tell the participant:

Now I will need you to complete the next 14 pages of this packet.

I WILL BE LEAVING THE ROOM WHILE YOU COMPLETE THIS AREA, SO PLEASE COME AND GET ME ONCE YOU ARE DONE WITH THE NEXT 14 PAGES.

Please fill in every question on the following pages because incomplete data will be thrown out and not analyzed in this study. Please remember to include your code!
Thank you very much!

Appendix C

Experimenter Not Present Protocol

Choose a secret code number to identify yourself. The code number should be at least 4 numbers long and end with your mothers initials. To avoid numbers that other people might choose, you should not use your zip code, any part of your phone number, in case other people have similar numbers. Likewise, do not put numbers in a sequence (e.g., 1234, 8642), or use your birth year. After your mother's initials please place the letters "NP".

To give you an example, my mother's initials are JG so I might pick the number 8701JGNP.

Write YOUR Code Number here: _____

GIVE THE PARTICIPANT A PIECE OF SCRAP PAPER TO WRITE HIS/HER CODE DOWN FOR LATER USE!!

Say: **Please write your unique code on this piece of paper because you will be using again at the end of the research.**

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

Do you have any questions?

Instructions:

READ THE FOLLOWING TO THE PARTICIPANT:
STATE: **I WILL BE READING THE DIRECTIONS TO YOU, SO ALL PARTICIPANTS GET THE SAME DIRECTIONS!**
Instructions:

I am interested in the study of autobiographical memories, that is, remembered experiences and personal events that occurred in a particular place and time that are ***not of a repeated nature***. I am interested in single memories of ***single*** experiences. These are memories of distinct moments in ***YOUR*** life that you are sure happened at a specific moment in your own personal history – not an event in someone else's life that you did not consciously experience. What I am going to ask is to recite about a particular experience in your life.

Provide example.

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!
Do you have any questions?

READ THE FOLLOWING TO THE PARTICIPANT!
MEMORY INSTRUCTIONS:

STATE: **YET AGAIN, I WILL BE READING THE DIRECTIONS TO YOU, SO ALL PARTICIPANTS GET THE SAME DIRECTIONS!**

6. Please start up the computer if you already haven't done so.
7. Open Microsoft Word
8. At the top of the new Word document, please type:
9. Your code number (and hit enter)
10. **"SHU MEMORY"** (and hit enter a few more times)

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!
Do you have any questions?

SHU MEMORY INSTRUCTIONS:
***STATE:* I AM READING THIS TO YOU AGAIN.**

6. Now I want you to write about a very specific memory.

7. **Please use whole words**. Do not use any texting or shorthand language (e.g. BTW, 411, 2G2BT, and ROTFLMAO) while typing this memory:

8. We are not looking at spelling or sentence structure. You ***do not*** have to go back to correct or change anything you have written.

9. The researcher will leave the room before you begin to write. Please begin writing immediately after the researcher exits the room. The researcher will return when the memory segment of this research is over.

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

Do you have any questions?

Please follow these instructions:

2. Now I want you to write about a very specific memory.

Please write about your first day at Seton Hall University.

State: **Please begin typing your memory into the provided computer into Microsoft Word.**

EXIT THE ROOM and START TIME On Stop Watch.
If individual: Upon re-entering the room, announce that the writing period has ended, and please tell them: **Thank you so much!**
If group: Upon re-entering the room, announce that the writing period has ended, and please tell them:
Thank you so much!
Proceed with to the next page.

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

SHU MEMORY:

3. You have now completed typing your memory. Please save the file by using your code number as the file name with the letters 'NP' after it. For instance, if your code number was 8701CK, you would save the file as 8701CKNP.

4. Once you have completed this memory, please signal to the experimenter who will save the document onto her flash drive:

This step is very important in that it ensures you will receive credit for participating in this experiment for your respective class!

PLEASE DO NOT TURN THE PAGE UNTIL I ASK YOU TO DO SO!

Tell the participant:

Now I will need you to complete the next 14 pages of this packet.

I WILL BE LEAVING THE ROOM WHILE YOU COMPLETE THIS AREA, SO PLEASE COME AND GET ME ONCE YOU ARE DONE WITH THE NEXT 14 PAGES.

Please fill in every question on the following pages because incomplete data will be thrown out and not analyzed in this study. Please remember to include your code!

Thank you very much!

Appendix D Code: _____

Bem Sex Role Inventory- Rate yourself on each item, on a scale from 1 (never or almost never true) to 7 (almost always true).

1. self reliant

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

2. yielding

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

3. helpful

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

4. defends own beliefs

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

5. cheerful

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

6. moody

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

7. independent

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

8. shy

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

9. conscientious

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

10. athletic

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

11. affectionate

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

12. theatrical

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

13. assertive

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

14. flatterable

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

15. happy

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

16. strong personality

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

17. loyal

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

18. unpredictable

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

19. forceful

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

20. feminine

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

21. reliable

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

22. analytical

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

23. sympathetic

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

24. jealous

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

25. leadership ability

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

26. sensitive to other's needs

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

27. truthful

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

28. willing to take risks

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

29. understanding

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

30. secretive

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

31. makes decisions easily

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

32. compassionate

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

33. sincere

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

34. self-sufficient

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

35. eager to soothe hurt feelings

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

36. conceited

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

37. dominant

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

38. soft-spoken

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

39. likable

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

40. masculine

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

41. warm

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

42. solemn

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

43. willing to take a stand

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

44. tender

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

45. friendly

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

46. aggressive

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

47. gullible

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

48. inefficient

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

49. acts as a leader

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

50. childlike

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

51. adaptable

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

52. individualistic

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

53. does not use harsh language

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

54. unsystematic

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

55. competitive

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

56. loves children

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

57. tactful

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

58. ambitious

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

59. gentle

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

60. conventional

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Please proceed to next page

Appendix E

Demographics Questionnaire

Please fill in or answer each question below. Your data will remain confidential and will only be identified by your individual participant code.

Information about yourself:

1) Age: _____

2) Sex: _____

3) Year at Seton Hall (circle one): 1st 2nd 3rd 4th Other _____

4) Ethnicity: (please check or indicate)

Asian American: _____

African American: _____

Caucasian: _____

Hispanic/Latino: _____

Native American: _____

Other (indicate): _____

5) Are you a U.S. citizen? If not, what is your country of origin? _____

6) Socio-economic status (please check which best describes your family as you were growing up):

Upper class: _____

Middle-Upper class: _____

Middle class: _____

Lower-Middle class: _____

Lower class: _____

7) Do you have corrected vision? Y or N

If yes, did you remember to bring your glasses/contacts? Y or N

8) Are you currently sick with an illness or taking any medication that affects your vision, level of attention, or other cognitive abilities? Y or N

9) Do you have a language or learning disability, dyslexia, or any other conditions that may affect your ability to read from a short distance?

Y or N

Please proceed to next page

Please characterize your typing skills below:

1) Circle one: I type… faster than most people average slower than most

2) Circle one: How does your typing compare to your friends: faster slower same

3) Circle which ever you use (circle either Y or N) Do you use:

Facebook?	Y	or	N
Twitter?	Y	or	N
Other social media?	Y	or	N
IM?	Y	or	N

4) If yes, how often do you use these programs on the computer in a typical week? _____

5) If yes, do you use a lot of texting and shorthand language or do you type everything out for the most part? _____

6) Are you more comfortable using a computer to type or talking to a person directly?

Type or Talk

7) Why?_____

_____

_____

8) How many hours a week do you use a computer to do school work? _____

9) How many hours in a week do you think you use your computer for games?_____

10) How many hours in a week do you think you use your computer for Facebook/Twitter/other social media/IM?_____

_____

You are done! Get the researcher!

Appendix F

Participant Debriefing

Title: Who's listening? A study of the interplay of personal traits and autobiographical memory

Principal Investigator: Tracy Grogan
Graduate Student, Experimental Psychology
Seton Hall University

Contact: tracy.grogan@student.shu.edu

This information is being provided to you because you participated in research involving human participants.

Purpose of the Research

The purpose of this study was to investigate the effects that gender identity (masculinity, femininity, androgynous, and undifferentiated) has on an individual's recall of a specific memory. The present study also investigated the difference between setting and audience in terms of extracting this memory (group or individual setting, and the presence or lack thereof of the experimenter).

A 2x2 design was used, in which participants could be placed in either an individual or group setting to recall their narratives; additionally, participants were randomly assigned as to whether or not the experimenter would be present during narrative recall. This design was used to set up different conditions to explore the differences in how social setting and perceived audience can affect a specific narrative, as well as explore gender differences among masculine, feminine, androgynous (high in both masculine and feminine traits), and undifferentiated (low in both feminine and masculine traits) identified individuals. The present study measured narrative differences in terms of emotionality, narrative structure, narrative length, and narrative theme.

The present study is predicting that overall, participants will write more in the individual setting as compared to the group setting. Additionally, women's narratives will contain more social themes than men's narratives, as well as include more adjectives and adverbs. These sex differences may also be mirrored in a similar difference between gender groups (feminine-identified vs. masculine-identified individuals). Moreover, it is expected that feminine-identified narratives will reflect more social themes as compared to masculine, androgynous and undifferentiated individuals. It is anticipated that feminine and undifferentiated participants will express a greater number of negative emotions words in their narratives compared to masculine and androgynous individuals

Materials:

Bem Sex Role Inventory (Bem, 1981)
This is a measure that identifies the strength of gender identity by assessing positive and negative masculine and feminine characteristics. Scores based on each of the scales (positive/negative masculine and positive/negative feminine) were calculated.

If you have any questions about the study or how your data will be used, please contact the principal researcher, Tracy Grogan, at tracy.grogan@student.shu.edu

Please do not disclose research procedures and hypotheses to anyone who might participate in this study as this could affect the results of the study. Thank you for your participation in this study.

Appendix G
Recruitment Flyer

Title of Research: Who's Listening? A Study of the Interplay of Personal Traits and Autobiographical Memory

Principal Investigator: Tracy Grogan (tracy.grogan@student.shu.edu)
Graduate Student, Experimental Psychology, Seton Hall University

Faculty Adviser: Janine Buckner (Janine.Buckner@shu.edu)
Associate Professor, Director of Graduate Studies, Seton Hall University

Location: Jubilee, Room 368

Number of Credits: .5 credit

Brief Study Description: In this study, we will be investigating how individuals remember past events. This study will ask the participants to recall a specific event. This study should take approximately 20 minutes.

What to Expect: During this experiment, you will complete two questionnaires. The first questionnaire will collect general background information and the second will collect aspects of your personality. To gather the general information a demographic questionnaire will be used. To gather the personality information the Bem Sex Role Inventory (1981) will be used. The researcher will then ask for the participant to recall a specific memory, which will be collected. Please bring your University-issued laptop computer with you in order to participate in this study.

Duration: 20 minutes

What will happen to data: All data will be collected. There will be no way of identifying a particular participant within the data

Who is eligible: All undergraduate students are eligible.

Need to cancel an appointment? If you need to cancel your appointment, please e-mail Tracy Grogan at tracy.grogan@student.shu.edu