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Tall Tales: Editing Autobiographical Memories

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Abstract

The impact of exaggerating when sharing an autobiographical memory with another person was investigated. Literature indicates that sharing an autobiographical memory serves a social function. However no research has investigated the impact that exaggerating when sharing specific memories has on this function. Research on lying suggests that deviating from the truth would cause the listener to like the speaker less. Research on what makes a good story indicates deviating from the truth could enhance the social benefits of sharing specific autobiographical memories by increasing the quality of the story. In Study 1, participants read scenarios of a person telling a story about a previous experience. The events were shared in complete honesty, by exaggerating the events, or by adding outrageous, yet entertaining, lies. Results indicated that participants prefer entertaining stories but do not like lies. In Study 2 participants were instructed to recall the events of a video to another participant in an entertaining way, an accurate way, or without any instructions. Results indicated the use of exaggeration, personal evaluations, and less details when recalling events in an entertaining way. Telling events in an entertaining way increased closeness and predicted liking. Participants' perceptions of accuracy also predicted liking. Together these findings indicated that exciting stories are preferred over boring tales if the listener is unaware of any deviations from the actual facts.

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Tall Tales: Editing Autobiographical Memories

The movie *Big Fish* (Cohen, Jinks, Zanuck, & Burton, 2003) centers on the extraordinary events of Edward Bloom's life that he comes to tell his son. He tells of meeting a giant who helped to save his life, coming face to face with a witch who predicts the future, and even how time actually stopped when he saw the love of his life for the first time. Although these tales are clearly far fetched, there was some truth to them that becomes evident at the end of the film. The main points were all truly derived from autobiographical memories, memories of specific, self relevant events in one's life. Interestingly, only the man's son, Will Bloom, seems particularly bothered rather than entertained by these exaggerations. Everyone else enjoys hearing these tall tales.

Edward was perhaps extreme in his exaggerations of his previous experiences. However it is a common occurrence that people share their autobiographical memories as stories that deviate from the truth (Marsh & Tversky, 2004). Despite this commonality, the impact that these essential lies have on the relationship between the storyteller and listener and on the perception of the storyteller are not clearly understood. Although lying is frowned upon in western culture, it is possible that the ability to lie in a convincing and entertaining way while sharing a previous experience would be perceived as a social skill rather than condemned as an antisocial behavior.

Functions of Autobiographical Memory

For decades there was little research that focused on why humans have such intricate memories of their previous experiences. Traditionally, research on memory focused on the mechanisms that allow humans to be successful at remembering their previous experiences, and the apparent follies of the memory system, (Bluck, 2003; Bluck, Alea, Habermas, & Rubin, 2005). The important question of why humans have evolved this unique ability to easily

remember all of their experiences was not the question that many researchers aimed to answer until Neisser (1978, 1997) suggested that the functional reason for having such an intricate memory system could be, and perhaps should be, the question that memory researchers seek to answer. It was suggested that understanding why humans are able to recall the majority of their previous experiences could explain much of the mystery surrounding memory.

After this proposition, more and more researchers attempted to look into the important functions that autobiographical memory serves. Today there are three proposed functions that are widely accepted among the literature; the self function, the directive function, and the social function (Bluck & Alea, 2002; Bluck, 2003). The self function of autobiographical memory allows a person to form and maintain a sense of self over time (Conway & Pleydell-Pearce, 2000; Habermas & Bluck 2000; Lampinen, Beike, & Behrend, 2004). The directive function of autobiographical memory includes instances when memories of previous experiences direct future behavior (Kuwabara & Pillemer, 2010; Pillemer, 2003; Phillippe, 2013).

The last proposed function of autobiographical memories, the social function, is the most relevant to the research being discussed here. The social function encompasses sharing previous memories with another person, as well as reflecting upon previous experiences that involved another person (Alea & Bluck, 2003; Bluck & Alea, 2009; Nelson, 1993). It has been proposed that the social function of autobiographical memory is so encompassing it should be divided into two dimensions; one being the external sharing, and the other being the internal thoughts that increase intimacy (Rasmussen & Habermas, 2011). As social creatures, humans utilize the social function of autobiographical memories constantly. The social function is relied upon in a myriad of social interactions and many solitary activities (Bluck, Alea, Habermas, & Rubin, 2005).

For as often as the social function of autobiographical memory is utilized in everyday life and theorized about in literature, there has been surprisingly little empirical research examining the social function of autobiographical memory. Much of the literature is based on self-reports that simply ask participants to give their reasons for recalling autobiographical memories (Bluck, Alea, Habermas, Rubin, 2005; Cappeliez, O'Rourke, & Chaudhury, 2005; Rasmussen & Habermas, 2011).

In one such self-report study that compared the use of autobiographical memory in older and younger adults, Bluck and Alea (2009) found that all adults, no matter what their age, reported an equivalent amount of time thinking and talking about the past in order to serve a social function. Unlike the directive and self function, which were utilized more by the younger adults, the social function of autobiographical memory was utilized equally across all age groups.

In one of the few experiments focused on examining the internal intimacy social function of autobiographical memory, Alea and Bluck (2007) asked participants to think of a previous experience that they had with a romantic partner. Results indicated that by simply thinking of a positive memory that included their romantic partner, participants reported an increase in the feelings of warmth and intimacy for their partner, even in the absence of the partner. It was further discovered that women in their sample were able to improve their perception of the relationship after focusing on just two positive memories in a laboratory setting.

This makes it clear that autobiographical memories can have a powerful effect on social interactions, present or future. However autobiographical memory usage in everyday conversations was not investigated. The everyday use of autobiographical memory was examined in a study conducted by Pasupathi, Lucas, and Coombs (2002). The researchers

analyzed conversations of long-time married couples who were asked to either discuss a positive event or an argument that was recorded for another experiment. By examining these recorded conversations, and looking at the role autobiographical memories played in the discussion, the researchers found that when couples brought up previous events in conversation they often spent time checking facts with each other, and then seemed to be reliving the previous experience through their conversation. These findings of using previous experiences in conversation with another in order to relive them together support a social function of autobiographical memory use. However due to a lack of measures before and after the recorded conversation, the impact that discussing these memories had on the conversation or relationship was not clear in this research.

In an experiment that examined the impact of sharing autobiographical memories in conversations, Cole, Beike, and Wentling (2014) found that sharing specific autobiographical memories with a stranger increased feelings of closeness, compared to a neutral nonself fact listing condition. In contrast, sharing general facts about the self did not have a significant impact on the levels of closeness the strangers felt to each other when compared to the control condition. These results support the theorized social function of autobiographical memory, indicating that the sharing of specific autobiographical memories could not only play a role in maintaining current relationships, but in developing new bonds among strangers. This research makes an important distinction between sharing specific episodic memories, and general facts about oneself which rely on semantic memory. Indicating that there is a special social function that sharing specific memories about previous events serves.

In the movie *Big Fish* (Cohen, Jinks, Zanuck, & Burton, 2003), discussed at the beginning of this paper, Edward uses the social function of autobiographical memories when he

shares his previous experiences with his family. He wants to be closer to his friends and family, and he enjoys being entertaining. However, he does so in an interesting way. He exaggerates all of his memories so that his narratives are more entertaining and engaging rather than truthful. Like many people in everyday life, Edward transforms his memories of specific events in his life into amusing stories that he shares with his friends and family. Although research suggests that sharing specific autobiographical memories should increase closeness, there has been no research that has investigated the impact that changing the facts could have on the relationship or the perception of the person sharing their memories.

Telling Good Stories

Telling stories is a common occurrence in society; it is one of the few human activities that transcends generations and cultures (Baron, Bluck, 2009; Kulofsky, Wang, Koh, 2009). These stories are most commonly derived from a specific autobiographical memory. Most children begin sharing their autobiographical memories in the form of stories very early on, by at least age five (Harbermas & Bluck, 2000), and this type of sharing continues through out life. Sharing previous experiences in the form of stories is one human activity that appears in nearly every culture. It has been argued to be one of the mechanisms that keep societies united (Freeman, 2001; Strawbridge, 2005; Wang, 2004). It has even been argued that storytelling is one of the activities that help create human culture along with dance and music (Dunbar, Strawbridge, 2005).

Literature focusing on storytelling often explores the characteristics of stories that people use to differentiate between a good story and a bad story. Findings indicate that the best types of stories are detailed, center on personally significant events, contain coherence, goals, and follow a consistent plot (Baron & Bluck, 2009; Grice, 1975; McAdams, 2006; Schneider & Winship,

2002). Together this list of characteristics suggest that good stories are told in a linear order that makes sense to the listeners, and that exciting or interesting stories are preferred over boring tales. Although this description is far from surprising, it becomes difficult to live up to these expectations when sharing factual autobiographical memories. Real life experiences do not inherently have these qualities so they must be added when people remember and share their previous experiences.

In a large scale study examining the notion that people have an inherent understanding of what constitutes a good story, Baron and Bluck (2011) collected personal stories from adults of all ages that were centered on specific autobiographical memories of previous life experiences involving a romantic partner. Independent raters read all of the narratives and rated the stories on eight core dimensions. Six of these dimensions were found to work together to predict the raters' overall inherent opinion of the story. These findings were used to create the perceived story quality index, a standard tool to be used in research to rate stories, which can be used to measure this implicit judgment of stories. While it is argued that most people have a difficult time saying why a story is or is not good, this index pinpoints which stories are implicitly appealing. Ratings of the stories indicated that some people are better at transforming their specific memories into stories than others and that people can easily spot good and bad stories. The specific characteristics that made a storyteller successful at sharing their specific memory were not specified.

There has been a large set of literature investigating how story telling evolves through out the human lifespan. With few exceptions, this research finds that older adults tell stories that are rated as better when compared to stories told by a younger sample (Pasupathi & Mansour, 2006; Pratt & Robins, 1991). James, Burke, Austin, and Hulme (1998) found that older adults

elaborated more when retelling their autobiographical memories, and often went off topic. Despite this deviation from the story, their stories were rated as being better overall by independent untrained raters compared to the narratives given by younger adults. The reason behind this finding is unclear. It could be due to older adults having more practice transforming events into entertaining stories or to having a wider selection of autobiographical memories to choose to write about than younger adults.

The ability to tell a good story is also evident in people who possess a greater ability to be absorbed into created worlds. It has been found that people who score high on fantasy proneness, the tendency to daydream and fantasize, also possess greater story telling abilities (Merckelbach, 2004). In a study designed to look at the validity of using recalled childhood memories in court, Merckelbach (2004) found that participants who scored high in fantasy proneness were able to create stories that were rated as true on the CBCA, an index that detects truthfulness in stories that is often used in courts. Their stories, fake or real, were rated as globally better and more entertaining than stories recounted by individuals who scored low in fantasy proneness. These results suggest that creative abilities could be correlated with telling better stories.

Almost everyone knows what a good story is when presented with one. Whether this recognition is the result of some implicit ability or learned over time, there is no doubt that there are both positive and negative qualities within a story people can pinpoint. Because specific autobiographical memories are often shared in order to serve a social function, it seems likely that people gifted in social situations would master the ability to tell their previous experiences as interesting and entertaining stories. When discussing events about one's actual past however, a goblin cannot simply be added to spice things up like in a fairy tale. In these situations people

are describing real life events so they ultimately face a dilemma: be honest and perhaps boring, or share memories in a way that would be more entertaining.

Changing the Story

One way in which people make their personal stories of real life events more exciting is by exaggerating and lying. In a diary study, Marsh and Tversky (2004) asked undergraduates to keep a record of every time they shared a specific autobiographical memory with others. The students were asked to write down the story exactly as they told it and to keep track of whom they shared their stories with, as well as the setting in which the story was told. After the diaries were completed the students were asked to go back through their diary, and mark any story that deviated from the truth in any way. Results indicated that more than half of the autobiographical memories that the students shared were embellished or selective in some way. These findings make it clear that people are constantly editing their memories to share with other people. In fact, according to the above study, specific memories are being changed, at least in some way, as often as they are being shared in complete honesty.

It has been found that people often change the way they retell a story based on the listener and on the context in which the story is being told. Adams, Smith, Pasupathi, and Vitolo (2002) asked older and younger women to retell a story from memory to either a child or an experimenter. It was found that both age groups adjusted their retellings so that they told a more entertaining and simplified story to the children listeners than to the experimenter. In a similar study, Hyman (1994) found that participants told a more elaborative and evaluative story from memory when sharing with a peer as compared to an experimenter. Although deviations from the true story were not measured in either of these studies, it is clear that the participants did not

simply retell the story word for word but instead changed the story to better suit the social context.

In fact the simple presence of another person has been shown to influence the way in which a story is retold. Pasputhi, Stallworth, and Murdoch (1998) found that how participants retold the events that they witnessed on a video changed depending on how present the listener appeared to be to the participant. The mere presence of a listener elicited more elaborations and interpretations compared to a simple written retell conditions. Participants also told more elaborative stories and included more personal reactions in their retellings when the listener was attentive as compared to a distracted listener. These findings further indicate that people alter their stories to better suit the audience of listeners.

In an experiment designed to examine the impact that different contexts have on retellings and future recall of stories, Dudukovic, Marsh, and Tversky (2004), asked participants to either retell a story from memory in an entertaining way, in an accurate way, or not to retell it at all. The participants that were assigned to retell the story were asked to retell their stories into a video camera. Participants assigned to retell the story in an entertaining way included more exaggerations, more emotion, and more personal evaluations than participants assigned to retell the story in an accurate way. Not surprisingly, coders rated the stories retold in the entertaining condition as more entertaining, less accurate, and as containing more affect than the accurate condition. These findings provide support that people modify the way memories are shared depending on the goal for telling the story.

It is clear that people often change the way they retell events based on the audience to whom they are sharing and the goal they have for sharing the event. People do not stick to the exact facts when retelling previous events, stories, or videos. Details are added or exaggerated

and pieces are left out. This malleability of the facts is investigated in this research. In most other situations, changing the facts is considered wrong. However the impact that exaggerating or lying for the sake of the story has on the perspective of the storyteller and the relationship between the listener and the storyteller is unclear.

Perception of the Common Liar

Literature on lying suggests that liars are not viewed in a positive light (Backbier, Hoogstraten, & Terwogt, 1997; Pontari & Schlenker, 2006). As a society people do not approve of lying. Whereas honesty is readily admired as a characteristic that everyone should strive to achieve (Pontari & Schlenker, 2006). Lying is considered such a taboo that even at the age of four children rate telling lies as much worse than being honest (Bussey, 1999).

Together these findings form a picture that liars are perceived by others negatively. However, surprisingly little empirical research has been conducted that focuses on the listener's perception of someone who tells lies to him or her. In what the authors claim to be the first study focusing on a listener's perspective of a liar after being told a lie, Tyler, Feldman, and Reichert (2006), found support for the notion that people dislike liars. In this experiment, two participants who had never before met were asked to have a ten minute recorded conversation. After their conversation, the participants were randomly assigned to either watch the recording in order to indicate the any lies that they told or to rate the other participant on several measures. It was found that on average participants indicated that they told 2.18 lies during the conversation. The number of lies told during the conversation was found to be negatively correlated with how likeable the participant was rated. Although these findings are compelling, the types of lies that were told during the conversation were not recorded. It is likely that lies told during the first

meeting would be told in order to make a good impression. Lies told for this reason could easily come across as boasting.

It has also been found that third parties are willing to punish liars even if it means incurring a personal loss. In one experiment, Ohtsubo, Masuda, Watanbe, and Masuchi (2010) asked participants to observe two others play the trust game. Before the game began each player received an amount of money. The players were randomly assigned to act as an investor or a trustee. The players were told that they would have a chance to increase the amount of money they had been given. The player serving as the investor could give any amount of money to the player acting as the trustee, and the amount they hand over would be doubled. The trustee could then either give all of the reward back to the other participant, divide it in any way they wish, or keep all of the winnings to themselves. Before the investor sent over any winnings, the trustee would send a message that told the investor what he or she planed to do with the winnings and requested an amount. After the game was complete, the participant who watched the transaction, the observer, had a chance to take away winnings from the trustee for a price. Results indicated that the observer was willing to pay from their own winnings to punish the trustee if they told a lie about their plans for the money. This was the case even if the trustee fairly divided up the winnings, but had lied about their plans to the investor. These results indicate that even playing fair did not compensate for lying.

Who Tells Lies

Despite the dislike of lies and the liars that spread them, nearly every person admittedly lies approximately once a day (DePaulo, 2004). In a study conducted by Weiss and Feldman, (2006), participants were brought into a job interview that they believed to be real; the participants filled out applications and then participated in an interview. After the interview

participants were told that the job was not real, but a study. Despite being lied to about the potential job, the participants agreed to listen to their interview and indicate any lies that they told. It was found that on average participants admitted to telling 2.19 lies. Only 19% of the participants claimed to not have lied once. These results were based on participants listening to their interviews, and indicating each lie as it came up in the recording to an experimenter. Due to this method, the results likely represent the conservative estimate of the number of lies told during the interview.

Research focusing on people who often lie has resulted in a list of personality characteristics that the common liar likely possesses. Despite all of the supposed dislike of lying, these personality traits would indicate that liars are actually socially skilled and well liked. One of the consistent findings about who lies the most, is that people who are extraverted and more social are more likely to lie (Kristof-Brown et al. 2002; Weiss & Feldman, 2006). In fact Kashy and DePaulo (1996) found that the people who lied the most in their study tended to have the largest social circle. DePaulo (2004) found that the people whom told the most lies in everyday life rated high in manipulativeness, extraversion, and caring about how others view them. This combination of being outgoing, caring what others think, and understanding how to influence others, does not describe someone who people would be inclined to dislike; in fact the contrary seems to be true.

These personality characteristics that are often possessed by liars coupled with the reality that everyone lies surprisingly often, leads to the realization that liars must not suffer from as many social consequences as people would like us to believe. In fact it seems more likely that lying, at least in certain situations and in a careful manner, could be seen as a social skill that is often relied upon rather than as a trait to be condemned.

When Lying is Justified

Although lying in an interview situation, as participants did in the Weiss and Feldman's (2006) study described above, is unquestionably ethically wrong, there are situations in which lying does seem to be considered acceptable. One such situation is when the motives behind the lie are unselfish. If lies are told for someone else's benefit, and there is little for the liar to gain, then it is not generally considered such a misdeed to lie. Pontari and Schlenker (2006), asked participants to read a scenario in which Pat was put into a situation in which he/she was asked by a crush of his/her friend about the friend's personality. Pat knew the potential suitor preferred outgoing dates, but Pat's friend was a classic introvert. Pat was then faced with three options: Pat could be honest, Pat could lie, or Pat could stretch the truth. Participants indicated that they liked Pat the most when they read a scenario in which Pat lied or exaggerated in order to play wing man. This increase in liking was accompanied by a decrease in trust. Participants found Pat more trustworthy when he or she was honest, even if the honesty put his or her friend's desires in jeopardy, but liked Pat more as a person when a lie was told.

Another situation in which lying is not condemned is when a person is asked lies that they have told in the past. People often see their own lies as harmless and others' lies as damaging. People act negatively when they find out others lie; however they are not judgmental of their own lies even when they are told in the same situation (Backbier, Hoogstraten, & Terwogt-Kouwenhoven, 1997) In fact, the tendency to think of one's own deceptive tendencies in justifiable ways could be due to an avoidance of harming the self concept (Leblois & Bonnefon, 2013). Lying is considered morally wrong, so if one commits a lie, logically they should consider themselves a liar. Nevertheless, most people have a difficult time fitting being a liar into their self concept. In this case, the lying will often be justified, this justification is

referred to by Leblois and Bonnefon (2013) as the fudge factor, the wiggle room for justifying a lie if it is your own.

In the movie *Big Fish* (Cohen, Jinks, Zanuck, & Burton, 2003) Edward lied in order to make his stories about what happened in his life more interesting. The motive behind these lies could be construed as a selfish one, a desire to be liked, or an unselfish one, the desire to entertain his friends and family. In each of the stories he told about his life there was some kernel of truth involved; however, there is no research that suggests any deviation from the facts should be acceptable. In fact research has not investigated the impact that lying about specific autobiographical memories has on the conversation or relationship between the storyteller and the listener.

Statement of Problem

As Edward knew sometimes life can be boring but the events that happen do not have to be retold in a boring manner. It is clear from previous research that people often change the way they retell events based on the context and motive behind sharing the memories. In order to make events more entertaining people often resort to changing the facts. The social impact that changing the facts when sharing previous experiences with others will be investigated in this research.

Although lying is frowned upon by society, it is considered acceptable when it happens in certain situations and when the motives are for someone else's benefit. Nearly everyone tells lies on a daily basis. Together these findings suggest that deviating from the truth for the sake of the story may not be frowned upon and could even be used to increase the social benefits that occur when people share specific autobiographical memories with others. No previous research has investigated the impact that changing the facts for the sake of a good story has on the perception

of the storyteller or on the relationship between the storyteller and the listener. This research was designed to begin to fill this hole in the literature.

Two separate studies were designed in order to clearly understand the effect that lying about previous experiences in order to tell an entertaining story has on the perception of the story teller or on the relationship between the storyteller and the listener. The first study investigated a listener's perception of a storyteller when facts were changed in order to tell a more entertaining story in a social context. This design made it clear to half of the participants that the storyteller was or was not being completely honest about the experiences being described. This clarity of actual facts was included because people are notoriously bad at detecting lies and most often only discover a lie after being told by a third party (Park, Levine, McCornack, Morrison, & Ferrara, 2002). It could be argued that people are only bothered by these deviations from the truth when they are aware of the facts. The goal of this study was to understand if being aware of exaggerations and lies in a story will have an impact on participants' feelings about the story and the storyteller.

It was hypothesized that the storyteller in Study 1 would be perceived as more likeable, yet less trustworthy, when previous events are altered in order to tell a more entertaining story. In contrast to research that suggests liars are disliked, it was predicted that storytellers who modify the facts when sharing previous event with others would be liked more than completely honest storytellers. It was also predicted that the stories containing exaggerations and lies would be preferred over the truthful story if the facts are known or not.

Study 2 was designed to investigate several aspects of this common phenomenon. First, the ways in which events are altered so that they are deemed more entertaining was investigated. It was hypothesized that in order to tell an entertaining story, the exact facts would be

compromised. In line with the findings of Dudukovic, Marsh, and Tversky (2004) it was predicted that entertaining recalls would contain more exaggerations, personal evaluations, additions, and be less accurate overall.

Second, the impact that changing the facts to make a story entertaining had on the relationships between the storyteller and listener was investigated. It was hypothesized that telling an entertaining story would increase the feelings of closeness the listener has to the storyteller. The social function of autobiographical memory was predicted to reap more benefits when stories are told in an entertaining way. The perception that the listener has of the storyteller was also predicted to be impacted by the way the events are shared. As in Study 1 it was predicted that listeners would find storytellers who share entertaining, yet less accurate, stories as most likeable. These results would illustrate that telling better stories, even at the expense of accuracy, can enhance the social function of autobiographical memory.

Lastly, the reason that some people are more likely to tell entertaining stories as opposed to purely accurate tales was investigated. It was hypothesized that participants who rated highest on a social skill inventory would tell the most entertaining stories when given no instructions. This finding was expected because entertaining stories were predicted to increase the social benefits of sharing autobiographical memory. It was hypothesized that an increase of social benefits would be recognized and catered to more often by individuals who excel in social situations. If telling engaging stories enhances the social functions of autobiographical memory, then it is likely that this enhancement will be used most often by individuals who are socially skilled.

Study 2 employed many of the same procedures that were used by Dudukovic, Marsh, and Tversky (2004) when investigating how long term memory of a story changes based on how

it is retold. Dudukovic, Marsh, and Tversky (2004) found that giving participants instructions to retell a story in an accurate or amusing manner was a successful manipulation. Participants were able to change the way they retold a story based on these instructions. This procedure was employed in Study 2; participants were instructed to recall a video in an accurate or amusing manner.

Although the same sets of instructions were used there were several important differences. This study was not investigating the long term impacts of changing a story, but the impact that changing a story had on the social world. In order to better represent a specific memory that could be experienced in everyday life, the participants were asked to recall the events from a short video clip instead of retelling a story that participants read. Participants in this experiment retold the events to another participant as would happen in real life when sharing a specific memory. Having another participant act as a listener allowed for the perception of the storyteller to be measured as well as the impact the retelling has on the relationship between participants to be investigated.

Unlike in Study 1, listeners were not explicitly told of the facts before hearing the story. Study 2 was designed this way to more closely mimic everyday situations in which a person shares an autobiographical memory. This design allows for the listeners perception of accuracy to be compared with actual accuracy. In everyday situations, the person hearing of another's experiences is rarely aware of exactly what happened.

The results of these studies will inform the literature on how memories are transformed into entertaining tales, if altered tales are preferred, and the impact that these transformations can have on the relationship between the storyteller and the listener. This research will shed light on this common, yet understudied, phenomenon.

Study 1

Method

Participants. Participants were 180 University of Arkansas undergraduate student volunteers (48 males, 129 females, 3 undisclosed), who were recruited using the online Experimetrix system. All participants received partial credit for their introductory psychology course for participating. Participants age ranged from 18 to 60 years ($M = 19.64$, $SD = 3.473$). Participants were primarily Caucasian (154 Caucasian, 4 African Americans, 8 Asians, 8 Hispanics, 1 other, 1 preferring not to respond, and 3 undisclosed).

Materials and procedure. The entire study was completed online. Participants were asked to read short scenarios and answer questions involving the actors in the scenarios. This study employed a 2×3 (Facts [known, unknown] $\times$ Story [truth, exaggeration, lie]) between-subjects design.

After signing up to participate in the study on Experimetrix, all participants were asked to follow an online link to Survey Monkey (an online tool designed to help collect answers to surveys). Participants were presented with a consent form after following the link. This form explained their rights as participants and the nature of the study. After agreeing to participate all participants were randomly assigned to one of six conditions.

Three of the conditions were designed so that participants would be aware of the facts. The participants in the fact conditions were first presented with a third person narrative overview of the events that occurred one morning on a summer day (see Appendix A for the narrative overview of the facts). The participants assigned to the no fact conditions did not read the third person narrative overview.

Next, all participants read a scenario in which a person, named Pat, told a story about his/her trip over to a friend's house one summer morning (see Appendix A for the stories). These stories were presented in first person, from Pat's perspective. All of the stories were told as if Pat was relaying the events of the morning to his/her friends. In one condition, Pat told a completely truthful account of the morning. In another condition, Pat told an exaggerated account of the morning. In the final condition, Pat told an outrageous tale of the morning's events which contained extreme lies.

The storyteller was named Pat due to the ambiguous nature of the name. Pat could easily be a male name or a female name. Because previous research has found slight differences between male's and female's tendency to tell lies and to justify lies (Pontari & Schlenker, 2006; Conrads, Irlenbusch, Rilke, & Walkowitz, 2013), the survey was designed to set the sex of Pat to match participants' gender.

All participants were told to pay attention while reading the scenarios and that a short quiz would be presented after the story to ensure that it was read and understood. After reading the scenario participants were asked if they had read Pat's retelling of the events, participants could click yes or no.

After indicating if the story was read, participants in every condition were presented with a questionnaire. The first five questions inquired about the content of the story. These five questions asked the participants simple comprehension questions such as, "What was the main characters name?" and "What type of animal was included in the story?". Each of the questions had multiple choice answers presented as options. These questions were designed so that there was a very clear answer if the story was read.

Next participants were asked to rate the story that Pat told to his/her friends on several dimensions. This included six questions that make up the Perceived Quality Index scale in order to determine participants' implicit reactions to the stories (Baron & Bluck, 2011). This index included questions such as "To what extent was this story entertaining?" and "To what extent was this story memorable?". Participants were asked to respond to these questions using a five-point scale (in which 1 = not at all and 5 = very much).

Participants were then asked to respond to items about the accuracy of Pat's retelling such as, "The events that Pat shared with his/her friends were close to the real life events that occurred". The answers were indicated on a seven-point scale (in which 1 = not at all close and 7 = extremely close). This question served as a manipulation check to be sure that participants understood when Pat deviated from the actual facts. Participants who were unaware of the facts should not have been as perceptive to the accuracy of Pat's story as participants who first read the third person narrative overview of the events.

Next participants were presented with questions about Pat that served to determine participants' perceptions of Pat. The first two questions examined how likeable the participants perceived Pat to be. Participants were asked on a seven-point scale, "How much do you like Pat?" (in which 1 = not at all and 7 = very much) and "How likely is it that you would be friends with Pat?" (in which 1 = not at all likely and 7 = extremely likely). Participants were then asked to indicate how trustworthy Pat is predicted to be on a seven-point scale by answering this question, "How trustworthy do you think Pat is?" (in which 1 = not at all trustworthy and 7 = extremely trustworthy).

After answering questions about Pat's qualities, participants were asked to imagine how close they would feel to Pat after hearing the story if it were told to them in real life. Participants

were all asked to imagine that they were among the group of friends whom Pat shared the events of his/her morning. Participants were asked four questions that were designed to measure closeness. This included questions such as, "How close do you feel to Pat?" and "How likely are you to use the word we to describe your relationship with Pat?". An IOS closeness measure of overlapping circles representing the self and Pat was also presented. This question has been shown to successfully measure feelings of closeness (Aron, Aron, & Smollan, 1992). Participants were asked to indicate answers to each of these questions on a seven-point scale (in which 1 = not at all close and 7 = very close).

Next participants were asked questions to determine if they consider Pat to be a liar. Participants were asked, "To what extent do you consider Pat to be a liar?" the answers were indicated on a seven-point scale, (in which 1 = not at all and 7 = very much). Participants were also asked to indicate on a seven-point scale if they consider the story Pat told to be a lie, (in which 1 = not at all a lie and 7 = very much a lie). In the diary study conducted by Marsh and Tversky (2004) discussed earlier, the participants did not consider their deviations from the truth to be lies when retelling stories. However, it may considered lying when another person changes the facts for the sake of the story. This question was asked to determine if telling a story that deviates from the actual events is considered lying and if this made Pat a liar.

Lastly, participants were asked for their personal beliefs about decreasing accuracy to enhance entertainment value when sharing previous experiences. Participants were asked to respond to the items, "It is okay for a friend to deviate from the truth when telling me about previous events, if it makes the story more entertaining", and "I often deviate from the truth when telling friends about previous experiences, if it makes the story more entertaining". The answers were indicated on a seven-point scale (in which 1= not at all okay/ not at all agree and 7

= completely okay/completely agree). All participants were asked these questions as a face value measure of participants' perceptions of lying for the sake of entertainment.

Results

Fifteen participants were excluded from analysis due to failing to read the scenario. Three participants stopped taking the survey after agreeing to the informed consent. Seven participants indicated that they did not read the scenario. Five participants missed more than two of the comprehension questions about the scenario. The five multiple choice comprehension questions were designed so that a person who read the story and is fluent in English should have been able to easily pick the correct response. Most participants (88%) correctly answered all five questions and 7% of participants missed only one question. Because this study was conducted completely online, this step was considered necessary to ensure that participants who quickly clicked through the survey in order to receive the experimental credit were not included in the analysis.

After removing participants who failed to read the scenario approximately 27 participants were left in each condition. Twenty-six participants were included in the facts/true story condition, 29 in the facts/exaggerated story condition, 28 in the facts/lie story condition, 31 in the no facts/true story condition, 24 in the no facts/exaggerated story condition, and 29 in the no facts/lie story condition.

In order to determine if participants were able to detect which of the stories were closest to the actual facts, a 2×3 (Facts [known, unknown] $\times$ Story [truth, exaggeration, lie]) between groups analysis of variance was conducted on the responses to the item, "The events that Pat told his/her friends were close to the real life events that occurred". A main effect of story type was revealed, $F (2, 161) = 45.570$, $p < .001$, such that participants who read the true story rated it as being closest to the real life events ($M = 4.95$, $SD = 1.66$), followed by the participants who read

the exaggerated story ($M = 3.40$, $SD = 1.68$), and finally followed by participants who read the lie version of the story ($M = 2.26$, $SD = 1.46$). No significant effect of facts was discovered, $F (1, 161) = .694$, $p = .406$.

The main effect of story was qualified by a significant interaction of fact and story, $F (2, 161) = 17.656$, $p < .001$. Simple main effects analysis showed that the participants who read the true story rated it as much closer to the real life events in the facts ($p = .001$). Participants who read the exaggeration and lie story did not differ in their estimation of the events being close to the real life events in either the facts or no facts condition (see Table 1 and Figure 1).

Responses to the perceived quality index scale were combined as recommended by Baron and Bluck (2011) to form an index that was found to be highly reliable (8 items; $\alpha = .88$) This index was submitted to a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) between subjects analysis of variance. As illustrated in Table 2, a significant effect of story was discovered, $F (2, 156) = 17.520$, $p <. .001$, such that participants in the true story condition rated the story as having the lowest quality ($M = 2.97$, $SD = .87$), followed by participants in the exaggerated story condition ($M = 3.70$, $SD = .79$), and finally followed by participants in the lie story condition ($M = 3.77$, $SD = .87$). Tukey follow up analysis revealed that this main effect of story is due to participants in the true story condition rating the story as having significantly lower quality, $p < .001$ than the other two conditions. Follow ups reveal that the exaggerated story and the lie story did not significantly differ in quality, $p = .894$. The main effect of facts on story quality, $F (2, 156) = 1.44$, $p = .232$, did not reach statistical significance. The interaction effect, $F (2, 156) = 2.32$, $p = .101$, did not reach statistical significance.

In order to determine effects on liking a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) analysis of variance was conducted on responses to the item "I like Pat". As

illustrated in Table 3, a significant main effect of story, $F (2, 161) = 5.498$, $p = .005$, $\eta p^2 = .064$, was revealed such that participants reported liking Pat the most in the true story condition ($M = 4.65$, $SD = 1.11$), followed by the exaggeration story ($M = 3.96$, $SD = 1.74$), and finally followed by the lie story condition ($M = 3.84$, $SD = 1.29$). A main effect nearing significance of fact was discovered, $F (1, 161) = 3.460$, $p = .065$, $\eta p^2 = .021$, such that participants reported liking Pat slightly more when the facts were not presented ($M = 4.37$ $SD = 1.44$), than when the facts were presented ($M = 3.94$ $SD = 1.41$), see Figure 2. No significant interaction of facts and story on liking was found, $F (2, 161) = 1.26$, $p = .286$, $\eta p^2 = .015$.

Participants' ratings of how trustworthy they perceived Pat to be were submitted a 2×3 (Facts [known, unknown] $\times$ Story [truth, exaggeration, lie]) analysis of variance. As illustrated in Table 4, a significant main effect of story, $F (2, 160) = 39.57$, $p < .001$, $\eta p^2 = .33$, was revealed such that participant found Pat to be the most trustworthy in the true story condition ($M = 4.86$, $SD = 1.28$), followed by the exaggeration story condition ($M = 3.53$, $SD = 1.57$), and finally followed by the lie story condition ($M = 2.59$, $SD = 1.54$). A significant main effect of fact was discovered, $F (1, 160) = 8.36$, $p = .004$, $\eta p^2 = .05$, such that participants rated Pat as more trustworthy in the no facts condition ($M = 4.01$ $SD = 1.46$), than in the facts condition ($M = 3.32$, $SD = 1.93$).

These main effects were qualified by a significant interaction of fact and story, $F (2, 160) = 9.485$, $p < .001$, $\eta p^2 = .11$. Simple main effects analysis showed that the participants in the no fact condition rated Pat as being more trustworthy than participants in the fact condition when the exaggeration story ($p = .046$) or lie story was read ($p < .001$). No significant difference was found when participants read the true story (See Figure 3).

The responses to the closeness measures were combined to form a closeness index, that was found to be reliable (5 items; α = .73). The closeness index was submitted to a 2 (Facts: Known or Unknown) x 3(Story: truth, exaggeration, or lie) analysis of variance to determine if participants feel closer to Pat in any of the conditions. A significant main effect of story, F (2, 161) = 3.912, p = .022, ηp² = .046, was revealed such that participants felt closest to Pat in the true story condition (M = 4.86, SD = 1.28), followed by the exaggeration story condition (M = 3.53, SD = 1.57), and finally followed by the lie story condition (M = 2.59, SD = 1.54). Follow up Tukey post hoc analysis revealed that participants who read the truth and exaggeration story did not differ in their feelings of closeness towards Pat, p = .969. The main effect was due to the lie story condition feeling significantly less close to Pat than the true story condition, p = .034, and nearing significantly less close to Pat in the exaggerated story condition, p = .069. No significant main effect of fact was discovered, F (1, 161) = .011, p = .917, ηp^2 = .00. No significant interaction of facts and story on closeness was present, F (2, 161) = .292, p = .747, ηp^2 = .004 (see Table 5).

The answers to the questions about Pat telling lies and being a liar were combined to form a lie index. These variables were found to be highly correlated using Pearson correlation, r = .875, n = 167, p < .001. To determine any effects on the perception of Pat being a liar, the lie index was submitted to a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) analysis of variance. As illustrated in Table 6, a significant main effect of story, F (2, 159) = 63.027, p < .011, ηp² = .442, was revealed such that participants rated Pat highest on the lie index in the lie story condition (M = 4.86, SD = 1.28), followed by the exaggeration story condition (M = 3.53, SD = 1.57), and finally followed by the true story condition (M = 2.59, SD = 1.54). No significant main effect of fact was discovered, F (1, 159) = .022, p = .882, ηp^2 = .00.

The main effect of story was qualified by a significant interaction of fact and story, F (2, 159) = 13.916, $p < .001$, $\eta p^2 = .149$. Simple main effects analysis showed that the participants in the no fact condition rated Pat as being less of a liar than participants in the fact condition when the lie story was read ($p = .002$). Participants in the fact condition rated Pat as being less of a liar than participants in the no fact condition when the true story was read ($p < .001$) No significant difference was found when participants read the true story (See Figure 4).

The responses to the items, "It is okay for a friend to deviate from the truth when telling me about previous events, if it makes the story more entertaining" and "I often deviate from the truth when telling friends about previous events if it makes the story more entertaining" were combined to form an index. These two measures were found to be correlated using Pearson correlation coefficient, $r = .679$, $n = 167$, $p < .001$. This index was submitted to a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) analysis of variance. As illustrated in Table 7, a significant main effect of story, F (2, 161) = 3.3, $p = .039$, $\eta p^2 = .04$, was revealed such that participant reported a decrease in accuracy in order to enhance the story to be most acceptable in the exaggerated story condition ($M = 3.17$, $SD = 1.55$), followed by the true story condition ($M = 2.55$, $SD = 1.519$), and finally followed by the lie story condition ($M = 2.51$, $SD = 1.24$). No significant main effect of fact was discovered, F (1, 161) = .434, p = .511, $\eta p^2 = .003$. No significant interaction of facts and story on acceptability of deviating from the fact was found, F (2, 161) = .191, p = .826, $\eta p^2 = .002$.

In order to rule out the possibility that differences between conditions appeared due to participants simple having more positive or negative moods after reading different stories, the responses to the PANAS were examined. A lack of effects of condition on emotions was discovered.

Discussion

Results of Study 1 revealed a successful manipulation of story type such that participants were able to determine that the true story was closest to the real life events, followed by the exaggeration story, and lastly the lie version of the story. However, participants who were unaware of the actual facts were also able to correctly rate these stories. These results indicate that participants were able to tell which story was closest to the real life events that occurred with or without the facts. It was hypothesized that participants who did not read the facts would rate all the stories as being equally close to the real life events that occurred. This hypothesis was not supported. It is possible that the stories contained exaggerations and lies that were too extreme to occur in real life.

As predicted, participants preferred the stories in the exaggeration and lie conditions over the story in the truth condition. Participants rated these stories as being of higher quality and overall preferred the exaggerated and lie versions of the events over a completely truthful account. This finding supports the hypothesis that adding entertaining exaggerations and lies enhances the overall quality of a story.

Despite rating the exaggerated story as being of higher quality than the true story, the participants did not like Pat more when an exaggerated story was read. Participants liked Pat the least when the stories contained outright lies. Interestingly, participants who were assigned to the no fact conditions liked Pat more than participants assigned to the fact conditions. This finding was not in line with the prediction that telling a better story would increase liking. It is possible that the stories were a bit too exaggerated such that participants who were not aware of the facts still suspected some deviation from the truth, which could have impacted the amount participants liked Pat.

As hypothesized, participants rated Pat as being the most trustworthy in the truth condition, followed by the exaggeration condition, and finally followed by the lie condition. Participants found Pat the most trustworthy when the facts were not available. It is likely that participants who were aware of the facts knew for certain that Pat had exaggerated or lied, resulting in a lower level of perceived trustworthiness.

Closeness was influenced by the type of story that was shared; however the predicted direction was not supported. Results indicated that participants reported feeling equally close to Pat in the true and exaggerated story conditions. Participants felt significantly less close to Pat when outright lies were shared. Knowing the facts had no impact on participants' feelings of closeness to Pat.

Participants' perception of Pat being a liar was influenced by the story that was shared. Results indicated that participants considered the events that Pat shared to be lies the most in the lie story condition, followed by the exaggeration story condition, and finally followed by the true story condition. It seems that although people do not consider their own deviations from the truth to be lies when sharing previous experiences with others, (Marsh & Tversky, 2004), it is considered a lie when someone else commits the same act.

Participants in all conditions indicated that it is not acceptable to deviate from the truth when retelling previous events even if it makes the story more entertaining. However, participants who read the exaggeration story considered it slightly more acceptable. It is possible that these participants were presented with a good example of how a story can be enhanced by exaggerations.

Together the results of Study 1 indicated a balancing act that occurs when sharing specific memories of previous experiences. Participants preferred to hear entertaining stories that

contained exaggerations but did not want to know that the stories were entertaining due to a lie. Participants liked Pat equally well in the truth and exaggeration condition when they were unaware of the facts. This result was evident even though participants indicated that, even in the no facts condition, they were somewhat aware that the story was not completely true. This finding suggests that the stories in the lie and exaggeration condition may have been a bit unbelievable. It appears that the most social benefits are achieved when a good story is told without telling an obvious lie. In an ideal world, people tell honest stories that are also of the highest quality.

Study 2 investigated this phenomenon in the lab by asking participants to watch a short video clip and then recall the events to another participant. The results of Study 2 further revealed what characteristics make story entertaining, the impact that retelling events in an accurate or entertaining manner had on the listener's perception of the storyteller, and if recalling events in an entertaining manner impacted the social function of autobiographical memory.

Study 2

Method

Participants. 192 undergraduate students from the University of Arkansas volunteered (68 men, 122 women, 2 undisclosed) to participate in Study 2. The participants were recruited using the online Experimetirx system as well as by way of in class announcements. The description of the experiment informed participants that they would watch a viral video and have a conversation with another participant. Two participants signed up for each session resulting in 96 dyads (14 male dyads, 41 female dyads, and 14 opposite sex dyads). All participants received partial class credit in exchange for their participation. Participants ranged in age from 18 to 46

($M = 20.1$, $SD = 3.15$). Participants were primarily Caucasian (130 Caucasian, 12 African American, 8 Asian, 13 Hispanic, 1 Native American, 17 identifying as other).

Materials and Procedure. Study 2 was designed to understand if deviating from the truth would be relied upon in order to share previous experiences with others in an entertaining way and to investigate the impact that sharing events in this manner has on the relationship between the storyteller and listener. Two participants signed up for each session and arrived at the same time. Each dyad was brought into the lab and randomly assigned to an entertaining condition, an accurate condition, or a no instruction condition.

In every condition, participants first received an informed consent form that explained their rights as a participant as well as the nature of the study. After reading and signing the informed consent form, participants were randomly assigned to either recall events from a video or to listen to the events being recalled. The role that each participant played was randomly determined by each participant drawing their role out of a cup. Participants who drew the listener role were asked to wait in the hallway for a few minutes while the other participant watched a short video.

Participants who were asked to recall the video to the listener received further instructions after the listener left the room. This participant was told that he or she would watch a short video then recall the events in the video to the other participant. In line with the procedures used by Dudukovic, Marsh, and Tversky (2004), participants in the entertaining condition were instructed to retell the events in the video in an amusing manner; they were also informed that the retelling would be rated on how entertaining they were able to make it. Participants in the accurate condition were instructed to retell the events in the video in an accurate manner; they were also informed that the retelling would be rated on how accurate they were able to make it.

Participants in the no instruction condition were told to retell the events from the video to the

listener in any way they wanted; they were also informed that there was no right or wrong way to

complete the task.

After clearly stating the instructions, the experimenter started the video and left the room.

The video depicted an average day in a man's life that he recorded from his point of view

(Smith, 2010). The video was edited to show the highlights of the man's day (see appendix B for

a list of the events that occurred in the video). It depicted him getting up in the morning, taking

pictures, and having dinner with a girl. There are no words in the video although it was set to soft

background music. This video was chosen because the events are ordinary and should closely

represent events that people share in their everyday lives with one another.

After watching the video the participant assigned to recall the events received the same

set of instructions that were given to them prior to watching the video. This was done to remind

the participants of the goal to keep in mind while recalling the events to the other participant.

After clarifying any questions, the experimenter asked the listener to come back into the lab

room to hear the recalling of the events.

The participants were instructed to spend the entire time talking about the video; they

were explicitly told not to discuss any other topic. Although the listener was allowed to ask

questions and provide comments, the storyteller was encouraged to spend the time sharing all

they could recall about the video. The experimenter started a camera, a slide show with a timer,

and a stop watch prior to leaving the room. The retelling was recorded so that each retelling

could later be coded. Participants were asked to continue retelling the events until they heard a

timer ding or ran out of things to say. The timer was set to go off in approximately 3 minutes

after the participants began discussing the events. The stop watch was used to track differences in the amount of time spent discussing the events.

After participants had finished recalling or listening to the events, they were asked to separately fill out a questionnaire that was similar to the questionnaire used in Study 1. The first set of questions was designed to determine what the participants thought of the retelling. As in Study 1, participants completed the Perceived Quality Index in order to determine each participant's implicit reaction to the recalling of the video (Baron & Bluck, 2011).

Participants were then asked about their perceptions of each other. This included items to determine how much the participants liked each other such as, "I like the other participant", "The other participant is a likeable person", and "It is likely I could be friends with the other participant". Items to determine participants' perceptions of the other participants character were also included such as, "The other participant is a trustworthy person". The participants indicated their response to each of these items on a seven-point scale (in which 1 = not at all and 7 = very much).

Participants were then asked about the accuracy and entertainment value of the events that were retold. This included items such as, "The other participant/ (I) exaggerated a lot when recalling the events from the video", "The other participant/ (I) added a lot of information to make the story more entertaining", and "I found the retelling of the events to be accurate/entertaining". Participants indicated their response to each of these items on a seven-point scale (in which 1 = not at all accurate 7 = very much).

Participants were then asked five questions about how close they feel to the other participant including. This was the same measure used in Study 1 and included questions such as, "How close do you feel to the other participant?", "How likely would you be to use the term

"we" to characterize you and the other participant", and "Relative to all your other relationships, how would you characterize your relationship with the other participant?". As in Study 1, an IOS closeness measure of overlapping circles representing the self and the other participant was also used to measure closeness. These questions were answered on a seven-point scale (in which 1 = not at all close and 7 = very close).

Participants then completed an inventory of current emotion, by way of a shortened version of the Positive Affect Negative Affect Scale (PANAS). The PANAS measured how participants felt when taking the questionnaire. This included a list of thirty feelings and emotions that participants indicated on a five-point scale (in which 1= not at all and 5 = extremely) the extent to which they were currently experiencing that feeling or emotion. This measure served two purposes. One it provided a measure of the current experience of negative and positive emotions so that this can be ruled out as an explanation for the results. Two these items provided a measure of empathy so that empathy could be ruled out as an explanation for the results.

Participants then filled out a short version of the basic social skills inventory (Riggio, 1986), this shortened version has been shown to successfully measure the same skills without asking the entire set of questions (Oldmeadow, Quinn, & Kowert, 2013). This inventory included twenty four descriptions of a person that the participants could either agree describes them or not, the questions were all answered on a five-point scale (in which 1= not at all like me and 5 = exactly like me). This measure included statements such as, "I can easily tell what a person's character is by watching his or her interactions with others" and "It is very important that other people like me". This measure was given in order to determine if higher social skill scores impact the way in which the events were shared.

Lastly, like in Study 1, all participants were asked to respond to the items, "It is okay for a friend to deviate from the truth when telling me about previous events, if it makes the story more entertaining" and "I often deviate from the truth when telling friends about previous experiences, if it makes the story more entertaining". The answers were indicated on a seven-point scale (in which 1= not at all okay/agree and 7 = completely okay/agree).

 The recordings of the storytellers sharing the events from the viral video (Smith, 2010) to the listener were coded by trained research assistant for accuracy and entertainment value. Research assistants blind to condition watched all of the recordings and rated each on the overall level of entertainment. These ratings served as a manipulation check in order to be sure that participants followed the instructions that were given. It also provided an overall rating of entertainment among dyads from coders. Research assistants used a five-point scale (in which 1= not entertaining and 5= extremely entertaining) to rate each video. Two research assistants worked independently to complete this project so that inter-rater reliability could be assessed.

Research assistants blind to condition watched all of the recordings and rated each on the overall level of accuracy. These ratings served as a manipulation check in order to be sure that participants followed the instructions that were given. It also provided an overall rating of true accuracy among dyads. Research assistants used a five-point scale (in which 1 = not at all accurate and 5 = extremely accurate) to rate each video. Two research assistants worked independently to complete this project so that inter-rater reliability could be assessed.

Two separate research assistants who were blind to condition were asked to watch the videos of each recalling and to indicate which of the 35 events that occurred in the video were discussed (see appendix for list). If the scene was included, the coders rated each on accuracy/detail and level of exaggeration. These were each rated on a five-point scale (in which

1 = not at all accurate and little detail/not exaggerated at all and 5 = extremely accurate and

detailed/extremely exaggerated). These coders also counted the number of intrusions (things that

did not happen in the video/details that were made up) and the number of evaluations (personal

feelings about the video) for each scene and about the video overall. Two coders were used so

that their ratings could be compared for accuracy.

Results

In order to investigate the impact recalling events in different ways had on the listeners'

perceptions of the storyteller and on the relationship between the participants, it was important

that participants were not friends prior to the experiment. To avoid a reduction in participant sign

up or confusion among potential participants, participants were not explicitly told not to sign up

with friends. Participants were asked at the end of the survey about their previous relationship

with the other participant. Four participants, two dyads, indicated that they were friends prior to

the experiment. In one experimental session, the questionnaire was not filled out due to

experimental error; there was no way to determine the state of a prior relationship for this dyad.

All three of these dyads were eliminated from any analysis.

In order to determine if listeners noticed a difference between the ways the events were

shared across conditions, listeners were asked to rate the retelling for entertaining value and

accuracy. A one-way between-groups analysis of variance was conducted to determine if

listeners' responses to the item "the retelling was told in an entertaining way" differed across

conditions. Results indicated a statistically significant difference among conditions, $F(2, 90) =$

$2.94, p = .05, \eta p^2 = .061$. Post-hoc comparisons using the Tukey HSD test indicated that the

listeners rated the recalling as being most entertaining in the entertaining condition ($M = 4.16$,

$SD = 1.5$), nearing significance ($p = .095$) when compared to the accurate condition ($M = 3.25$,

SD = 1.8) and nearing significance (p = .095) when compared to the no instructions condition (M = 3.23, SD = 1.8). The no instruction condition did not differ significantly from the accurate condition (p = .99), see Table 7.

In order to determine if listeners noticed a difference in accuracy between the ways the events were shared across conditions, listeners were asked to rate the retelling for accuracy. A one-way between-group analysis of variance was conducted on the listeners' responses to the item "the retelling was told in an accurate way" to determine if responses differed across conditions. Results indicated no statistically significant difference among conditions, F (2, 90) = 1.69, p = .19, ηp^2 = .036.

To further determine differences among the listeners perception of the retelling, participants were asked to respond to the item, "the other participant exaggerated a lot while recalling the events". A one-way between-group analysis of variance was conducted on the responses to determine if listeners believed there were differences in the amount of exaggerations included across conditions. A statistically significant difference among the conditions was discovered, F (2, 90) = 4.895, p = .010, ηp^2 = .098. Post-hoc comparisons using the Tukey HSD test indicated the mean score of exaggerations for the entertaining condition (M = 2.26, SD = 1.54) to be significantly higher (p = .017) than the accurate condition (M = 1.5, SD = .87) and significantly higher (p = .028) than the no instructions condition (M = 1.4, SD = .89). The no instruction condition did not significantly differ from the accurate condition (p = .97), see Table 9.

To determine if listeners believed the other participant had made additions or added details to the recalling, participants were asked to respond to the item, "the other participant added a lot of details while recalling the events". A one-way between-group analysis of variance

was conducted on the responses to determine if listeners felt there were differences in the amount of additions between conditions. A statistically significant difference among the conditions was discovered, $F (2, 90) = 6.20$, $p = .003$, $\eta p^2 = .121$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score of additions for the entertaining condition ($M = 2.35$, $SD = 1.84$) was higher and nearing significance ($p = .062$) from the accurate condition ($M = 1.6$, $SD = 1.03$). The entertainment condition had significantly more additions reported ($p = .002$) then the no instructions condition ($M = 1.23$, $SD = .56$). The no instruction condition did not significantly differ from the accurate condition ($p = .445$), see Table 10.

The responses to the perceived quality inventory were combined to form an index that was found to be highly reliable (8 items; $\acute{\alpha} = .84$). A one-way between-group analysis of variance was conducted on the listeners perceived story quality index to determine if listeners perceived a difference in quality of the recalling across conditions. Results indicate no statistically significant difference among conditions, $F (2, 89) = 1.55$, $p = .217$, $\eta p^2 = .034$.

To determine the listeners overall opinion of the way the events were recalled the listeners were asked to respond to the item, "Overall I enjoyed the way the other participant retold the events from the video". A one-way between-group analysis of variance was conducted on the responses to determine if listeners had an overall preference for the way the events were told between conditions. A statistically significant difference among the conditions was discovered, $F (2, 90) = 3.07$, $p = .05$, $\eta p^2 = .064$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the entertaining condition ($M = 3.84$, $SD = .89$) was significantly higher ($p = .04$) than the accurate condition ($M = 3.28$, $SD = .92$). The no instruction condition ($M = 3.46$, $SD = .89$) did not differ significantly from either other condition, see Table 11.

The two coders ratings of overall accuracy for each of the videos were found to be correlated using Pearson correlation coefficient, $r = .61$, $n = 92$, $p < .001$. These ratings were averaged together to form an overall accuracy coding index. This index was submitted to a one-way between-groups analysis of variance to explore differences in accuracy among conditions. As indicated in Table 12, a statistically significant difference among the conditions was discovered, $F (2, 89) = 3.33$, $p = .04$, $\eta p^2 = .07$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the accurate condition ($M = 3.35$, $SD = .92$) to be significantly higher ($p = .049$) than the no instruction condition ($M = 2.82$, $SD = .78$) and nearing significantly higher ($p = .112$) than the entertaining condition ($M = 2.9$, $SD = .91$). The no instruction condition did not differ significantly from the entertaining condition, see Figure 5.

Two coders were asked to count the number of total scenes that were described when the participant recalled the events to the listener. The total number of scenes counted by each coder was found to be highly correlated using Pearson correlation coefficient, $r = .92$, $n = 92$, $p < .001$. These ratings were averaged together to form a total number of scenes index. As indicated in Table 13, a statistically significant difference among the conditions was discovered, $F (2, 89) = 4.255$, $p = .017$, $\eta p^2 = .087$. Post-hoc comparisons using the Tukey HSD test indicated that significantly ($p = .016$) more scenes were described in the accurate condition ($M = 21.045$, $SD = 4.26$) than in the entertaining condition ($M = 17.887$, $SD = 4.84$). More scenes were described in the accurate than in the no instruction condition ($M = 18.783$, $SD = 4.03$), this effect was nearing significance ($p = .115$). The no instruction condition did not differ significantly from the entertaining condition, see Figure 6.

The two coder's ratings were also found to be correlated on overall entertainment value using Pearson correlation coefficient, $r = .68$, $n = 92$, $p < .001$. These ratings were averaged

together to form an overall entertaining coding index. This index was submitted to a one-way

between-groups analysis of variance to explore differences in entertainment value among

conditions. As illustrated in Table 14, a statistically significant difference among the conditions

was discovered, $F(2, 89) = 8.14$, $p = .001$, $\eta p^2 = .15$. Post-hoc comparisons using the Tukey

HSD test indicated that the mean score for the entertainment condition ($M = 3.17$, $SD = .944$)

was significantly higher ($p = .002$) than the no instruction condition ($M = 2.36$, $SD = .88$) and

was significantly higher ($p = .003$) than the accurate condition ($M = 2.42$, $SD = .81$). The no

instruction condition did not differ significantly from the accurate condition, see Figure 7.

A linear regression was conducted in order to determine if exaggerations and personal

evaluations predicted the entertaining rating a recalling received. The total number of

exaggerations for each recalling as counted by coders was regressed on the entertaining index. A

linear regression revealed that the number of exaggerations was a highly significant predictor of

entertaining rating ($\beta = 4.82$, $p < .001$), accounting for 25% of the variance. The total number of

personal evaluations for each recalling as counted by coders was regressed on the entertaining

index. A linear regression revealed that the number of evaluations was a highly significant

predictor of entertaining rating ($\beta = .175$, $p < .001$), accounting for 35% of the variance. When

analyzed together, these variables account for 45% of the variance, see Table 15.

Two questions that focused on the listeners' perceptions of how likeable the other

participant was were combined to form a likeability index. This index combined the listeners

responses to "I like the other participant" and "The other participant is a likeable person". These

variables were found to be highly correlated using Pearson correlation coefficient, $r = .62$, $n =$

93, $p < .001$. This index was submitted to a one-way between-groups analysis of variance to

explore the impact of condition on likeability. No significant effect of condition on likeability was discovered, F (2, 90) = 1.38, p = .257, ηp² = .030.

The listeners' responses to "The other participant is trustworthy" were submitted to a one-way between-group analysis of variance to determine the impact of condition on trustworthiness. No significant effect of condition on trustworthiness was present, F (2, 90) = 1.46, p = .238, ηp² = .031.

The listener's self-reported feelings of closeness to the other participant were combined to form a closeness index that was found to be highly reliable (5 items; α = .83). The closeness index was submitted to a one-way analysis of variance to determine if listener felt closer to the other participant in any of the conditions. As illustrated in Table 16, a statistically significant difference was found between conditions, F (2, 90) = 3.177, p = .046, ηp² = .066. Post-hoc comparisons using the Tukey HSD test indicated that listeners in the entertaining condition (M = 2.58, SD = .92) felt significantly (p = .045) closer to the story teller compared to listeners in the accurate condition (M = 2.07, SD = .67). Listeners in the no instruction condition (M = 2.45, SD = .89) did not significantly differ in feelings of closeness from the either the entertaining condition (p = .815) or the accurate condition (p = .179), see Figure 8.

In order to determine if rating of liking is predicted by how entertaining the retellings were, the coders overall ratings of entertainment value for each recalling were regressed on the liking index. A linear regression revealed that the overall entertaining rating was a highly significant predictor of liking index (β = .424 , p < .001), accounting for 11.3% of the variance. A linear regression analysis revealed that the listeners rating for entertainment was a highly significant predictor of how much the listener liked the other participant, (β = .412 , p < .001), accounting for 17% of the variance.

To further investigate the relationship between liking and the retelling, accuracy was regressed on the liking variable. A linear regression analysis revealed that listeners rating of accuracy was a highly significant predictor of how much the listener liked the other participant, (β = .236 , p = .003), accounting for 9% of the variance. Participants' perceptions of accuracy and participants' entertaining ratings together explained 22% of the variance among liking, see Table 17. A linear regression analysis revealed that the overall accuracy rating from coders was not a significant predictor of the liking rating (β = .039 , p = .78), accounting for almost none (r^2 = .001) of the variance. These variables were compared in a correlation matrix, see Table 18.

The answers to the social skill inventory were combined to form an overall social skill score for the participant who was assigned to recall the events, this inventory was found to be reliable (24 items; $\acute{\alpha}$ = .68). In order to determine if social skills predicted how a participant recalled the events without any instruction, a linear regression was conducted using only the no instruction condition. Results revealed that the participants social score was nearing significance as a predictor of entertaining rating (β = .341 , p = .07), accounting for 12% of the variance.

The listeners' responses to the items, "It is okay for a friend to deviate from the truth when telling me about previous events, if it makes the story more entertaining" and "I often deviate from the truth when telling friends about previous events if it makes the story more entertaining" were combined to form an index for the listener. These measures were found to be correlated using Pearson correlation coefficient, r = .549, n = 93, p < .001. This index was submitted to a one-way between-group analysis of variance to determine the impact of condition on belief in deviating from the truth for listeners. No significant difference between condition was present, $F_{(2, 90)}$ = .548, p = .580, ηp^2 = .012. These two measures were also found to be correlated for the participants who were assigned to recall the events using Pearson correlation

coefficient, $r = .606$, $n = 93$, $p < .001$. These ratings were averaged to create the storytellers index. This index was submitted to a one way analysis of variance to determine the impact of conditions on belief in deviating from the truth for the storyteller. No significant difference of condition was present, $F (2, 90) = .20$, $p = .819$, $\eta p^2 = .004$.

In order to test if the effect of entertaining on closeness and liking was mediated by the number of exaggerations included in the recall, a mediation analysis was performed. Only the accurate and the entertainment conditions were included in the analysis. Following the steps laid out by Baron and Kenny (1986), first the entertainment rating for each recalling was regressed on the listener's likeability index. Results indicated that the entertainment rating significantly predicted liking ($\beta = .355$, $p = .005$, $r^2 = .126$). Following step two, it was found that the entertainment rating significantly predicted the number of exaggerations included in the recall ($\beta = .538$, $p < .001$, $r^2 = .289$). Following step three, the number of exaggerations and entertainment rating were then both regressed on liking. When controlling for entertaining rating, exaggerations did not significantly predict liking ($\beta = -.106$, $p = .462$, $r^2 = .134$). Due to the failure of this mediation to exhibit significance in step three, step four was not attempted. This exact process was repeated for the listeners' closeness indexes in place of the listeners' likeability index. The same results were found.

Additional mediation analyses were conducted in an attempt to pinpoint exactly how entertaining recalls increased feelings of closeness and predicted liking. However, no mediator or partial mediator could be pinpointed. Although finding a mediator would have added support to the proposed hypothesis, not finding a mediator does not necessarily reduce the amount of evidence that has already been established. There are numerous reasons a significant mediator may not be found (Bollen, 1989; Hayes 2013).

In order to rule out the possibility that differences between conditions appeared due to participants simple having more positive or negative moods or gaining empathy after the conversation, the responses to the PANAS were examined. There was a lack of effect of condition on any of the feelings or emotions described in the PANAS.

In order to rule out the possibility that differences between conditions were due to participants spending varying amounts of time recalling the events to the listeners in conditions, the times from the stop watch recordings were compared. These times were submitted to a two-way between subject analysis of variance. Results indicate no significant effect of condition on the amount of time the storyteller spent recalling the video, $F (2, 88) = 1.38$, $p = .257$, $\eta p^2 = .030$.

Discussion

The results of Study 2 indicated that participants were able to tell an entertaining story or an accurate story based on the instructions that were received. Listeners and coders rated the way the events were recalled as being the most entertaining in the entertaining condition. Coders rated the way the events were recalled as being the most accurate in the accurate condition. Listeners did not notice a difference in accuracy across conditions. This finding was not surprising as listeners were unaware of the actual facts.

As hypothesized, in order to share the events from the video in an entertaining way, participants were less accurate. Both listeners and coders indicated more exaggerations and additions in the entertaining condition. Coders counted the number of personal evaluations contained in each recalling and found more personal evaluations in the entertaining condition. Coders counted the number of scenes described in each recalling and counted less total scenes described in the entertaining condition. Coders also rated the entertaining condition as recalling

the least detailed information for each scene. These findings support the prediction that in order to recall the events in an entertaining way, details were dropped, exaggerations were added, and personal evaluations were included.

No difference of story quality across condition was indicated by the listeners on the perceived quality index. It was predicted that listeners would rate the way the events were recalled as higher in quality in the entertaining condition. This prediction was not supported. Listeners' overall opinions of the way the events were recalled was impacted by the way the events were shared. In line with the predictions, participants preferred the way events were shared in the entertaining condition. It is possible that differences were not detected by the perceived quality index as it was designed to estimate story quality, not the quality of the way events are shared from a movie clip.

The perception that the listener had of the participant who recalled the events was impacted by the way the events were recalled. The coders' and the listeners' ratings of how entertaining a recalling was successfully predicted liking. Higher entertainment ratings indicated an increase in how much the listener reported liking the other participant.

Although not in line with the original hypothesis, results indicated that the listeners' perceived level of accuracy, not the coders' accuracy rating, predicted liking. It appears that the storyteller was liked the most when the events were told in an entertaining way and the listener believed the events were told accurately. This perception of accuracy was not found to be the same as the coders rating of true accuracy.

As hypothesized, listeners reported feeling closest to the other participant when the events were retold in an entertaining manner. This increase in feelings of closeness suggests that in order to enhance the proposed social function of autobiographical memory, events should be

shared in an entertaining way over a completely accurate way. This finding could be due to increased interest and motivation to get to know the participant who shared events in an entertaining way.

The original hypothesis predicted that social skills would be positively correlated with sharing events in an entertaining way was somewhat supported. The results indicated that participants, who received no instructions, were more likely to tell an entertaining story if they scored high on the social skills inventory. This result suggests the possibility that people who are socially skilled often tell stories in an entertaining way, thus increasing the social benefits of sharing autobiographical memories.

As in Study 1, all participants indicated that it was not acceptable to deviate from the truth when recalling events for the sake of the story. This finding is not in line with the original hypothesis. It appears that participants did not believe it was acceptable to deviate from the truth when sharing a previous experience, even if it makes the story more entertaining.

Together the results of Study 2 indicated that the entertaining recalls included more exaggerations, more personal evaluations, and described less total number of scenes from the video. The most accurate recalls provided more accurate details and described more scenes from the video. These findings demonstrate the differences between sharing events in an accurate way or an entertaining way. It was also evident that participants were able to successfully tell the events to the listener in an accurate way or an entertaining was without specific instructions for changing the story.

Overall, the results indicated that the way the events from the video were shared had an impact on listeners' perceptions of the storyteller. Results indicated that listeners like people who share entertaining stories, if the listener feels that the events were shared in an accurate manner.

The true accuracy of the events that were shared did not matter. Rather, it was the perception of accuracy that the listeners had of the events that made a difference on the listeners' perceptions of the storyteller. The listeners' feelings of closeness to the storyteller increased when events were shared in an entertaining way. In line with the results of Study 1, it appears that people enjoy being entertained but dislike being lied to even if it enhances the overall narrative.

General Discussion

The results of Study 1 support the original hypothesis that participants prefer exaggerated and lie stories over true stories. However, the hypotheses that participants would like Pat and feel closest to Pat in the exaggerated story condition were not supported. It was found that participants liked Pat equally well when the story was exaggerated or completely accurate. As predicted, participants perceived Pat to be the most trustworthy in the true story condition. Together these findings suggest that exaggerations enhance the quality of a story but do not enhance the perception of the storyteller or the social function of autobiographical memory.

The results of Study 2 confirm the hypothesis that in order to make a recalling more entertaining, accuracy would decrease. As found by Dudukovic, Marsh, and Tversky, (2004), it was again demonstrated that when participants were asked to recall events in an entertaining way they inserted more exaggerations, more evaluations, and fewer details. This finding suggests that the best way to make a story entertaining is by telling the events in a less accurate manner.

Study 2 found evidence for the hypothesis that telling entertaining stories would increase the listeners' positive perceptions of the storyteller and enhance feelings of closeness. Results indicated that the listeners' ratings of how much they liked the story teller was predicted by how entertaining the story was rated as being. Listeners also reported feeling closest to the storyteller when events were shared in an entertaining manner.

Support for the hypothesis that social skills would predict how entertaining events were shared when no instructions were given was found in the results of Study 2. Participants assigned to the no instruction condition were more likely to recall the events in an entertaining way if they scored high on the social skills inventory. This finding suggests that telling an entertaining story is more likely to occur when the individual recalling the event is socially skilled. Although interesting, this finding could simply be an indicator that participants with higher social skills were perceived as more entertaining without telling the story any differently. More research is needed to fully understand the link between social skills and the way events are shared with others.

A few surprising results were discovered from Study 1 and Study 2. In both studies it was found that participants cared about accuracy more than predicted. In Study 1, participants liked Pat equally well when the story was told in an accurate manner as when a more entertaining story containing exaggerations was told. In Study 2 it was discovered that participants' perceptions of accuracy, not actual accuracy, predicted how much the listener liked the storyteller. In both studies, participants indicated that it is not deemed acceptable to deviate from the actual facts when recalling events, even if it increases the entertainment level. It was predicted that participants would not be bothered by slight deviations from the truth if the quality of the narrative was enhanced. This prediction was not supported.

As a package, the results of Study 1 and Study 2 provide support that the social function of autobiographical memory can be enhanced by using a little imagination, as long as the listener is unaware of any decrease in accuracy. Together these findings illustrate a situation in which lying enhances the social function of autobiographical memories by creating better narratives, but only if the listener is unaware that it is not the complete truth.

The results of these studies are in line with previous research investigating the qualities of a good story. As in previous research, the results of these studies indicate that exciting or interesting stories are preferred over a straight recall of events (Grice, 1975; Baron & Bluck, 2009, McAdams 2006, Schneider & Winship, 2002).

Marsh and Tversky (2004) found that, of their own admission, people alter the way they share their previous experiences with others, deviating from the truth in some way about half of the time. These participants did not consider their alteration of previous events for a story to be lying. The results found in Study 1 suggest that this is a situation in which it is considered lying when someone else deviates from the truth when sharing previous experiences. This finding is in line with the fudge factor (Leblois and Bonneforn, 2013), the tendency for people to see their own lies as acceptable but not others.

In line with literature indicating the liars are not viewed in a positive light, (Backbier, Hoogstraten, & Terwogt, 1997; Pontari & Schlenker, 2006), the results from this research indicated that participants did not approve of lying even for the sake of the story. In one of the few studies that investigated the impact of lying from a listener's perspective, Tyler, Felman, and Reichert, (2006), found that liking ratings were negatively correlated with the number of lies told during the first meeting even though the lies were not pointed out to the listener. The results from the current studies found support that liars are not liked, if the listeners are aware of the lies. In contrast to the findings of Tyler, Felman, and Reichert, (2006), it was not true accuracy that mattered, rather the listeners' perceptions of accuracy.

The results from these studies can only be applied to situations in which stories are retold in a social setting for entertainment purposes. Further work is needed to determine if the findings hold true for other situations. The impact of different contexts and audiences on recalling events

in different ways was not investigated in the current research. These factors could be an important area for future research.

One limitation of Study 2 is that participants were asked to recall and share events from a video clip that was watched, not to recall and share a specific memory of an event in their life. This procedure was chosen because obtaining the accuracy of a participant's specific memory is difficult. It has been found that overtime participants begin to believe events actually happened the way the story has been told repeatedly (Marsh, 2007; Tversky & Marsh, 2000; Pasupathi, Stallworth, & Murdoch, 1998). This malleability of the facts overtime suggests that even participants would have a difficult time telling which of their memories is completely accurate. Previous research has successfully relied upon a video clip to represent a memory (Pasupathi, Stallworth, & Murdoch, 1998) in a retelling task so there is reason to expect the clip to be an effective substitution. Although the video clip can by no stretch of the imagination be argued to be exactly the same as a specific autobiographical memory every attempt was made to make the video as close as possible. By being shot in first person and by being of a commonly experienced event (waking up and going through an average day) it is likely that the short clip was shot in a way that represents commonly shared experiences.

In conclusion, it seems that people do not believe it is acceptable to deviate from the truth when sharing previous experiences with others. However, entertaining stories were preferred over purely accurate tales. In order to create entertaining stories, participants shared stories in a less accurate way, the entertaining stories contained more exaggerations, more personal evaluations, and fewer details. These tall tales positively increased listeners' perceptions of the storyteller, if listeners were unaware that the recalling was not completely accurate. These results indicated that the best way to increase the social function of autobiographical memory and

increase liking, is to share previous experiences in an entertaining way without letting the

listener know that the events are exaggerated. It appears that there is a careful balancing act in

place.

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Table 1

Analysis of Variance for Close to Real Life Events

Source	df	F	η	p
		Between subjects		
Story	2	45.57***	0.361	< .001
Facts	1	0.694	0.004	0.406
Story X Facts	2	17.656*	0.084	< .001
Error	161	(2.382)		

Note. This Table represents the results of a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) between groups analysis of variance on the responses to the item "The events that Pat told his/her friends were close to the real life events that occurred".

Table 2

Analysis of Variance for Story Quality

Source	df	F	η	p
		Between subjects		
Story	2	17.520***	0.183	< .001
Facts	1	1.442	0.009	0.232
Story X Facts	2	2.324	0.029	.101
Error	156	(.621)		

Note. This Table represents the results of a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) between groups analysis of variance on the perceived story quality index. The perceived story quality index measure was adapted from Baron and Bluck (2011).

Table 3

Analysis of Variance for "I like Pat"

Source	df	F	η	p
Between subjects				
Story	2	5.498**	0.064	.005
Facts	1	3.460	0.021	.065
Story X Facts	2	1.262	0.015	.286
Error	161	(1.920)		

Note. This Table represents the results of a 2×3 (Facts [known, unknown] $\times$ Story [truth, exaggeration, lie]) between groups analysis of variance on responses to the item "I like Pat".

Table 4

Analysis of Variance for trustworthiness

Source	df	F	η	p
Between subjects				
Story	2	39.570***	0.331	< .001
Facts	1	8.362**	0.050	.004
Story X Facts	2	9.485***	0.106	< .001
error	160	(1.890)		

Note. This Table represents the results of a 2×3 (Facts [known, unknown] $\times$ Story [truth, exaggeration, lie]) between groups analysis of variance on responses to the item "Pat is a trustworthy person".

Table 5

Analysis of Variance for closeness

Source	df	F	η	p
Between subjects				
Story	2	3.912**	0.046	.022
Facts	1	.011	0.000	.917
Story X Facts	2	.292	0.004	.747
error	161	(1.542)		

Note. This Table represents the results of a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) between groups analysis of variance on the closeness index.

Table 6

Analysis of Variance for lie index

Source	df	F	η	p
Between subjects				
Story	2	63.027***	.442	< .001
Facts	1	.022	0.000	.882
Story X Facts	2	13.916***	0.149	< .001
error	159	(1.736)		

Note. This Table represents the results of a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) between groups analysis of variance on the lie index.

Table 7

Analysis of Variance for okay to deviate from the truth

Source	df	F	η	P
Between subjects				
Story	2	6.966**	0.039	.039
Facts	1	.434	0.003	.511
Story X Facts	2	.191	0.002	.826
error	161	(2.111)		

Note. This Table represents the results of a 2 × 3 (Facts [known, unknown] × Story [truth, exaggeration, lie]) between groups analysis of variance on the lie index.

Table 8

Analysis of Variance for listeners ratings of entertaining

Source	df	F	η	P
Between subjects				
Condition	2	2.939*	0.061	.058
error	90	(2.973)		

Note. This Table represents the results of a one-way between groups analysis of variance on the listeners rating of entertaining.

Table 9

Analysis of Variance for listeners' ratings of exaggerations

Source	df	F	η	P
Between subjects				
Condition	2	4.895***	0.700	< .001
error	90	(2.973)		

Note. This Table represents the results of a one-way between groups analysis of variance on the listeners rating of amount of exaggeration contained in the recalling for Study 2.

Table 10

Analysis of Variance for listeners' ratings of additions added

Source	df	F	η	P
Between subjects				
Condition	2	4.895***	0.121	.003
error	90	(1.600)		

Note. This Table represents the results of a one-way between groups analysis of variance on the listeners rating of amount of additions made to the recalled events in Study 2.

Table 11

Analysis of Variance for listeners' ratings of overall quality

Source	df	F	η	P
Between subjects				
Condition	2	3.068**	0.051	.064
Error	90	(.824)		

Note. This Table represents the results of a one-way between groups analysis of variance on the listeners rating of amount of additions made to the recalled events in Study 2.

Table 12

Analysis of Variance for listeners' ratings of accuracy

Source	df	F	η	p
Between subjects				
Condition	2	2.567**	0.070	.040
error	89	(.770)		

Note. This Table represents the results of a one-way between groups analysis of variance on the coders overall rating of accuracy of the recalled events in Study 2.

Table 13

Analysis of Variance for coders count of scenes included in the recalling

Source	df	F	☐	p
Between subjects				
Condition	2	4.244**	0.087	.017
Error	89	(19.313)		

Note. This Table represents the results of a one-way between groups analysis of variance on the coders count of total number of scenes discussed in Study 2.

Table 14

Analysis of Variance for listeners' ratings of overall entertainment

Source	df	F	☐	p
Between subjects				
Condition	2	8.141**	0.155	.001
Error	89	(.779)		

Note. This Table represents the results of a one-way between groups analysis of variance on the coders overall rating of entertainment of the recalled events in Study 2.

Table 15

Predictors of Entertaining Story

Variable	*B*	95% CI
Constant	-1.340	[-2.937, .257]
Exaggerations	0.35***	[1.800, 4.957]
Evaluations	0.478***	[.093, .191]
R²	0.455	
F	37.189***	

Note. N = 92. CI = confidence interval. This Table represents the results of a linear regression in which number of exaggerations and evaluations are regressed upon the entertaining rating of the story. * *p* < .10. ** *p* < .05. *** *p* < .001.

Table 16

Analysis of Variance for listeners' closeness index

Source	df	F	□	p
		Between subjects		
Condition	2	3.177**	0.066	.046
Error	90	(.698)		

Note. This Table represents the results of a one-way between groups analysis of variance on the listeners' closeness index from Study 2.

Table 17

Predictors of likeability

Variable	*B*	95% CI
Constant	3.376	[2.573, 4.178]
Entertaining	0.363***	[.119, .380]
Accurate	0.223**	[.025, .320]
R²	0.217	
F	12.483***	

Note. N = 93. CI = confidence interval. This Table represents the results of a linear regression in which number of exaggerations and evaluations are regressed upon the entertaining rating of the story. * *p* < .1, ** *p* < .05, *** *p* < .001.

Table 18

Pearson Correlations between Story Perception, Closeness, and Likeability

Measure	1	2	3	4	5	6
1. Listeners rating of Accuracy	1	.223*	0.165	0.202	.275**	0.304**
2. Listeners rating of Entertainment		1	0.111	.281**	.351**	.412**
3. Coders rating of Accuracy			1	0.098	0.073	0.03
4. Coders rating of Entertainment				1	.220*	.337**
5. Closeness Index					1	.425**
6. Like Index						1

$** p < .01, * p < .05$ (2-tailed)
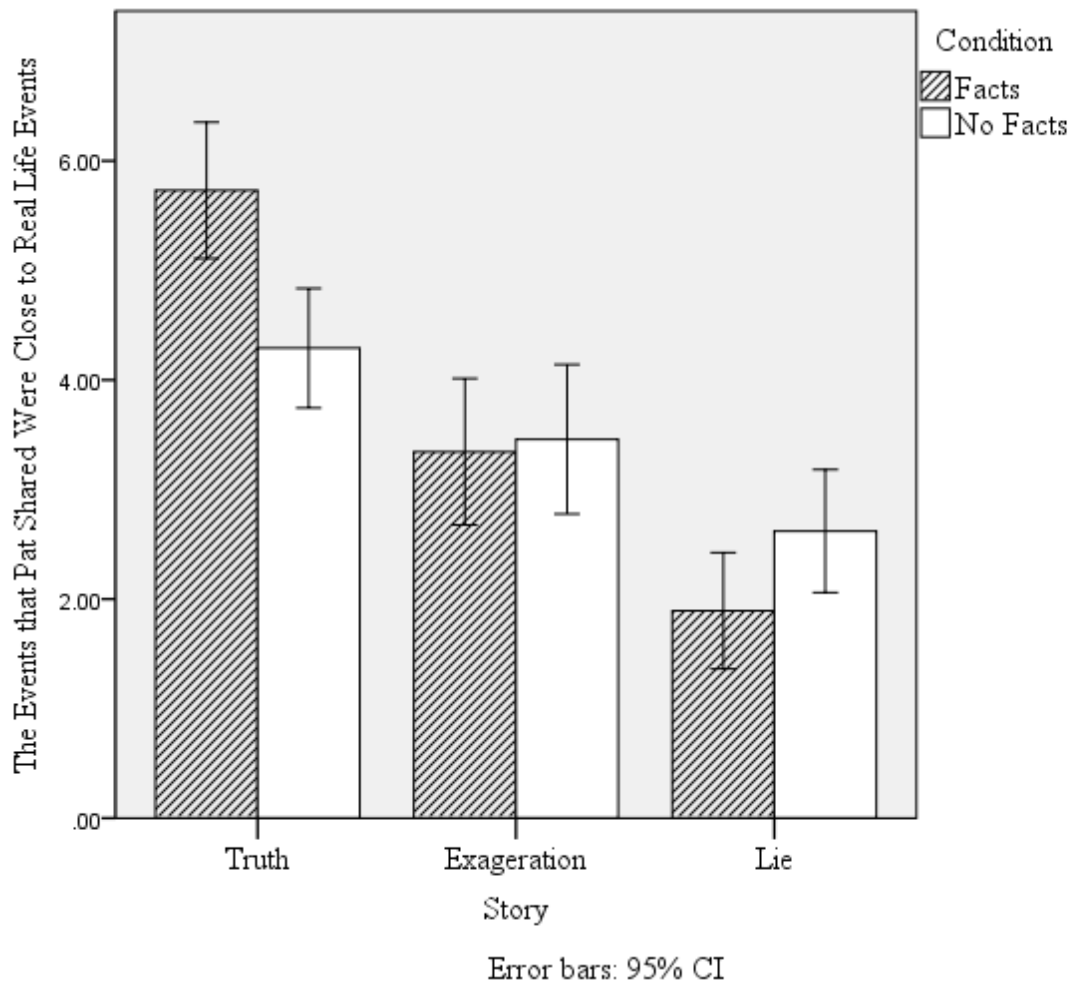
Figure 1. Mean values represent how close to the real life events that occurred Pat's story was rated to be in Study 1. Standard errors are represented in the Figure by the error bars attached to each column.
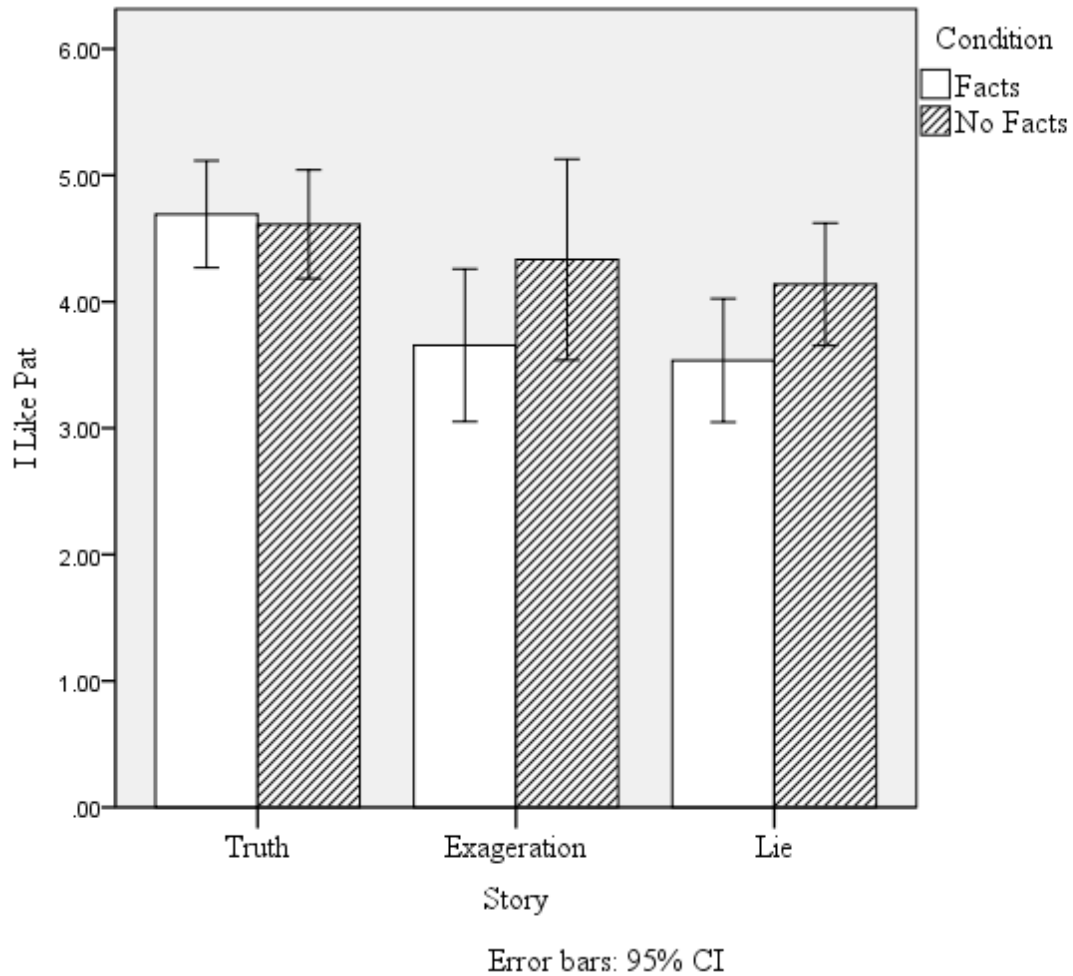
Figure 2. Mean ratings of how much participants reported to like Pat in Study 1. Standard errors are represented in the Figure by the error bars attached to each column.
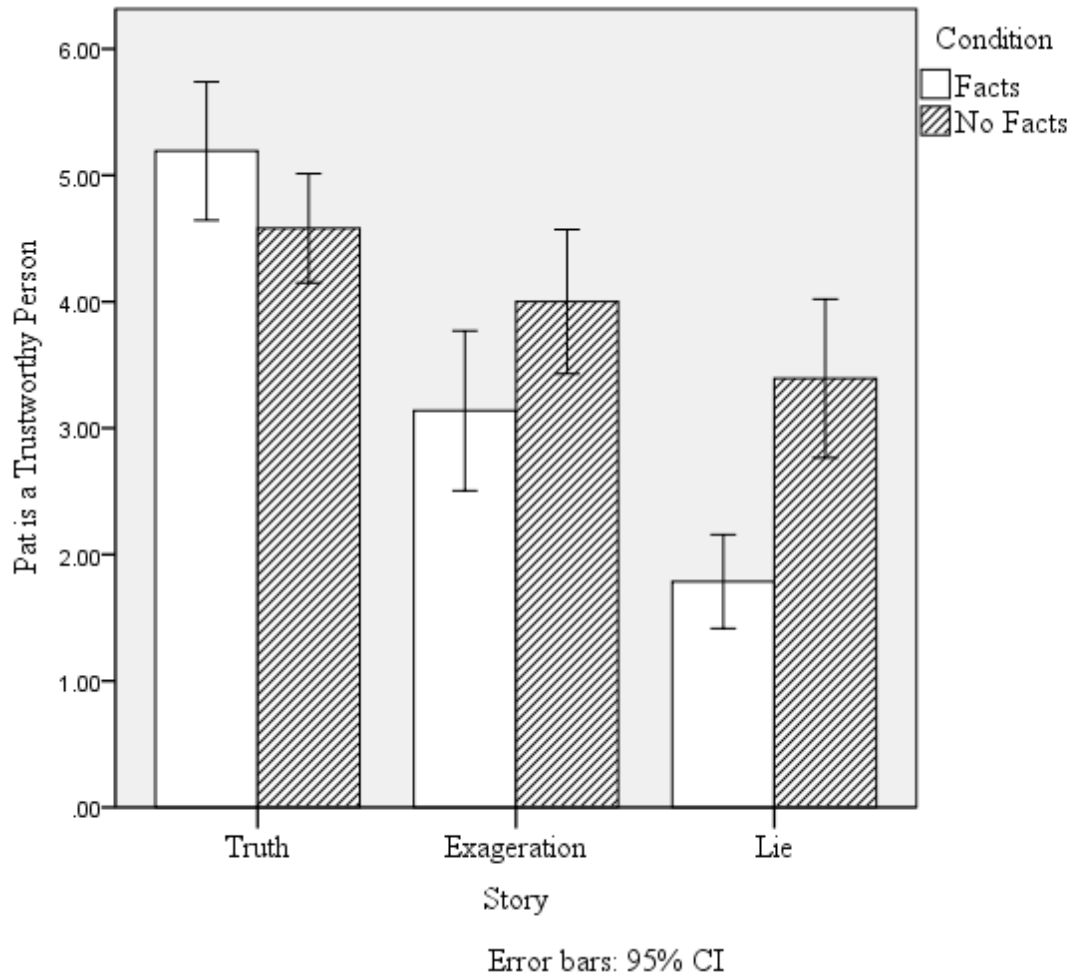
Figure 3. Mean ratings of how trustworthy participants rated Pat to be in Study 1. Standard errors are represented in the Figure by the error bars attached to each column.
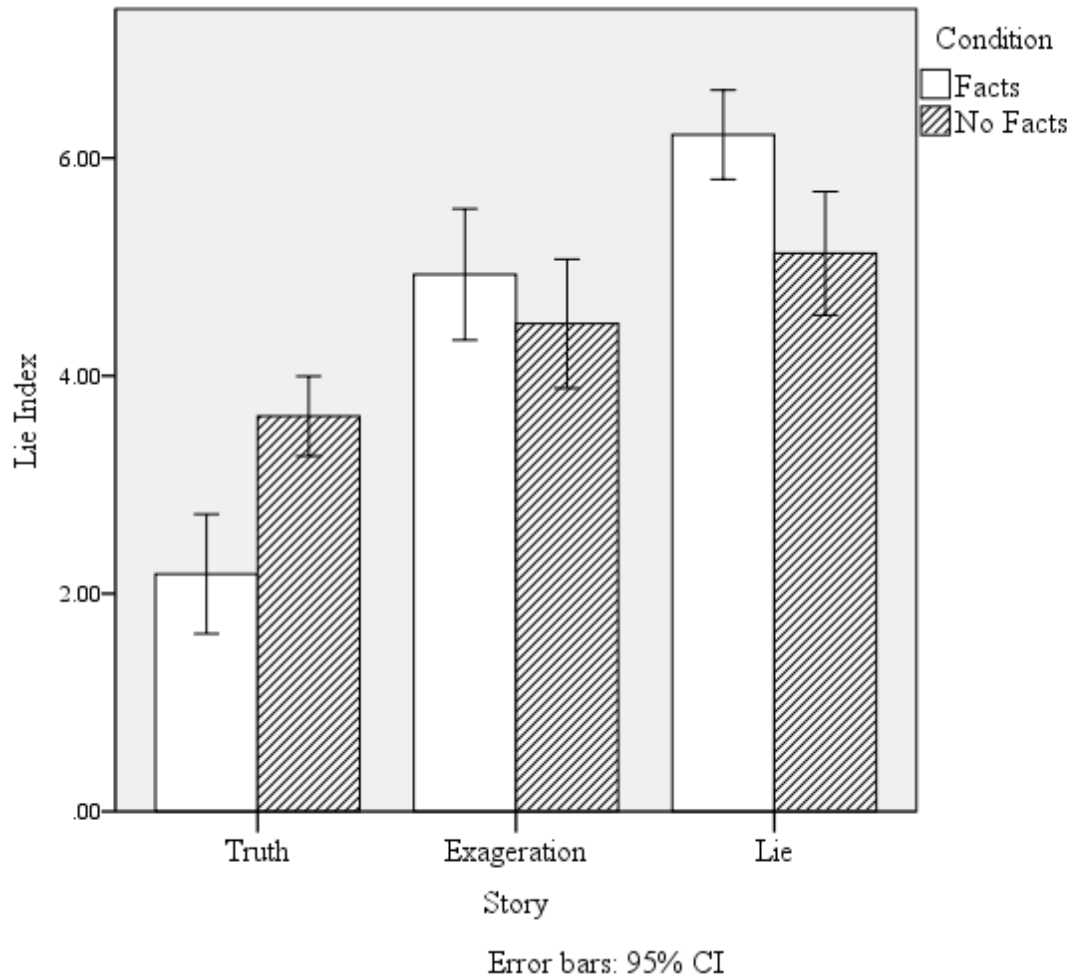
Figure 4. Mean ratings of participant perception of Pat being a liar in Study 1. Standard errors are represented in the Figure by the error bars attached to each column.
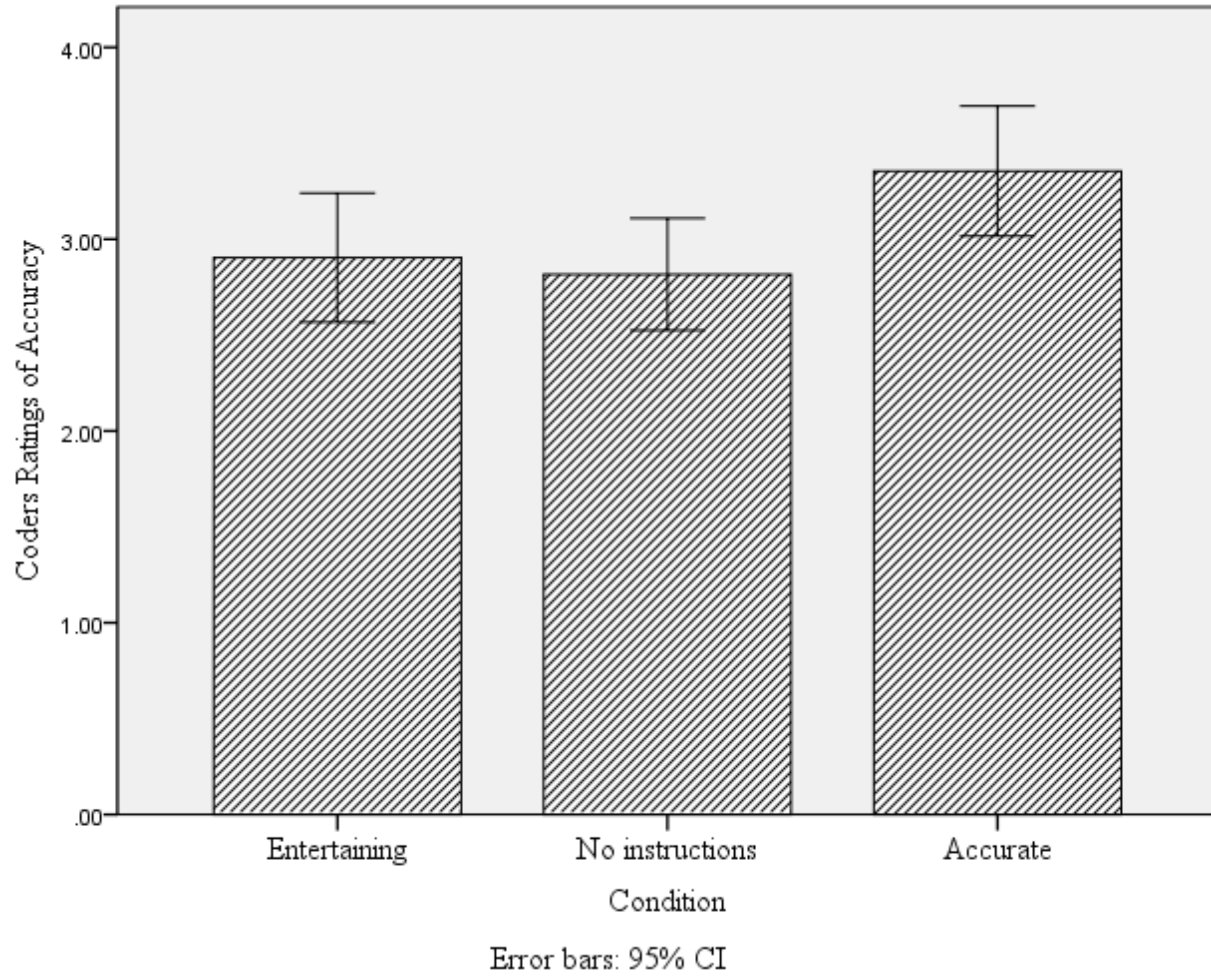
Figure 5. Coders overall mean rating of accuracy of recalling by condition from Study 2. Standard errors are represented in the Figure by the error bars attached to each column.
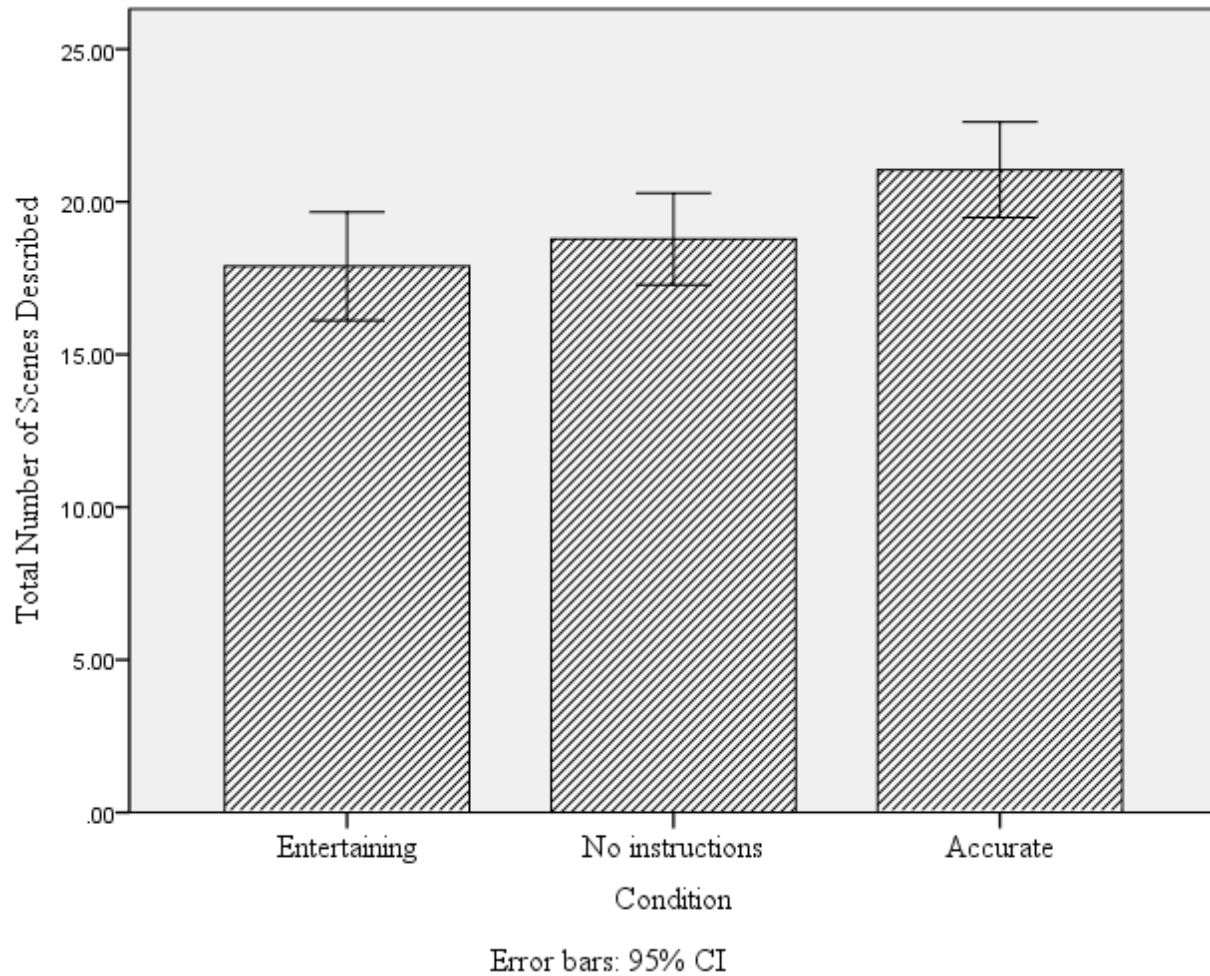
Figure 6. Number of scenes described in each recalling as indicated by coders in Study 2. Standard errors are represented in the Figure by the error bars attached to each column.
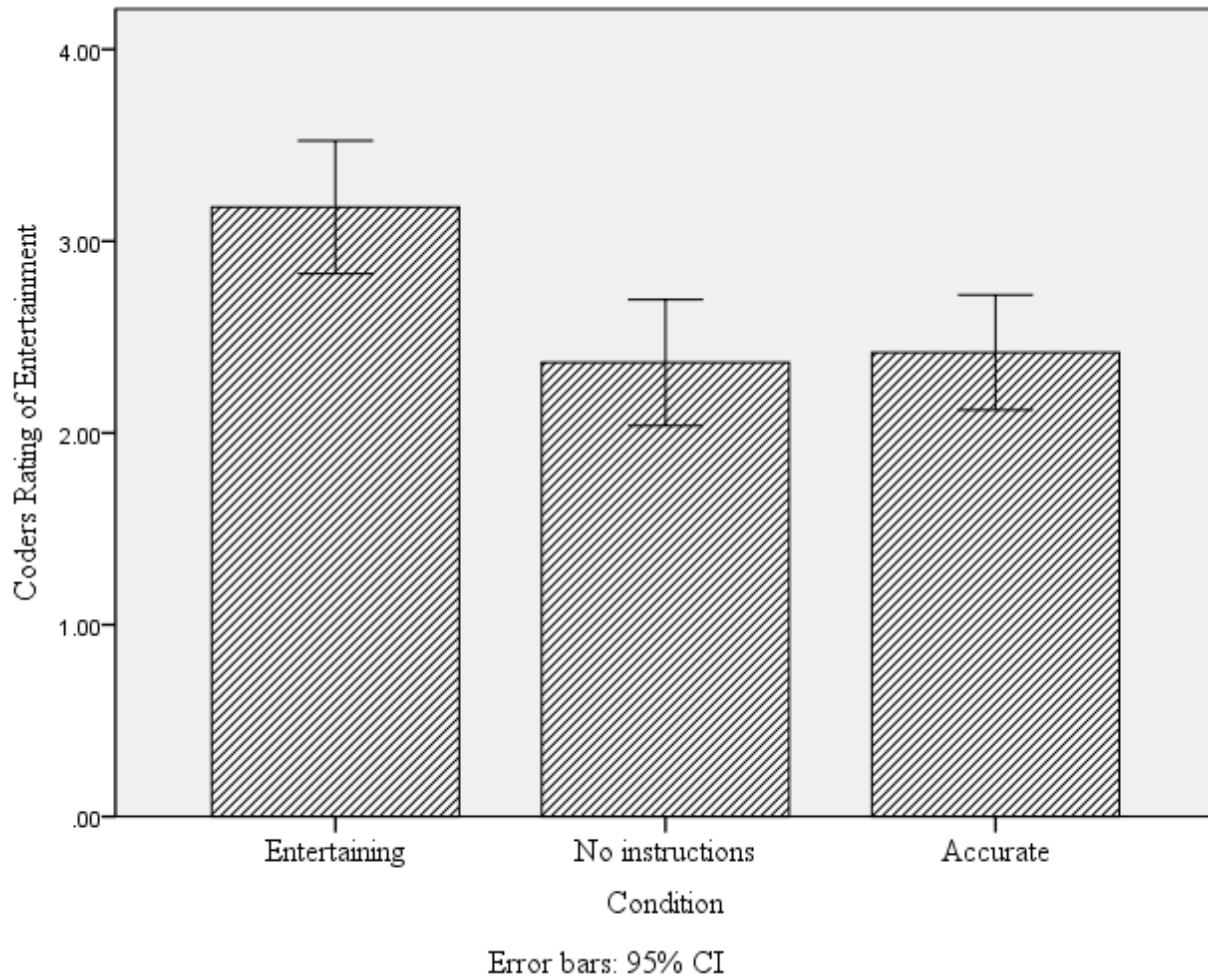
Figure 7. Coders overall mean rating of entertainment value by condition from Study 2. Standard errors are represented in the Figure by the error bars attached to each column.
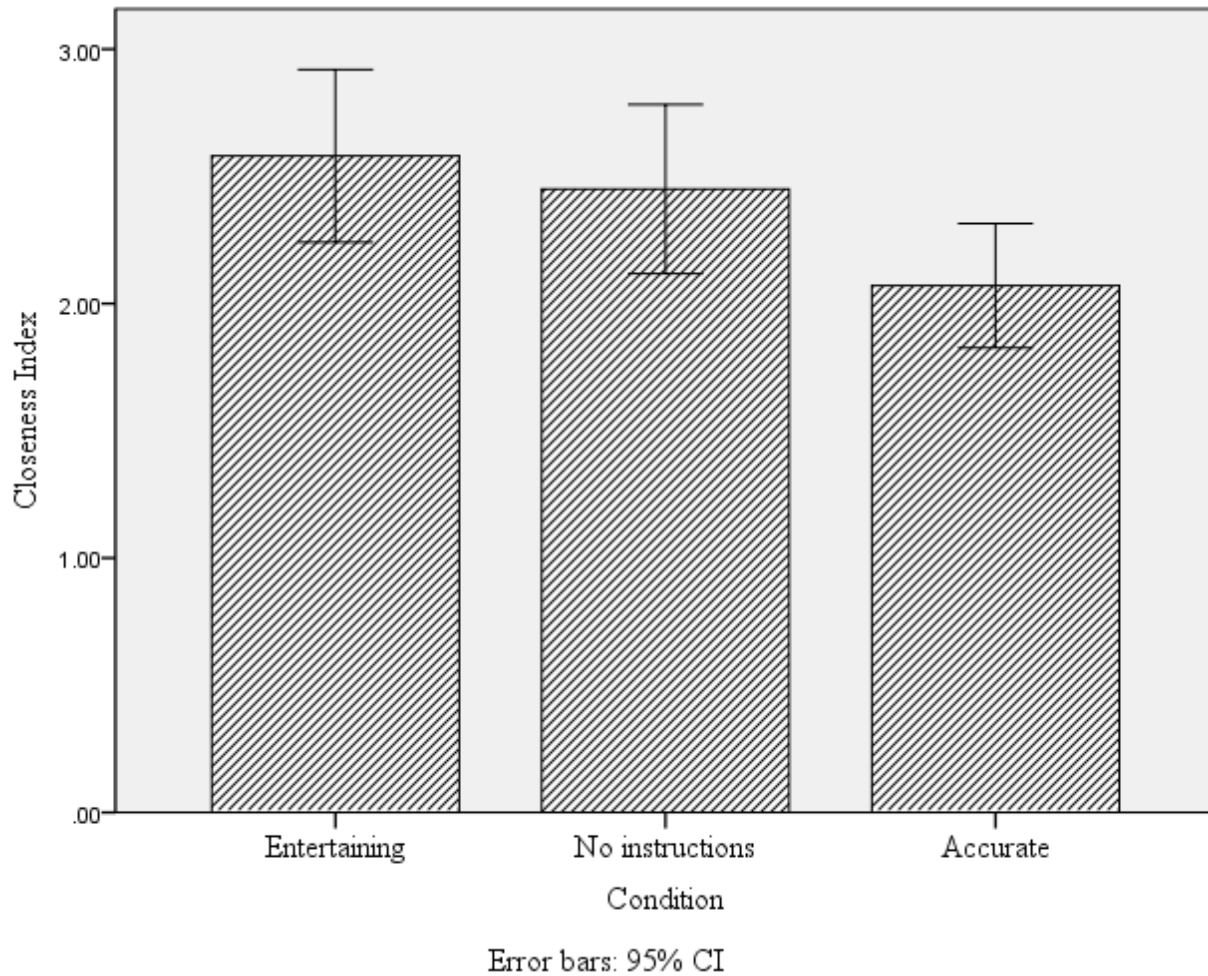
Figure 8. Listeners rating of how close they feel to the storyteller in Study 2. Standard errors are represented in the Figure by the error bars attached to each column.

Appendix A

Study 1

Third person overview of the facts.

        One hot summer morning, Pat set out to visit his friends. Pat's friends lived across town near the lake. It was planned that they would meet at Jamie's house then head over to the lake in order to enjoy the summer day swimming. Pat set out at 10:00 am, allowing just enough time to meet at Jamie's on time. It should have taken Pat less than ten minutes to drive to Jamie's house, however by the end of the day this short trip will seem to last much longer.

        When Pat was only a mile or so from Jamie's house he heard a loud popping sound. The steering wheel began to shake and the car made a horrible noise. Pat turned on his warning lights and pulled over safely to the side of the road. Pat got out of the car and looked at his tires. The front passengers tire was completely deflated.

        Like most people in this situation, Pat simply pulled out his cell phone to call for help. However, when he pulled out the phone the screen was black and would not come on. The phone was utterly dead. Wishing he had thought to charge the phone before heading out, Pat began to walk to Jamie's house. As they say, hind sight is twenty-twenty.

        Although it is a hot day in the middle of summer, with temperatures nearing one hundred, the walk to Jamie's home is quite scenic and pleasant. Pat is able to cross through the town park as a short cut on the way to Jamie's house. As Pat is walking past the community pond, the ducks spot him. The ducks are particularly hungry this morning as it is nearing their normal lunch hour delivered by nearby workers whom enjoy the park during their break. The group of ducks runs towards Pat. Pat puts his hands in the air, claiming to have no food. All but one duck gives up and waddles back to the pond. This particularly determined duck follows Pat all the way across the park and even quacks when Pat exits onto the street.

After going through the park, Pat passes by a large set of apartments that take up nearly a full block. Pat can easily see into the apartments as the balconies face the sidewalk and most of the residents are allowing the summer breeze to cool their living space. Pat can hear the sounds of the residents and the smells of their lunch. When he is nearly half way past the apartments a shoe comes barreling out of a window and barely misses his head.

He then hears screaming coming from the apartment that is now apparently missing a shoe. Pat picks up the shoe and decides to toss it back into the apartment. He tosses it in barely making it into the doorway. Just then an entire suitcase is thrown out onto the sidewalk, again just missing Pat. Pat can hear a woman screaming at someone to get out. At this moment Pat decides it is likely unsafe to stand in the apparent war zone and he continues on his way to Jamie's house.

Pat walks two more blocks after passing the apartments in a residential neighborhood then he spots an ice cream truck on the side of the road surrounded by people. Pat walks over to the crowd to see if there is a problem or just a long line for ice cream on this hot summer day. When Pat gets closer he can see steam coming out from under the hood of the ice cream truck, it certainly isn't going anywhere soon. It appears the truck had overheated.

A happy child walks by grinning ear to ear and yells, "Free Ice Cream! This is the best day ever!" Pat is quite parched from his walk over so he joins the crowd. Suddenly the ice cream man steps out with a tray of ice cream. The ice cream man announces that because the truck is broken, he cannot keep the ice cream cold, so he is giving it away. When the ice cream man reaches Pat all that is left on the tray is his least favorite, several orange push up bars. The Ice Cream man responds to Pats disappointed eyes with a shrug as the rest of the ice cream has long because been handed others. Pat takes the push up and continues on his way to Jaime's house.

Pat quickly finishes the push up and walks the rest of the way to Jaime's enjoying the sunshine. Pat finally makes it, and tosses the push up into the nearby dumpster then walks up the drive. Pat wipes off his face in case ice cream is left and rings the doorbell.

True Version of Story

Please read Pat's account of his trip to Jamie's house. You will be presented with comprehension questions after reading the scenario.

When Pat gets to his friend Jamie's house, he is excited to tell Jamie and their friends about the trip over. Jamie lets Pat in and says, "What took you so long?" Pat responds, "Just wait until you guys hear about my morning".

Pat tells everyone in the house about his trip over, "So, I headed over here on time. I was on the road by 10:00am. But I was about a mile away when I got a flat tire. The steering wheel began to shake and the car made a horrible noise. I turned on my warning lights and pulled over safely to the side of the road. Then I got out of the car and looked at my tires. The front passenger tire was completely deflated. Then I realized my phone was dead so I couldn't call you guys or a tow truck. I decided to leave my car and walk to your house"

"I went through the park on the way to save time. On my way past the pond a whole group of ducks began to follow me looking for food. When I raised my hands to show that I was not holding onto a hotdog, all of the ducks gave up except for one. It followed me all the way to the edge of the park, and then it quacked at me before waddling back to the pond."

"Next I walked past those apartments down the street and a shoe barely missed my head. I heard screaming coming from one apartment. This girl was telling someone to get out. Then a

suitcase came out of the room and landed on the sidewalk. I moved on at that point because I didn't want to get involved."

"Then I was only a few blocks from your house when I saw an ice cream truck on the side of the road. It had a bit of steam coming out, like it had overheated. One kid ran by me screaming about free ice cream, so I waited around to see if this was true. A few moments later the ice cream man came out with a tray of ice cream that really was free. It turns out that the truck's freezer wasn't working anymore so the ice cream man was giving it away. Unfortunately, all that was left were those orange push up bars. I took one because they were free then headed over."

Exaggeration Version of Story

When Pat gets to his friend Jamie's house, he is excited to tell Jamie and their friends about the trip over. Jamie lets Pat in and says, "What took you so long?" Pat responds, "Just wait until you guys hear about my morning".

Pat tells everyone in the house about his trip over, "So, I headed over here in plenty of time. I was going to be here early even, it was like 9:00 when I left my house. I was a several miles away when I had a car wreck. The steering wheel began to shake and the car made a horrible noise. My car swerved on the road and I lost control. I slammed into the curb. It's a miracle I wasn't hurt. Then I got out of the car and looked at my tires. The front passenger tire was almost completely gone! It was torn to bits. Then I tried to call you guys but my phone is not working today."

"I went through the park on the way to save time. On my way past the pond a whole group of ducks began to follow me looking for food. I raised my hands to show that I was not

holding onto a hotdog, but they continued to chase me. They got really close so I made a threatening motion, but the ducks were undeterred. The whole group chased me to the edge of the park trying to peak me with their beak and quacking."

"Next I walked past those apartments down the street and a shoe hit me right smack in the face. I heard this horrible death curdling scream coming from one apartment. This girl was yelling at her boyfriend to get out and that he shouldn't have slept with her best friend. Out of anger of being hit with a shoe, I tossed that shoe right back into the apartment. It hit the girl across the back and she turned around and threw a suitcase out the window that hit me right in the shin. At this point, I decide she's crazy and moved on. Forget throwing that back into their apartment, no telling what I would have had to doge in return."

"Then I was only a few blocks from your house when I saw an ice cream truck on the side of the road. It had completely crashed on the side of the road. It looked like the truck had swerved to miss a kid then struck the road sign. It was smoking and the ice cream man had just put out an engine fire. One kid ran by me and screamed that there was all the free ice cream you could ever eat. So, I ran to the truck to see if this was true. A few moments later the ice cream man came out with a tray of ice cream that really was free. It turns out that the truck's freezer wasn't working anymore so the ice cream man was giving it away. Everyone got all the ice cream they wanted of any flavor! He even gave out ice cream Sundays with all the toppings you can dream up. Needless to say, I had to take part in this, so really the fact that I am only a few minutes late is nothing"

Lie Version of Story

When Pat gets to his friend Jamie's house, he is excited to tell Jamie and their friends about the trip over. Jamie lets Pat in and says, "What took you so long?" Pat responds, "Just wait until you guys hear about my morning".

Pat tells everyone in the house about his trip over, "So, it was a crazy adventure getting over here. I should have been early; I was on the road by at least 9. I was several miles away when I had a horrible car wreck. A small dog just ran out into the road and I had to quickly swerve and slam on the brakes to avoid hitting the pup. I crashed into another car that was parked on the side of the road. The passenger in the other car was really upset. I walked up to him to exchange information and just when I was nearly to his car, he jumped out with a baseball bat!"

"I quickly ran away, I didn't even have time to grab my phone! I ran through the community park hoping to lose the crazy man through the trees. On my way past the pond a whole group of ducks began to follow me looking for food. I raised my hands to show that I was not holding onto a hotdog, but they continued to chase me while the angry driver followed behind the ducks. The ducks got really close so I made a threatening motion, it seemed the ducks realized I had no food, and stopped chasing me. Just then the crazy driver caught up with the ducks and unfortunately for him, the ducks seemed to think the bat was a giant piece of duck food. The whole group took down the man peaking at him with their beaks and quacking. I took this as my opportunity to escape."

"Next I ran past those apartments down the street and a shoe hit me right smack in the face. I heard this horrible death curdling scream coming from one apartment. The door to the patio was open so I could see right inside. This girl was yelling at her boyfriend to get out and that he shouldn't have slept with her best friend. Out of anger of being hit with a shoe, I headed

straight into the apartment to tell the couple to keep their domestic disputes to themselves. However, as soon as I walked into the apartment, the guy screamed accusing the girl of having a boyfriend that just walks right in. Evidently, I had walked in at the wrong time. She began to explain her confusion, but then he knocked her out with one punch. I was shocked, then he turned to me and said that he didn't hold it against me, in his opinion it was completely her fault. I wanted to call the cops but I didn't have my phone"

"Before I had a chance to react, we heard a giant crash outside. We ran up the street to see what had made the noise. Only a few blocks away from your house, we could see that an ice cream truck had an accident. We ran towards it before we realized it was on fire! The entire crowd started running away so we turned and started to run too, just then the truck exploded. A tire came down and hit the jealous boyfriend right on the top of the head, it knocked him smooth out. I guess what goes around comes around. Then, ice cream began to fall from the sky. I looked up and was able to catch a container of my favorite ice cream! Needless to say, I had to take part in this, so really the fact that I am only a few minutes late is nothing"

Appendix B

Study 2

List of 35 Scenes from the Point of View Video (Smith, 2010)

1. Woke up in bed
2. Stretched in bed
3. Pet puppy
4. Walked to bathroom
5. Peed in toilet
6. Brushed teeth
7. Took a shower
8. Dried off with towel
9. Ate cereal (apple Jacks)
10. Got dressed (jeans and socks)
11. Feed dog treats
12. Picked up camera and keys
13. Put on shoes
14. Got in car and drove
15. Locked car
16. Walked on train tracks
17. Took pictures outside
18. Drove home
19. Called girlfriend while cuddling dog
20. Fed the dog
21. Played Xbox
22. Took dog on walk
23. Played angry birds on iPad
24. Answered door
25. Cooked pasta
26. Poured wine
27. Toasted with girlfriend
28. Drank wine
29. Finished cooking dinner
30. Served dinner
31. Shared food
32. Spun in circles with girlfriend
33. Girlfriend fell asleep on couch in his arms
34. Put girlfriend in bed
35. Turned out light

Appendix C

Study 1 IRB Approval

UNIVERSITY OF
ARKANSAS

February 3, 2014

MEMORANDUM

TO: Holly Cole
                            Denise Beike

FROM: Ro Windwalker
                            IRB Coordinator

RE: New Protocol Approval

IRB Protocol #:   14-01-429

Protocol Title: *Retelling Events*

Review Type: ☒ EXEMPT   ☐ EXPEDITED   ☐ FULL IRB

Approved Project Period: Start Date: 02/03/2014 Expiration Date: 02/02/2015

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 180 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes.   All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

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Study 2 IRB Approval

UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

February 12, 2014

MEMORANDUM

TO: Holly Cole
                                Denise Beike

FROM: Ro Windwalker
                                IRB Coordinator

RE: New Protocol Approval

IRB Protocol #:   14-01-447

Protocol Title: *Recalling and Sharing Events*

Review Type: ☒ EXEMPT   ☐ EXPEDITED   ☐ FULL IRB

Approved Project Period: Start Date: 02/12/2014 Expiration Date: 02/11/2015

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 240 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes.   All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

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