MOTIVATION, MISREPRESENTATION,

AND MEMORY

by

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"We are so accustomed to disguise ourselves to others, that in the end, we become disguised to ourselves."

François de La Rochefoucauld (1613-1680)

Maxim 119, *Reflections or Sentences and Moral Maxims*

French philosopher and author, François de La Rochefoucauld, observed that in the process of misrepresenting themselves to others, liars come to believe their own disguise. This can be observed within the context of romantic relationships. On a first date, for example, people wanting to make a positive impression might falsely claim to like something they know the other person likes. They might later incorrectly recall that these false claims were based on reality, which is referred to as a *source monitoring error* (Johnson, Hashtroudi, & Lindsay, 1993; Johnson & Raye, 1981). Although people do not always fool themselves, some contexts may facilitate this process more than others. The current research examines how mating motivation moderates the relationship between misrepresentation and memory. People, for example, may be motivated to lie to someone in order to gain access to a high quality romantic partner or merely to smooth social interactions by being polite (Rowatt, Cunningham, & Druen, 1998; Zanna & Pack, 1975). Motivation to impress an attractive potential romantic partner may facilitate the development of memory confusion between deceptive and truthful sources of information. The central hypothesis is that people misrecall their representations as true after misrepresenting their past attitudes to an attractive opposite-sex partner more than to an unattractive opposite-sex partner.

Source Monitoring Errors (SMEs)

A source monitoring error (SME) can occur when people confuse something they imagine with something they actually did (Henkel, Franklin, & Johnson, 2000; Johnson, Foley, & Leach, 1988; Johnson et al., 1993). According to source monitoring framework (SMF), source monitoring refers to the process of attributing the source of mental experiences, which can take the form of memories, knowledge, or beliefs (Johnson, 2006; Johnson et al., 1993; Lindsay & Johnson, 2000). When attributing the sources of memory, beliefs about the memory are derived from perceptual, semantic, and affective details, as well as from cognitive operations (e.g., imagining). Memories for real events, for example, include more perceptual and contextual details and less details relating to cognitive process (e.g., mental process that suggest the memory was imagined) than memories for imagined events (Johnson et al., 1988). Including these details into both imagined and perceived events can lead to a great number of SMEs than when these details are not present. Researchers have induced SMEs for autobiographical memories by manipulating variables expected to create SMEs, such as imagining perceptual details and encouraging individuals to believe a memory has actually occurred (Braun, Ellis, & Loftus, 2002; Hyman & Pentaland, 1996; Johnson, Foley, Seguenas, & Raye, 1988; Loftus & Pickrell, 1995). These studies demonstrate how capitalizing on known disruptors of the source monitoring process affects complex, emotional memories and subsequent behavior.

SMF is also a useful tool for understanding how deliberate misrepresentation can bias memory in favor of the misrepresentation. In one study on eye-witness reliability, participants who were instructed to lie about a robber’s appearance were subsequently less accurate in recalling details of the crime than were participants who were instructed to tell the truth (Pickel, 2004). This effect occurred even when participants were instructed to be as accurate in their memory as possible. Another study found that misrepresenting information itself is not sufficient for the occurrence of memory errors, but that the audience of the misrepresentation matters, too (Echterhoff, Higgins, Kpietz, & Groll, 2008). In their study, memory errors occurred more often when people told their biased impressions to a trusted source (an in-group member) than when people told their biased impressions to a non-trusted source (an out-group member). In both conditions, students biased their impressions of a target by adapting their message to fit their audience's known attitude toward the target. According to Echterhoff and colleagues (2008), only the students who trusted their communication partner, however, misremembered the information about the target. Although these studies demonstrate how misrepresentations negatively influence memory accuracy of particular targets, no study has looked at how misrepresentations affect memory for past attitudes. Could people who lie about their attitudes fool themselves into believing that they have always felt a certain way toward an attitude object?

SMEs and Attitudes

Extending SMF (Johnson et al., 1993), a few studies have shown how attitude-relevant actions that were only imagined are later remembered as having actually happened (Frye & Lord, 2009; Frye, Lord, & Brady, 2011; McIntyre, Lord, Lewis, & Frye, 2004). Because attitudes are partially based on memory of past actions toward an attitude object (Blank, 2009; Eagly & Chaiken, 1993; Lord & Lepper, 1999), falsely remembered actions can influence subsequent attitudes just as much as real remembered actions. For example, McIntyre and colleagues (2004) changed participants' attitudes toward gay men by having them write hypothetical scenarios in which they took either positive or negative actions toward gay men. The scenarios derived from actions that the participants had previously denied taking toward gay men. As predicted by SMF (Johnson, 2006; Johnson et al., 1993), participants falsely remembered having taken the actions toward gay men that they had previously imagined when writing the scenarios. These remembered actions were the same actions they had earlier denied. The greater the number of SMEs, moreover, the more attitude change participants reported, regardless of whether the actions were positive or negative toward gay men. This effect only occurred when participants imagined themselves performing the actions in the scenarios and not when they imagined someone else performing the actions.

This scenario-writing paradigm has also been used to test predictions from temporal construal theory, which posits that temporally near events contain more specific details than temporally distant events (Liberman & Trope, 1998). Using the same method as McIntyre et al. (2004), Frye and Lord (2009) found that, regardless of whether the imaginary scenarios were set in the past or the future, participants falsely remembered having performed actions they had previously denied. Consistent with previous research, the greater the number of SMEs, the greater the attitude change toward gay men, regardless of whether the scenarios were written in past or future tense. The increase in details of the temporally near events, furthermore, resulted in more SMEs, which resulted in greater attitude change.

These results, however, could have been caused by changing attitudes while writing the fictitious scenarios and not by confusions during source monitoring. Participants may have changed their attitudes while writing the scenarios, which caused the source monitoring errors in memory (e.g., Janis & King, 1954). To test this possibility using the same paradigm developed by McIntyre et al. (2004), Frye et al. (2011, Experiment 1) asked participants to write scenarios that included themselves acting positively toward a gay man (one true action, three false actions), read a persuasive message in favor of gay men, or read a non-persuasive, neutral article. Writing the scenarios and reading the persuasive message changed attitudes equally, but only writing the scenarios caused source monitoring errors for earlier attitudes, and produced significant correlation between number of source monitoring errors and attitude change. These results were consistent with SMF, because the attitude change by itself did not lead participants to falsely recall taking actions that they had previously denied. In addition, attitude change was more pronounced after a delay than immediately after the manipulation (Frye et al., 2011, Experiment 2), which is consistent with previous findings that source monitoring errors take time to develop (Johnson, 2006).

SMEs of evaluative actions, therefore, can lead to attitude change in the direction of the imagined actions. This principle has been supported by studies in which participants imagined themselves and not another person performing the actions (McIntyre et al., 2004), imagined actions in the future as well as the near past (Frye & Lord, 2009), and reported attitudes after a significant delay rather than immediately following the experimental manipulation (Frye et al., 2011). No previous study, however, has examined whether evaluative responses that were deceptions are later remembered as having actually happened. The present research tested whether people who misrepresent their past attitudes to another person misrecall their own past attitudes more when they have misrepresented their attitudes to an attractive than to an unattractive member of the opposite sex. This would be expected if greater motivation to succeed in a misrepresentation also increases source monitoring confusions for one’s own lies.

Mating Motives for Deception

Mating preferences of one sex influence the forms of competition found in the opposite sex (Buss, 1994). Deceptive tactics used to attract a mate typically involve making the deceiver appear more desirable than competitors (Schmitt & Buss, 1996; Toma, Hancock, & Ellison, 2008; Tooke & Camire, 1991). Men, for example, are more likely to use deceptions involving dominance and resources and exaggerated sincerity, trust, and kindness, whereas women are more likely to use deceptions that enhance physical appearance (Tooke & Camire, 1991). The goal of deception within mating contexts, therefore, is to increase the appearance of one's desirability. In one study, participants reviewed profiles of prospective dates and described their own personal characteristics to each prospective date (Rowatt et al., 1998). Both men and women were more likely to alter their personal characteristics (e.g., independence, passivity) to physically attractive than unattractive dates (Rowatt et al., 1998). In another study, men and women reported being more willing to lie about themselves (e.g., personality, career skills, and intelligence) to attractive than unattractive prospective dates (Rowatt, Cunningham, & Druen, 1999). The use of deception to appear desirable to prospective mates, therefore, is more likely to occur during interactions with attractive than unattractive opposite-sex others.

One deceptive tactic individuals use to attract prospective mates is to increase perceiving similarity with the other person. People typically like those who are more similar than dissimilar to themselves (Byrne & Nelson, 1965; Byrne et al., 1971). This similarity-liking relationship can occur implicitly without people's conscious awareness. Archival data, for example, shows that people are disproportionately more likely to marry a person whose names (e.g., first or last initials) were similar to their own (Jones, Pelham, Carvallo, &

Mirenberg, 2004). To increase liking when attracting a mate, people may intentionally tailor their self-presentations to match the presumed attitudes of the other person (e.g., Rowatt et al., 1999). Lying about past attitudes to create the illusion of similarity may foster a heightened sense of intimacy (Barelds & Barelds-Dijkstra, 2007), validation of the potential mate's beliefs (Byrne & Clore, 1970), and the expectation that the similar other (i.e., deceiver) will like the potential mate (Condon & Crano, 1988). Lying about past attitudes, therefore, increases perceptions of similarity and liking, which in turn, increases the chances of attracting a mate.

Deceptive mating tactics, however, are only useful when they are successfully employed. Perceivers of lies, for example, are sensitive at detecting inconsistencies in behavior that may indicate deceptive interactions with others, such as uncertainty and gaze aversion (DePaulo et al., 2003). To avoid being caught when telling deceptive information, individuals should be motivated to reduce the expression of these deceptive cues (Frank & Ekman, 2004). Trivers (2000), for example, reasoned that in order to successfully deceive others, deceivers must first deceive themselves. When deceivers deceive themselves, they will be less likely to display cues that indicate deception (e.g., elevated heart rate, delay in speech response). If individuals are motivated to attract a high quality mate, successful deceptions should require suppression of nonverbal deceptive cues. Suppression of nonverbal deceptive cues and an increased motivation to make a positive impression on a physically attractive potential mate might facilitate the occurrence of SMEs, such that the truthful interactions are experientially similar to deceptive interactions (Henkel et al., 2000; Johnson et al., 1998). When lying to physically attractive potential mates, deceivers might be especially likely to believe their own lies.

The Present Studies

The present studies tested the hypothesis that people who misrepresent their past attitudes to an attractive partner will be less accurate in recalling their initial attitudes than people who misrepresent their past attitudes to an unattractive partner. To test this hypothesis, some participants were induced to lie to an opposite-sex person about their past attitudes and other participants were induced to tell the truth. Manipulating the likelihood of misrepresentation was accomplished by letting some participants know, and others not know, that their partner had attitudes very different from their own (Experiment 1). Motivation to succeed in the misrepresentation was manipulated by the partner's physical attractiveness (Experiments 1 & 2). The target of the deceptive information was also manipulated by having some people tell their partner and others tell the experimenter their attitudes (Experimenter 2). Knowing the partner's attitude in advance will lead people to misrepresent their attitudes to their partner, especially if the partner is physically attractive. In both experiments, when the motivation to misrepresent their attitudes was removed, however, source monitoring errors for one's own past attitudes were predicted to be greater when the other person was physically attractive than unattractive.

Experiment 1

In Experiment 1, on an initial questionnaire college students who were not in a romantic relationship first reported their attitudes and behavioral intentions toward mandatory exams. Several weeks later, students who initially opposed mandatory exams believed they were about to meet a physically attractive or unattractive partner of the opposite sex. They were asked to tell the other student how they answered the attitude item on the initial questionnaire, either before or after learning that the other student very much favored mandatory exams. It was expected that students who knew the other students' attitudes would misrepresent their previously stated attitudes as having been more positive than students who did not know the other students' attitudes. Because research demonstrates audience tuning occurs with self-presentational goals (Echterhoff et al., 2008), we predicted that participants who knew their partner's attitude would misrepresent their previously stated attitudes to their partner, but that students would misrepresent to a greater extent to the attractive than unattractive person. After a filler task, participants took an unexpected memory test for the exact attitudes and behavioral intentions they had stated on the initial questionnaire. The prediction was that (1) knowing partners' attitudes would induce participants to inflate their original responses and (2) participants who knew an attractive partner's attitude in advance would recall more positive original attitudes than participants who knew an unattractive partner's attitude in advance.

Method

Participants. A total of 128 undergraduates participated in the study for course credit. Eleven students were excluded from the analyses for either failing to follow directions or reporting that they were not single at the time of the study.[1] One-hundred and seventeen unmated undergraduate students (100 women, 17 men), therefore, were included in the analyses.

Materials & Procedure. The procedure had nine parts: baseline attitude measures, presentation of the cover story, work partner profile, manipulation of attractiveness,

[1] Two students reported that they were not single at the time of the experiment. Eight students did not follow the directions: six students told their partner their attitude toward a non-target proposal and two students did not correctly identify that their partner was in favor of mandatory exams.

manipulation of knowing the other person's attitudes, motivation manipulation check, fake debriefing, filler task, and memory test.

Baseline attitude measures. Participant's baseline attitude measures were taken as part of a large online questionnaire earlier in the semester. Students reported their baseline attitudes toward three campus-wide proposals: tearing down the existing football stadium and spending $200 million to build a new stadium, instituting mandatory comprehensive exams for all graduating seniors (the target proposal), and decreasing the number of actual books and journals in the library while increasing online holdings. For each proposal, participants indicated on 11-point scales how they felt about the proposal (0 = *strongly opposed*; 10 = *strongly in favor*) and if they would sign a petition about the proposal (0 = *very likely to sign a petition to stop it from happening*; 10 = *very likely to sign a petition to make it happen*). On the same questionnaire, students also reported whether or not they were currently involved in a committed romantic relationship. Only students who opposed mandatory exams (i.e., reported attitudes of at most 2 on the 0-10 scale) and were not in a committed relationship were selected to participate.

Presentation of cover story. Participants were told a cover story that the experiment concerned work partner interactions, using two conditions. Participants were told that the other condition's students were being run in a separate lab room and participants would ostensibly interact with their work partner during the second part of the study. Participants were told that they were in the condition in which they would receive background information about their work partners prior to interacting with them through a personal profile questionnaire and a photograph supplied by their work partner. Participants were asked to fill out a 10 minute filler task, consisting of word puzzles, while they waited for background information on their partner to arrive.

Work partner profile. All participants read about a work partner of the opposite sex. Work partner forms were filled out by either a female or male confederate, with both versions being virtually identical (with the exception of gender being marked as male or female). Work partner's responses indicated that they were of the opposite sex from the participant, single, 19 years old, White/Caucasian, and majoring in psychology. In an open-ended section, the work partner wrote, "I enjoy playing sports and reading. I love spending time with friends and family. I would say that I'm a hard-working person who knows how to get work done and still have fun." The final section, labeled "Important issues on campus," reminded respondents of earlier in the semester when they had answered questions pertaining to the three new proposals on campus. Participants read that their work partner chose to tell their partner about instituting mandatory comprehensive exams as the issue and circled a "9" on the scale from 0 (*strongly opposed*) to 10 (*strongly in favor*) to indicate the this was how the partner responded on the earlier questionnaire. An open response item also asked respondents for comments about the proposal, under which the work partner wrote, "I very much supported it."

Manipulation of attractiveness. Participants were also given a picture of their work partner and told that their work partner supplied the photo. Participants were randomly assigned to see pictures of a member of the opposite sex who was either high or low in physical attractiveness. To ascertain that the photos were rated as attractive and unattractive by the opposite sex, attractiveness ratings of the photos were provided by 57 undergraduates from the same university (17 men and 40 women). To be sure that the results did not depend on specific target persons rather than general physical attractiveness, photos of three different attractive men ($M = 5.74$, $SD = 0.84$), three different attractive women ($M = 5.65$, $SD = 0.74$), three different unattractive men ($M = 2.20$, $SD = 0.89$), and three different unattractive women ($M = 2.25$, $SD = 0.85$) were used. The attractive and unattractive men and women differed not only from each other ($p < .001$), but also up or down from the scale mid-point by the same number of scale points.

Manipulation of knowing the partner's attitudes. To induce some participants to misrepresent their attitudes and others to honestly report their initial attitudes, participants filled out their own profile forms either before or after they learned about their work partners' attitudes toward mandatory comprehensive exams. Participant's forms were identical to work partner's forms, with the exception of the section on important issues on campus. For participants who learned of their work partner's attitudes first, participants' forms stated, "Your work partner told you how they felt about one of those proposals. Now you get to tell him/her what you thought of it." For participants who learned of their work partner's attitudes after sharing their own attitudes, participants' forms stated, "Your work partner will tell you how they felt about [blank]. First, you get to tell them what you thought of it." To reduce suspicion that the experimenter knew in advance which proposal the fictitious work partner would choose, the experimenter wrote in "instituting mandatory comprehensive exams" on the blank line during the first filler task. All participants were asked what proposal their partner discussed and to tell the partner how they had marked the scales about that proposal on the earlier questionnaire. They were also given an open-ended response for comments on the proposal. Telling the partner how they filled out the initial questionnaire and writing a comment was their opportunity to misrepresent their attitudes to the other person. To ensure participants correctly identified that the partner was in favor of mandatory exams, participants were asked to identify on a separate questionnaire how their partner felt toward the proposal that he or she told them about.

Motivation manipulation check. Following the presentation of the work partner profile, participants were told that the experimenter would like some feedback regarding what they thought of their partners. Specifically, participants were asked to what extent they would like to get along with their partner, how much they wanted to please their partner, and how much they wanted to make a good impression on their partner, on scales from 1 (*not at all*) to 7 (*a great deal*).

Filler task. To allow time for source monitoring errors to occur, all participants were given 10 minutes to work on Sudoku puzzles, the second filler task.

Fake debriefing. After the filler task, participants were given a fake debriefing and told that the purpose of the study was to see what people write about themselves when they are anticipating meeting someone new for the first time. They were told that the profile and picture of their work partners were of fictitious individuals that were created for the purposes of a pilot study and they would not be interacting with anyone for the remainder of the experiment. The fake debriefing was intended to eliminate any further motivation to misrepresent their attitudes. Participants were told that the real purpose of the study was a memory experiment and that the pilot study regarding anticipation of interacting with someone was part of a separate unrelated study.

Memory test. Participants were told they would be completing a memory test consisting of 24 questions from the original prescreen study that all participants completed to become eligible to participate in studies throughout the semester. The experimenter stressed to participants that the experimenters were not interested in how they currently felt about the items but, rather, how they answered these items when they took the original prescreen study. To increase the motivation to answer accurately, the experimenter provided the participants with a meaningful reward, such that anyone who answered all 24 questions correctly would receive one extra hour of experimental credit above and beyond the standard credit assigned for the study. Six (i.e., two for each proposal) of the 24 questions were identical to the baseline attitude measures regarding each of the three proposals; the other 18 pertained to other items from the prescreen questionnaire.

After participants completed the memory test, they were asked to fill out a second manipulation check questionnaire. Specifically, they were asked how accurate they thought they were in their memory test (1 = *not at all accurate*; 7 = *very accurate*), and how confident they were of their decisions when completing the memory test (1 = *not at all confident*; 7 = *very confident*). Participants were also asked how many of the 24 questions they believed they correctly answered (i.e., marked the same answer on the earlier questionnaire). Perceived accuracy and confidence did not differ across work partner attractiveness conditions or telling own attitude conditions (Fs < 1). After participants completed the memory measures, they were asked to guess the hypothesis, told the true nature of the study, and, finally, thanked for their participation.

Design. The experiment used a 2 (Telling Own Attitude: before vs. after learning work partner's attitude) × 2 (Work Partner's Physical Attractiveness: high vs. low) between-subjects design. The time when participants told their own attitude to their partner was manipulated by having participants tell their attitude before (n = 60) or after (n = 57) participants learned their work partner's attitude. Participants work partners were either physically attractive (*n* = 58) or unattractive (*n* = 59). The primary dependent measures were students' remembered attitude ratings toward mandatory comprehensive exams and students' remembered behavioral intentions to sign the petition in favor of the exams.

Results

Manipulation checks. Items measuring the extent to which participants wanted to make a positive impression on their partner displayed high internal reliability ($\alpha = .89$). A composite impression motivation score was created for each student to measure mean motivation to make a positive impression on the partner. Using this composite impression motivation score, students with attractive work partners reported a stronger motivation to make a positive impression on their partner ($M = 4.49$, $SD = 0.93$) than did students with unattractive work partners ($M = 3.70$, $SD = 1.06$), $F(1, 115) = 18.74$, $p < .001$.

When looking at students' attitudes reported to their partner, students who told their attitude to their partner after learning their partner's attitude ($M = 4.39$, $SD = 2.85$) reported more positive attitudes than students who told their attitude before learning their partner's attitude ($M = 2.02$, $SD = 1.91$), $F(1, 113) = 29.40$, $p < .001$. As expected, partner physical attractiveness interacted with telling attitude condition, $F(1, 113) = 6.11$, $p = .02$.[2] For participants who knew their partner's attitude in advance, participants with attractive partners claimed to have endorsed more positive attitudes on the earlier baseline measure ($M = 5.20$, $SD = 2.68$) than participants with unattractive partners ($M = 3.48$, $SD = 2.79$), simple effects $F(1, 113) = 7.35$, $p < .01$. No differences were found between students who told their attitudes before learning an unattractive or attractive partner's attitude (*M*s = 2.19, 1.83; *SD*s = 1.94, 1.89, respectively), simple effects $F < 1$.

[2] This interaction remained significant when controlling for original baseline attitude scores, $F(1, 112) = 5.09$, $p = .03$.

Remembered initial attitudes. Although students knowingly inflated their attitudes to their partner when informed of their partner's attitude, would their memory for their original attitude change after being told that their partner was not real? To reduce positive skew, remembered attitude scores were transformed by adding 1 to each score and taking the square root of each score. Students' transformed scores for remembered initial attitudes were subjected to a 2 (Telling Own Attitude condition) × 2 (Physical Attractiveness of Partner condition) analysis of variance (ANOVA). No differences were found in remembered attitude scores between students who told their attitudes to their partner before or after learning their partner's attitude, $F(1, 113) = 2.19$, $p = .14$, or between students who had an

Figure 1. Mean scores for remembered attitudes toward mandatory exams. Higher scores indicate more positive remembered attitudes toward mandatory exams. Standard deviations are represented as error bars attached to each column (Experiment 1).

attractive or unattractive partner, $F(1, 113) = 1.52$, $p = .22$. As expected, however, a significant interaction emerged between partner attractiveness and telling attitude condition, $F(1, 113) = 5.23$, $p = .02$ (see Figure 1).[3] Among students who told their attitudes after learning their partner's attitude, students with an attractive partner ($M = 3.13$, $SD = 2.84$) reported more positive remembered attitudes toward mandatory exams than students with unattractive partners ($M = 1.70$, $SD = 1.94$), simple effects $F(1, 113) = 6.03$, $p = .02$. Among students who told their attitudes before learning their partner's attitude, no differences were found between students with an attractive ($M = 1.55$, $SD = 1.48$) or unattractive partner ($M = 1.97$, $SD = 1.97$), simple effects $F < 1$.

Remembered behavioral intention. In addition to recalling their original attitudes toward mandatory exams, students also recalled the likelihood that they would sign the petition. A 2 (Telling Attitude condition) × 2 (Partner Attractiveness condition) ANOVA was performed on students' transformed scores for remembered intentions of signing the petition. No differences were found between students who told their attitudes before or after learning their partner's attitude toward mandatory exams, $F < 1$. Students with attractive partners ($M = 2.63$, $SD = 2.72$) reported higher scores for remembered intentions to sign the petition than students with unattractive partners ($M = 1.79$, $SD = 2.45$), as indicated by a main effect of partner attractiveness, $F(1, 113) = 4.14$, $p = .04$. More important, partner attractiveness interacted with telling attitude condition, $F(1, 113) = 4.03$, $p = .047$ (see Figure 2).[4] Among students who told their attitudes after learning their partner's attitude, students with an attractive partner ($M = 2.97$, $SD = 3.16$) reported higher scores for remembered intentions

[3] This interaction remained significant when controlling for original baseline attitude scores, $F(1, 112) = 3.87$, $p = .052$.
[4] Controlling for original baseline scores for intentions to sign petition by using baseline scores as a covariate reduced the interaction to a marginal effect, $F(1, 112) = 3.63$, $p = .06$.

to sign the petition than students with unattractive partners (*M* = 1.11, *SD* = 1.89), simple effects $F(1, 113) = 7.95$, $p < .01$. No differences were found among students who told their attitudes before learning the attitude of an attractive partner (*M* = 2.28, *SD* = 2.17) or an unattractive partner (*M* = 2.39, *SD* = 2.74), simple effects $F < 1$.

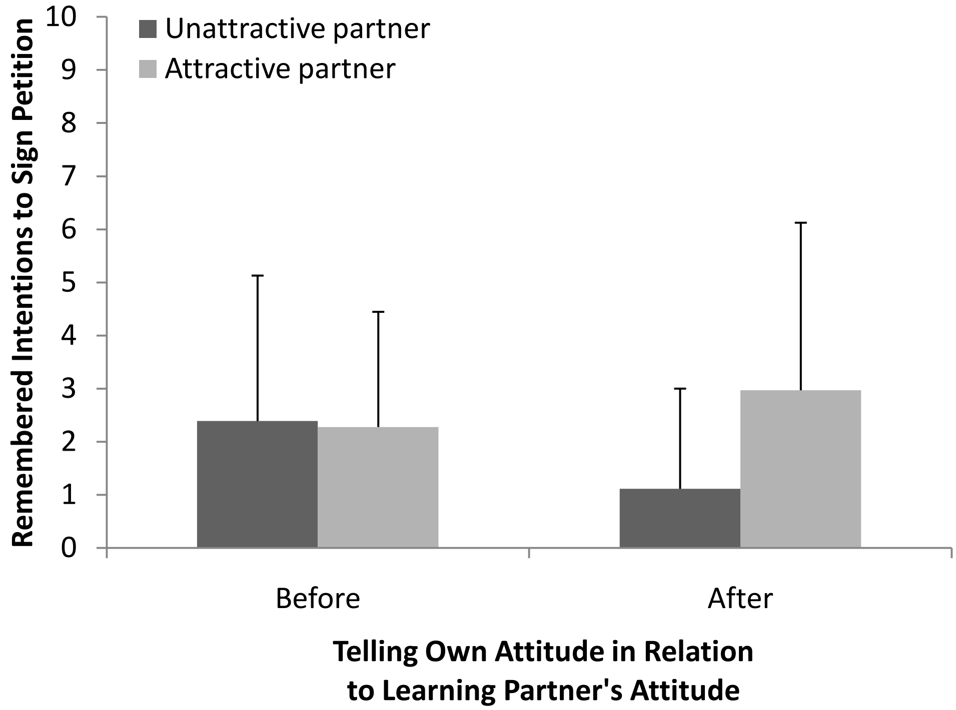

Figure 2. Mean scores for remembered intentions to sign petition in favor of mandatory exams. Higher scores indicate more positive remembered intentions to sign petition. Standard deviations are represented as error bars attached to each column (Experiment 1).

Discussion

Experiment 1 provided evidence that misrepresenting past attitudes to make a favorable impression on an attractive person of the opposite sex can alter the memory of that past attitude. This change in memory, furthermore, can also change behavioral intentions related to the attitude in question. One limitation of Experiment 1 is that knowing the other person's attitude is only one motivator to misrepresent attitudes. When reporting their past attitudes, individuals who were not informed in advance of their partner's attitude most likely assumed that their partner was just as negative toward mandatory exams as they were. Would memory errors occur if people misrepresented their attitudes to someone other than their partner? In Experiment 2, all participants knew the partner's positive attitude in advance, but some participants were instructed to tell their own attitude to their partner and other participants were instructed to tell their own attitudes in confidence to the experimenter. It was far from certain, however, what the effects would be of misrepresenting attitudes to a high-status person like a doctoral student experimenter. In addition, the delay between misrepresentation and memory test in Experiment 1 was very brief. Would the same effect occur after a longer delay? According to source monitoring framework (Johnson, 2006), source monitoring errors are more likely to occur after a delay than immediately after imagining an event. In Experiment 2, participants took the memory test one week after telling their past attitudes to another person.

Experiment 2

In Experiment 2, on an initial questionnaire, college students who were not currently in a romantic relationship first reported their attitudes toward mandatory comprehensive exams. Several weeks later, students who initially opposed mandatory exams believed they were about to meet a physically attractive or unattractive student of the opposite sex who strongly favored mandatory exams. They were asked either to tell the other student how they completed the initial questionnaire or to tell the experimenter in strict confidence. It was expected that among students who told their partner their past attitudes, students would misrepresent their previously stated attitudes more when they had an attractive than unattractive partner. One week later, students were told the "other person" was fictitious and took an unexpected memory test for the exact attitudes they had stated on the initial questionnaire. The prediction was that, among participants who told the potential partner, memory for past attitudes would be more positive when the partner was physically attractive than unattractive.

Method

Participants. Eighty single students (30 men, 50 women) participated in the study for credit.[5]

Materials & Procedure. The procedure for Experiment 2 was the same as the procedure of Experiment 1, except that all participants knew their partner's attitude in advance. The target of the communication, however, was manipulated to be either the target or the experimenter. Also, instead of a 10 min distractor task between telling their baseline attitudes and memory of baseline attitudes, the delay was 1 week.

Baseline attitude measure. Participant's reported their attitudes toward mandatory exams on a baseline measure earlier in the semester (0 = *strongly opposed* to 10 = *strongly in favor*). Again, only single students who initially opposed mandatory exams (i.e., at most 2) were selected to participate.

Presentation of partner profile. The cover story and work partner profiles were the same as used in Experiment 1, except that all participants knew, in advance of stating their own previous attitudes, that their work partner had chosen instituting mandatory comprehensive exams as the issue, had circled a "9" on the scale from 0 (*strongly opposed*) to 10 (*strongly in favor*), and had written "I very much supported it." The same photos from Experiment 1 were used to manipulate the work partner's physical attractiveness. To measure

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[5] Six students' data were not included in the analysis because they reported that they were not single at the time of the experiment.

the extent to which participants wanted to make a favorable impression on their work partners, participants were asked the same impression motivation questions as in Experiment 1.

Manipulation of communication target. As in Experiment 1, some participants were told that they were completing the forms in order to tell their partner what they (the participant) had responded to the question about mandatory exams on the initial baseline questionnaire. Other participants, however, were told that the experimenter needed the forms for her own data, but that the forms were be strictly confidential and would never be seen by the work partner.

Memory test. After students told either the experimenter or their work partner their baseline attitudes toward mandatory exams, participants were asked to come back one week later, ostensibly to interact with their work partner. When participants arrived one week later, they were told that the real purpose of the study was a memory experiment and that the pilot study regarding anticipation of interacting with someone was part of a separate unrelated study. As in Experiment 1, participants were asked to recall how they originally responded to 24 items from the initial questionnaire they took at the beginning of the semester. Participants were given the same meaningful reward to be accurate as in Experiment 1. One of the 24 items was the same baseline attitude question about mandatory comprehensive exams that participants answered as part of the initial questionnaire. Participants were asked the same memory accuracy manipulation check questions as in Experiment 1. As in Experiment 1, participants' self-reported accuracy scores were similar across groups, Fs < 1.

Design. The design was a 2 (Communication Target: Work Partner, Experimenter) × 2 (Work Partner's Physical Attractiveness: High, Low) between-subjects design.

Communication target was manipulated by having participants tell their attitudes either to their work partner (n =38) or anonymously to the experimenter (n = 42). Participants either had an attractive (n = 41) or unattractive work partner (n = 39). The primary dependent measure was students' remembered attitude ratings toward mandatory comprehensive exams.

Results

Motivation to make a favorable impression. As in Experiment 1, students' responses for items pertaining to motivation to make a favorable impression on their partner showed strong internal reliability $\alpha = .89$. When looking at composite impression motivation scores, students with an attractive partner (M = 4.76, SD = 0.98) reported stronger motivations to make a favorable impression on their partner than students with an unattractive partner (M = 4.10, SD = 1.02), $F(1, 78) = 8.53$, $p < .01$. Motivation to make a positive impression on the experimenter was not measured.

Reported attitudes to target. When looking at students' reported attitudes to either work partner or experimenter, no main effect differences in reported attitudes were found for communication target condition or for partner physical attractiveness condition, Fs < 1. A significant interaction emerged, however, between communication target and physical attractiveness emerged, however, $F(1, 76) = 8.12$, $p < .01$.[6] Unexpectedly, students who told their attitudes to the experimenter reported less positive attitudes for participants with attractive work partners (M = 2.90, SD = 2.49) than for participants with unattractive work partners (M = 4.62, SD = 2.84), simple effects, $F(1, 76) = 4.33$, $p = .04$. As predicted, participants who reported their attitudes to an attractive work partners (M = 4.75, SD = 2.75)

[6] This interaction remained significant when controlling for original baseline attitude scores, $F(1, 75) = 7.61$, $p < .01$.

reported marginally more positive attitudes than participants who reported their attitudes to unattractive work partners (*M* = 3.06, *SD* = 2.58), simple effects, $F(1, 76) = 3.82$, $p = .05$.

Remembered initial attitudes. To reduce positive skew, students' remembered attitude scores were inversely transformed by adding 1 to each score and taking the inverse.[7] Students' remembered attitude scores were subjected to a 2 (Communication Target) × 2 (Physical Attractiveness of Partner) ANOVA. No differences were found in remembered attitude scores between students who told their attitudes to their partner or the experimenter or between students who had an attractive or unattractive partner, *F*s <1. A significant

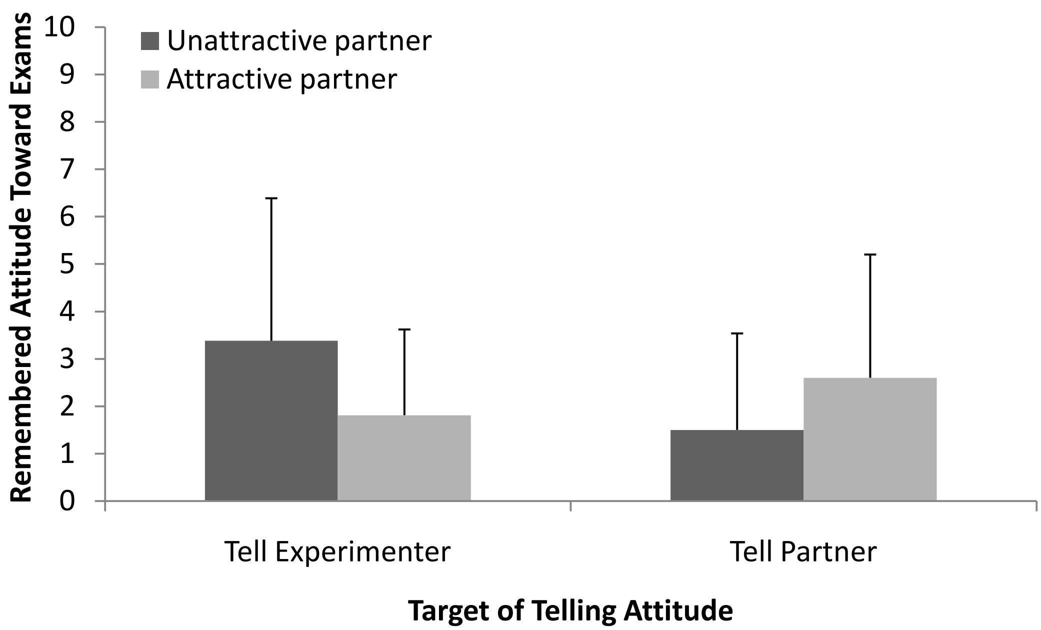

Figure 3. Mean scores for remembered initial attitudes toward mandatory exams. Higher scores indicate more positive remembered attitudes toward mandatory exams. Standard deviations are represented as error bars attached to each column (Experiment 2).

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[7] An inverse transformation was used to because the standard error (*SE* = 0.27) was larger than standard error of the dependent measure used in Experiment 1 (*SE* = 0.22).

interaction emerged, however, between partner attractiveness and communication target, $F(1, 76) = 5.75$, $p = .02$ (see Figure 3).[8] Among students who told their attitudes to their work partner, students with an attractive partner ($M = 2.60$, $SD = 2.30$) reported marginally more positive remembered attitude scores than students with an unattractive partner ($M = 1.50$, $SD = 2.04$), simple effects, $F(1, 76) = 3.31$, $p = .07$. No statistical differences were found, however, among students who told their attitudes to the experimenter for students who had attractive ($M = 1.81$, $SD = 2.06$) or unattractive work partners ($M = 3.38$, $SD = 3.01$), simple effects, $F(1, 76) = 2.48$, $p = .11$.

Discussion

Experiment 2 extended the results of Experiment 1 by showing again that people who misrepresent their attitudes to an attractive opposite sex person remember more positive attitudes toward mandatory exams than people who misrepresent their attitudes to an unattractive opposite sex person. Although this effect was marginal in Experiment 2, it was still present one week after students told their attitudes. In both experiments, furthermore, physical attractiveness of partner affected participants' desire to make a favorable impression on the other person. This motivation was important for creating source monitoring errors for misrepresentations of own attitudes.

General Discussion

The results of the present studies proved consistent with past research on source monitoring errors and past attitudes (Frye & Lord, 2009; Frye et al., 2011; McIntyre et al., 2004). Participants told their attitudes to an experimenter (Experiment 2), to a partner before knowing their partner's attitude (Experiment 1), or to a partner after learning that their

[8] This interaction remained significant when controlling for original baseline attitude scores, $F(1, 75) = 5.59$, $p = .02$.

partner had very different attitudes (Experiments 1 & 2). In both experiments, when the motivation for misrepresenting their attitude was removed (i.e., knowledge that their partner was not real), participants who misrepresented their attitudes to an attractive partner misremembered their initial attitude to a greater extent than did participants who misrepresented their attitudes to an unattractive partner. Participants in Experiment 1, moreover, claimed they were more likely to behave in a manner consistent with their misrepresented attitude than participants who misrepresented their attitudes to an unattractive partner.

These findings are consistent with previous research that misrepresenting information can alter memory (Pickel, 2004; Echterhoff et al., 2008) and that SMEs affect attitudes and attitude-relevant behaviors (McIntyre et al., 2004; Frye & Lord, 2009; Frye et al., 2011). Misrepresenting attitudes alone was not sufficient for memory errors to occur, because participants inflated their past attitudes to the experimenter (Experiment 2) and to the unattractive partner (Experiments 1 & 2). Mating motivation as a moderator (via physical attractiveness of the target) seems to be important when looking at the relationship between misrepresentation of past attitudes and memory. One way to interpret the results from Experiment 2 could be that lying to an unattractive opposite sex person may enhance memory accuracy rather than that lying to an attractive opposite sex person impairs memory. This interpretation is not incongruent with source monitoring framework, because lying to smooth social interactions (e.g., Rowatt et al., 1998) may make more salient to individuals the discrepancy between their true attitude and the other person’s attitude. This salience may enable individuals to monitor the source of their deceptions better than lying to impress another person (e.g., Johnson et al., 1998). When looking at the results of both experiments, however, misrepresenting past attitudes to an attractive target led to inflated memory of past attitudes even with participants were told the other person was fictitious.

These results are also consistent with deception as a mating tactic, because participants lied to a greater extent to the attractive than unattractive partner. To be an effective mating strategy, however, the deception must be successful (Frank & Ekman, 2004; Tooke & Camire, 1991). In the participants' desire to make a positive impression, they presumably deceived themselves into believing they were less negative toward mandatory exams than they initially were. If participants misrepresented their attitudes in such a way that their deceptive interaction was similar to a truthful interaction, monitoring the source of the information would be more difficult than misrepresenting without the desire to be believable (e.g., Henkel et al., 2000; Johnson et al., 1998).

The present research, however, provided no empirical evidence that speaks to the mechanism of the desire to have participants' misrepresentations be believed by their partner. No measured assessed the extent participants wanted to appear credible at the time participants' reported their attitudes to their partner. Asking this type of question might have reminded participants that they were lying, which may have prevented source monitoring errors. In future studies, it might be possible to manipulate these perceptions. People who think they are not getting away with misrepresenting their attitudes might react by labeling their own statements as lies, but they might also react by forcing themselves into a heightened belief state that would increase source monitoring errors. Another interesting avenue of research would be the number of times the lie is expressed. According to SMF, the more times an event is imagined the greater the number of memory errors as compared to when the event is only imagined once (Johnson, 2006). Is the number of times the lie is told equally debilitating on memory when the lie is told to one or multiple people? It could be that the more times the lie is told, the more difficult monitoring the source of the information would be. The motivation people have to be believed by the target of the lie, however, could also be important in determining source monitoring errors.

When disguising ourselves to others, therefore, an important factor that affects self-deception is mating motivation. People who lie about something they originally disliked may have trouble accurately recalling how they originally felt, especially if they lie to a prospective romantic partner who is physically attractive. The desire to make a favorable impression on someone, moreover, can affect subsequent behavior related to the misrepresentation. One answer to when liars believe their own lies, therefore, is when liars want to make a positive impression on an attractive potential romantic partner. In the process of disguising themselves to an attractive potential mate, they inadvertently become disguised to themselves.

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ABSTRACT

MOTIVATION, MISREPRESENTATION,
AND MEMORY

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Two experiments examined the hypothesis that misrepresentation of past attitudes and mating motives lead to reduced memory accuracy of past attitudes. In Experiment 1, participants told an attractive or unattractive member of the opposite sex their past attitude toward mandatory comprehensive exams. Participants told their partner their attitude either before or after learning that their partner was strongly in favor of mandatory exams. For participants who told their attitudes after learning their partner's attitude, participants who told an attractive partner recalled being more positive toward mandatory exams than participants who told an unattractive partner. Experiment 2 manipulated the target of telling the attitude (either to their partner or anonymously to the experimenter). The results from both experiments provide evidence that misrepresenting attitudes affects memory of initial attitudes. Mating motivation, furthermore, is one moderator that affects this relationship.