An affair to remember: The role of sexual scripts in perceptions of sexual intent

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Abstract
This research investigates a proximal mechanism by which judgments of sexual intent are made: scripts. In a pilot study, scripts organized around sexual intent were elicited, with coding identifying the features of scripts relevant to casual and committed relationship encounters. Male participants and those interested in casual sexual relationships were more likely to generate the casual (vs. committed) script, thus demonstrating the scripts' initial validity. In the critical study, the casual and committed scripts were activated for participants via stories. Participants later showed false memory for script-relevant information. Further, participants who were less able to discriminate between real vs. imagined script details imputed greater sexual intent to the targets. These results provide clear evidence for the use of behavioral scripts in judgments of sexual intent.

Over the past 20 years, a great deal of research has investigated judgments of sexual intent, with the majority of this work endeavoring to explain why it is that men (on average) attribute greater sexual intent to others than do women (Abbey, 1982; Abbey & Harnish, 1995; Abbey & Melby, 1986; DeSouza, Pierce, Zanelli, & Hutz, 1992; Haselton & Buss, 2000; Kowalski, 1992, 1993; Muehlenhard, Koralewski, Andrews, & Burdick, 1986; Saal, Johnson, & Weber, 1989; Sarles & DeSouza, 1999; Shea, 1993; Shotland & Craig, 1988). Although this research has been interesting, we currently know very little about the cognitive process by which this judgment is made. Given that misperceptions of sexual intent have been linked to such deleterious outcomes as sexual harassment, sexual coercion, and rape (Abbey, 1991; Muehlenhard, 1988; Saal et al., 1989; Shea; Shotland, 1989), it is crucial that the proximal mechanisms underlying this judgment are understood. A clear picture of how individuals may come to overperceive sexual intent may lead to the development of educational programs to reduce the likelihood of such overperception and thus its harmful consequences. The goal of the present research is therefore to identify the cognitive underpinnings of judgments of sexual intent.

Our program of research is the only one of which we are aware that attempts to identify proximal variables that play a role in judgments of sexual intent. In Lenton, Bryan, Hastie, and Fischer (2005), we found that egocentric projection, in part, underlies sexual intent judgments. More specifically, this research shows that one’s own sexual motivation (motivation for multiple casual sexual relationships vs. motivation for a monogamous sexual relationship) predicts judgments of sexual intent, such that persons currently interested in casual sexual relationships are more likely to impute sexual intent to the behavior of others than are persons currently interested in having a committed sexual relationship. Thus, judgments of sexual intent are subject to egocentric biases. While this research provides a novel and
important contribution to our understanding of
the construction of judgments of sexual intent,
sexual motivation (controlling for sex) never-
theless was observed to account for just 38% of
the variance in these judgments. Clearly, there
are other factors at work.

A convincing body of research indicates
that the processing of social information is in-
fluenced by knowledge representations (see
Smith, 1998). One type of knowledge repre-
sentation that might be especially applicable to
judgments of sexual intent is the event schema
or script. The present research examines the
utility of the script concept for explaining how
judgments of sexual intent are made. Accord-
ing to Abelson (Abelson, 1976; Schank &
Abelson, 1977), a script is a mental repre-
sentation of a situation such that the situation can
be explained as incorporating a coherent se-
quence of events. In other words, scripts are
made up of a number of logical if-then state-
ments (Bargh, 1996) that guide our expecta-
tions of what will or will not occur. For
example, many people possess scripts for activ-
ities such as going to the movies, commuting to
work, going on vacation, and so forth. Each
script or “action stereotype” (Bower, Black,
& Turner, 1979) typically comprises beliefs
concerning events and their proper sequence
(e.g., you pay for the ticket before you enter
the theater), props (e.g., popcorn), and roles
(e.g., ticket taker, popcorn maker, usher,
moviegoer; Fiske and Taylor, 1991).

Scripts are developed based on our own
experiences as well as on the observed or
perceived experiences of others (Schank &
Abelson, 1995). According to Simon and
Gagnon (1984, 1986, 1987), there are three
distinct sources for sexual scripts in particular:
(a) culture—cultural scripts are developed and
promulgated by organizations or individuals
ranging from educators and religious leaders
to folklore and the media (Carpenter, 1998);
(b) interpersonal—in actual interactions, peo-
ple interpret the cultural scenarios according
to their own history and desires; and (c) intra-
psychic—internalization or personal acceptance
of the rehearsed scripts. As this framework and
other research suggests, motivation or inten-
tions can serve as an organizing framework
for scripts as intentions may connect the per-
haps otherwise unrelated events that make up
the script (Brewer & Dupree, 1983; Owens,
Bower, & Black, 1979). Gagnon and Simon
(1973) argued over 30 years ago that there are
very specific scripts that define both the exter-
nal/interpersonal and motivation elements of
human sexual behavior. Indeed, they note that
possessing a script of sexual interaction is so
 crucial that “… without the proper elements
of a script that defines the situation, names the
actors, and plots the behavior, nothing sexual is
likely to happen” (p. 19). Based on all this the-
 orizing, it seems reasonable to suggest that sex-
ual scripts may contribute to judgments of
sexual intent.

Importantly, more recent research supports
the assertion that people’s knowledge of sexual
behavior is indeed script like. For example, indi-
viduals can generate scripts for casual sexual relationships and place the events that make them
up in a similar time-based sequence (Edgar &
Fitzpatrick, 1993). Furthermore, women who
subscribe to the notion of being “swept away”
by passion are less likely to have positive atti-
tudes toward condom use and to express inten-
tions to use condoms in the future, suggesting
that the use of condoms is not a part of their
sexual script (Diekman, McDonald, & Gardner,
2000).

There are interesting consequences of pos-
sessing scripts for behavior in general and for
judgments of sexual intent more specifically.
Scripts guide and influence attention, inferen-
ces, evaluation, behavior, and memory (Fiske
& Taylor, 1991), and of these, memory has
been demonstrated to be especially sensitive
to the influences of scripts (e.g., Bellezza &
Bower, 1981; Bower et al., 1979; Gibbs
&Tenney, 1980; Graesser, Woll, Kowalski,
& Smith, 1980). For example, in one of the
earliest such studies, Bower and Clark-Meyers
(1980) found that participants were able to
recall far more words when the words had been
previously organized into scripted activities
(e.g., attending a lecture) than when they had
been organized in random order. Furthermore,
participants were more likely to falsely recog-
nize script-related items for the organized list.
In a more recent study of the effects of scripts
on memory, Smith and Studebaker (1996)
found that people possess crime scripts (e.g.,
“a burglary involves someone wearing dark clothing sneaking into an empty house”) and that when these scripts are primed or activated via presentation of a subset of the script-related events, people are more likely to fill in the missing information with script-consistent than with script-inconsistent information. In other words, evidence indicates that scripts (like stereotypes; Lenton, Blair, & Hastie, 2001) can produce false memory.

It thus seems plausible that this script → false memory process plays a role in judgments of sexual intent. To date, however, researchers have not directly examined the role of script-related false memory in judgments of sexual intent, though many have instinctively relied on scripts to extract sexual intent judgments. For example, consider the typical sexual intent study in which researchers present participants with a scenario that describes a man and woman meeting for the first time, chatting a little, and perhaps drinking alcohol (e.g., Abbey & Harnish, 1995; Kowalski, 1993; Muehlenhard, 1988). Participants are then asked to indicate the extent to which the characters in the scenario are attracted to one another, possess sexual desire for one another, and so forth. To render one’s judgment of sexual intent, one might simply fill in the blanks and imagine the rest of the story. Does the perceiver imagine the story to end with the couple having sex? If so, then the targets described in the scenario would be inferred to have had sexual intent. Does the perceiver incorrectly remember that the female touched the male? If so, she or he might infer that the female character had sexual intent. Again, prior research on judgments of sexual intent has failed to examine just how perceivers arrive at a judgment of sexual intent from the information they are given. We propose that the above-described process—filling in the blanks with script-consistent information—is one such way.

The research reported herein thus directly examines whether sexual scripts evoke false memories and, further, whether script-consistent false memories are related to increased perceptions of sexual intent. If scripts are found to underlie judgments of sexual intent, we will have a new framework from which to study and understand this judgment. Again, it is important that we have an improved understanding of sexual intent judgments, as misperceptions of sexual intent have been linked with sexual harassment, sexual coercion, and rape (Abbey, 1991; Muehlenhard, 1988; Saal, et al., 1989; Shea, 1993; Shotland, 1989). Perhaps, false memories arising from script activation represent the link that connects (mis)perceptions of sexual intent to such negative behavioral consequences. If so, there might be some means by which to mitigate such consequences. For example, recent research suggests that counterstereotype mental imagery reduces the tendency to produce stereotype-consistent false memories (Blair, Ma, & Lenton, 2001). Accordingly, counterscript expectations or attention to script-inconsistent situational cues might reduce misperceptions of sexual intent.

Prior to investigating the relationships among scripts, false memory, and judgments of sexual intent, we undertook a pilot study. The purpose of the pilot study was to gain a better understanding of the specific features of scripts that are relevant to sexual intent judgments. Such knowledge was expected to facilitate the design and construction of the subsequent study in which we investigate the effects of scripts on memory distortions and judgments of sexual intent. While there has been a great deal of theorizing with respect to sexual scripts or scenarios in general (e.g., DeLamater, 1987; Simon & Gagnon, 1984, 1986, 1987), very few studies have actually explored the specific content of interpersonal scripts (but see Edgar & Fitzpatrick, 1993, and Hynie, Lydon, Cote, & Wiener, 1998, for exceptions). Of those that have, the scripts were either almost wholly given to the participants (i.e., participants were given a scenario and then wrote the ending to it; e.g., Hynie et al., 1998) or involved a script for only one type of relationship, namely, a casual sex or early relationship script (e.g., Edgar & Fitzpatrick). Because the purpose of this research is to say something about the role of sexual scripts in sexual intent judgments in general, it was necessary to use more than one type of sexual script. A stringent test of our hypothesis that script-consistent false
memories result in increased perceptions of sexual intent would be to examine this idea with respect to both casual (or early) and more committed (or long-term) sexual scripts as most research in judgments of sexual intent situates the to-be-judged targets in a casual sex context. If we find that a more commitment-focused sexual script also results in script-consistent false memory and a subsequent increase in sexual intent perceptions, we will have strong evidence that sexual scripts per se, rather than a particular type of sexual script, play a role in judgments of sexual intent.

Pilot Overview

In the pilot study, sexual intent scripts were elicited by asking participants to think about and describe the typical situation wherein one might express his or her sexual interest in another person. We then examined the responses with respect to thematic content (casual sex [CS] vs. committed relationship [CR] focus), features of the scripts (i.e., who?, what?, when?, where?, why?) as a function of their “themes,” and the initial validity of the scripts.

Method

Participants

Seventy-one undergraduates from the University of Colorado at Boulder participated in this study in return for partial fulfillment of course requirements. Thirty-six (50.7%) of these participants identified themselves as male and 62 (87.3%) identified themselves as White. Participants’ average age was 18.79 years (range: 18–22).

Materials

To extract sexual intent scripts, a written instruction set began by asking participants to consider those situations in which one person would like to have sex with another. The set then informed participants that we would like them to describe “the best example of what it is like when one person communicates sexual intent to another” and that, to do so, they should identify the context (time and place) in which this occurs, the primary actors, the standard sequence of events, and the major motives of the actors. The subsequent part of the instruction set provided an analogy to assist the participants in interpreting what it was we were asking them to do (i.e., a fast-food script: e.g., “The typical sequence of events is entering the restaurant, waiting in line, consulting the menu boards, placing an order, paying, employees put food on a tray, etc.”). The next page of the script task provided headings (e.g., Context, Primary actors) and space in which the participants could write their responses. A demographic sheet followed the script elicitation survey. This sheet asked participants to indicate their sex, age, and race/ethnicity, as well as their current sexual relationship goals (as measured by Lenton et al., 2005; “What do you want from a romantic relationship right now?” (a) to have a casual sexual partner, (b) to have a casual dating partner, (c) to have a steady dating partner, (d) to have a serious committed relationship, (e) to be married).

Procedure

Participants entered the lab in groups ranging in size from 1 to 10. After reading and signing informed consent forms, the experimenter gave a brief introduction to the study and then passed out the script elicitation packet. Participants typically took about 15 min to complete the task. When done, participants were debriefed and thanked for their participation.

Results and Discussion

Sexual scripts

One research assistant, blind to the coding categorizations of interest (i.e., casual sex vs. committed relationship focus), summarized the responses. Specifically, she was instructed to read each participant’s script, fixing its primary and salient features in her mind. She then wrote down a one- or two-sentence description of it. If she encountered a script already “captured” by one of the summaries, she was to note that this summary was repeated (making mention of minor variations in the story). This process
resulted in an initial pool of 24 summaries (out of 70 scripts). Responses were initially organized in this way in order that subsequent coding for CS versus CR focus would be based on scripts, rather than individual features of scripts. In other words, we initially used a top-down process, whereby scripts were identified first. Only afterward were the scripts coded according to theme. This ensures that the casual and committed scripts identified were, in fact, scripts and, further, that casual and committed themes naturally occur.

The first author and a different research assistant then independently reviewed the summaries, each with the goal of grouping them together according to whether they described a CS versus a CR “encounter.” A CS encounter would tend to possess at least three of the following features (Edgar & Fitzpatrick, 1993): (a) a man and woman are (relatively) unacquainted, (b) physical attraction is fairly immediate, (c) flirtation occurs, and (d) perhaps one of the actors (usually male) explicitly seeks someone with whom to engage in sex at/near that time. A CR encounter, in contrast, would tend to possess at least two (and usually all three) of these features: (a) a man and woman know one another already, (b) there is some mention of a commitment between them (e.g., boyfriend-girlfriend, husband-wife), and (c) sexual activity, if any, is an expression of emotion (love/affection).

Of the 70 scripts, the coders initially agreed that 45 of them described CS encounters, 10 described a CR encounter, and 11 described neither casual nor committed relationship encounters (e.g., a man and woman who are normally just friends “end up” engaging in sexual activities, perhaps after drinking too much alcohol). Thus, initial interrater category agreement was very high (Cohen’s kappa = .94). After resolution of disputes, 48 of the scripts were categorized as representing “casual” encounters, 10 representing “committed” encounters, and 12 not clearly one or the other.

As should be evident, the results of this qualitative analysis suggest that there is more than one sexual intent script and, further, that the casual versus committed distinction is applicable to this domain. This finding extends the previous work in this area as it demonstrates that people also possess sexual scripts for relationships that are of longer duration and greater commitment. Notably, however, the vast majority of the scripts generated (69%) were descriptive of CS encounters, and only 14% were descriptive of encounters in CR. There are (at least) two explanations for this finding. First, perhaps casual sexual scripts are more relevant to and, thus, salient for judgments of sexual intent. Second, the disparity in script generation may be indicative of the life experiences of our sample. It is important to keep in mind, however, that participants were asked to report on a single “best example” of when/where/how sexual intent is revealed, so it is likely that each person could produce more than one script if asked. Thus, this distribution, in part, reflects individual differences in perceptions of the most typical sexual intent script. Despite the production disparity between the two categories of scripts, however, it is important to keep in mind that both of the scripts involve sexual intent and, thus, share an organizing principle.

Note also that the most common sexual intent script—the CS script—is similar in content to the scenarios given to participants by researchers studying judgments of sexual intent, providing some validation for the use of these scenarios in this research. This study reveals, however, that there are other sexual intent scenarios or scripts available to people (e.g., sexual intent in a more committed relationship). Thus, it would be useful for sexual intent researchers to study these as well, in particular investigating the extent to which there are sex differences in judgments of sexual intent in these scenarios. If sex differences in this judgment are not found with these scenarios, it would not be fair for researchers to continue to suggest that men generally overimpute sexual intent to the behavior of others but rather that they may do so in the context of a particular sexual situation.

1. One participant’s (male, 18 years old, White) script was not comprehensible or interpretable with respect to the given instruction; thus, his data were excluded from the analyses.
Individual differences and script categorization validation

Given the importance assigned to sex differences in judgments of sexual intent, we examined the relationship between participants’ sex and the type of script produced. As shown in Table 1, the majority of both men and women generated CS scripts. Pearson chi-square analyses indicated, however, that there was a statistically significant relationship between participant sex and the type of script generated, \( \chi^2(1, n = 58) = 3.87, p < .05 \). Women were more likely to produce the CR script than were men, whereas men appeared somewhat more likely to produce the CS script than women. Thus, the results provide preliminary evidence that certain sexual intent scripts may be more available to men and others more available to women, though both are most likely to generate the CS script. This result provides initial evidence for the validity of the scripts identified as a great deal of research shows that men are more likely to be interested in casual sexual relationships than are women (Baumeister, Catanese, & Vohs, 2001; Peplau, 2003).

We also expected to find that individuals seeking casual (vs. committed) relationships would be more likely to generate a CS script than a CR script as people pay attention to, interpret, and remember information in light of their motivation (Plous, 1993), and scripts are based, in part, on people’s own desires (Simon & Gagnon, 1986). To investigate this hypothesis, we regressed the measure of sexual relationship goals (where higher numbers reflect increasing levels of desired relationship commitment) on type of script produced (casual vs. committed). Results revealed that those individuals generating CS scripts were significantly more likely than those generating CR scripts to currently be seeking casual sexual relationships, \( t(1, 55) = 2.73, r^2 = .12, p < .01 \). Thus, relationship goals are related to the kinds of sexual intent scripts produced by people, and they are related in the manner expected, providing further validation for the categorization of the scripts.²

Finally, one research assistant returned to the original scripts to code them for various features of the casual versus committed scripts. This confirmation of our original categorization allows for greater certainty as to the features that should be common to and distinct in each type of script, thus providing us a more solid basis upon which to construct the stimuli for the main study. The research assistant took note of each script’s setting (i.e., Time: day vs. night; Location: bar/club, party, home, etc.) and coded the scripts with respect to the characters’ motivations (i.e., she noted whether or not physical attraction and/or love were mentioned as primary motivations for the expression of sexual intent). She further coded whether flirting, sex, and alcohol consumption were mentioned.³ As Table 2 shows, script type is related to the location of events, with the CS scripts more likely occurring in

<table>
<thead>
<tr>
<th>Table 1. Script frequency by sex</th>
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<tbody>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Casual</td>
</tr>
<tr>
<td>CR</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

2. Readers may wonder whether a sex difference in sexual relationship goals mediated the relationship between sex and the type of sexual script generated. As anticipated, Participant Sex is related to sexual relationship goals, \( t(68) = -2.48, p < .04 \), with the male participants expressing more interest in casual relationships than the females. This difference does not wholly explain, however, the relationship between Participant Sex and the type of script generated as Participant Sex continues to predict the type of script produced, controlling for sex differences in sexual relationship goals, albeit marginally so, \( \chi^2(1, n = 56) = 2.89, p < .10 \).

3. Because we initially viewed this as a second round of coding with respect to casual versus committed encounter scripts, it did not seem necessary for yet another person to code the scripts’ features. Subsequent to this, however, an independent rater did code 20% of the scripts with respect to all the features (average Cohen’s kappa = .46). According to one standard interpretation guideline (Landis & Koch, 1977), this represents “moderate” agreement. This is likely to be an underestimate, however, because the sample size was rather small (Klar, Lipsitz, Parzenand, & Leong, 2002). The results of the main study bear this out as they validate the initial rater’s categorizations by showing that participants exposed to the committed relationships script were more likely false alarm to features relevant to CRs, whereas participants exposed to the CS script were more likely to false alarm to features relevant to casual sexual encounters.
a social setting (bar/club, party) than the CR scripts. CS scripts also described characters whose sexual intent was less motivated by love, who flirted more, and who drank more alcohol than those in CR scripts. CS scripts further described individuals who were more motivated by physical attraction than those in committed scripts, though this difference did not reach statistical significance. Interestingly, however, individuals generating CR scripts were more likely to make explicit mention of sex perhaps because of differences in the settings (social vs. private). Finally, both scripts were more likely to occur at night than during the day. The pilot study, thus, served to confirm that both CS and CR themes are appropriate for sexual scripts and to suggest specific features that can be used to elicit each type of script in the main study.

### Study Overview

Again, the primary purpose of the main study was to demonstrate how scripts might play a role in judgments of sexual intent. Accordingly, one of two scripts (casual vs. committed) was activated for participants, following which they responded to a recognition test and a measure of sexual intent judgments. It was predicted that participants would evince false memory for script-relevant information and, further, that false memory would be associated with increased ratings of sexual intent.

### Method

#### Participants

One hundred thirty-nine undergraduates from the University of Colorado at Boulder participated in this study in return for partial fulfillment of course requirements. Of those reporting their sex (n = 136), 70 (51.5%) participants identified themselves as female. Of those reporting their race/ethnicity (n = 135), 120 (88.9%) identified themselves as White. Participants’ average age was 18.98 years (range: 18–26).

### Table 2. Script features by theme

<table>
<thead>
<tr>
<th></th>
<th>% of Casual</th>
<th>% of Committed</th>
<th>χ²</th>
<th>df, n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day</td>
<td>4.7</td>
<td>10.0</td>
<td>0.60&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1, 47</td>
</tr>
<tr>
<td>Night</td>
<td>86.0</td>
<td>70.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does not matter</td>
<td>9.3</td>
<td>20.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar/club</td>
<td>8.7</td>
<td>0.0</td>
<td>19.78***&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4, 56</td>
</tr>
<tr>
<td>Party</td>
<td>35.4</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td>10.4</td>
<td>80.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does not matter</td>
<td>10.4</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>31.3</td>
<td>20.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivated by physical attraction</td>
<td>16.7</td>
<td>0.0</td>
<td>1.93</td>
<td>1, 58</td>
</tr>
<tr>
<td>Motivated by love</td>
<td>4.2</td>
<td>80.0</td>
<td>33.35***</td>
<td>1, 58</td>
</tr>
<tr>
<td>Flirting</td>
<td>77.1</td>
<td>30.0</td>
<td>8.57**</td>
<td>1, 58</td>
</tr>
<tr>
<td>Sex</td>
<td>25.0</td>
<td>90.0</td>
<td>15.14***</td>
<td>1, 58</td>
</tr>
<tr>
<td>Alcohol</td>
<td>33.3</td>
<td>0.0</td>
<td>4.60*</td>
<td>1, 58</td>
</tr>
</tbody>
</table>

<sup>a</sup>Chi-square (where Time = day versus night).

<sup>b</sup>A Chi-square (where Location = bar/club vs. party vs. home) could not be run because one level of the factors is a constant. Instead, we ran a logistic regression analysis, where script type was set as the predictor of Location (and “home” was the reference category).

*<sup>p</sup>, <.05. **<sup>p</sup>, <.01. ***<sup>p</sup>, <.001.
Materials

Stories. Stories based on the descriptions provided in the pilot study were developed in order to activate the CS and CR scripts. The two stories were written to be very similar to one another, diverging mainly with respect to items intended to make salient one script versus the other (see Appendixes A, B). For example, the CS script tried to evoke a more social context by suggesting that Jennifer’s evening preparations occurred alongside friends, whereas in the CR script she got ready alone. The two stories were similar to one another in order to control for the influence of extraneous (script irrelevant) factors on differential false memory as well as to demonstrate the subtlety of the script distinctions and, hence, the power of such to produce divergent memory.

Importantly, both stories left particular points unsaid, thus providing the opportunity for participants to “fill in the blanks” with script-relevant information. Given that both scripts are organized around judgments of sexual intent, there should be some similarities between the scripts with respect to how these blanks are filled in. For example, the pilot study indicated that both were more likely to be set in the evening than in the daytime. Given that CS was most likely to occur at a party and CR possessed qualities of a “date,” we speculated that the events in both scripts would be thought to occur more often on a weekend than on a weekday. Thus, we expected participants in both conditions to show similar false memory for time of day (falsely recalling “night”) and day of occurrence (falsely recalling “weekend”).

On the other hand, there were also some important dissimilarities between the scripts with respect to how the blanks might be filled in. For example, the pilot study indicated that the CS script was more likely than the CR script to be set in a social context (e.g., party). While the primary actors in CS are typically believed not to know one another before this meeting, in CR they are believed to have some prior commitment. The use of alcohol also was more likely to be mentioned in CS than in CR. Finally, sex was more likely to be viewed as being motivated by love in CR than in CS.

None of these script features were mentioned in either of the stories provided to participants in the main study. Thus, we expected participants to exhibit false memory for information relevant to their specific script (i.e., CS vs. CR).

Recognition test. The recognition test was modeled after those used by Smith and Studebaker (studies 2 and 3, Smith & Studebaker, 1996). Accordingly, the questionnaire contained items describing cues that were potentially relevant to the script but not actually stated in the script. For each item, participants were asked to indicate their recognition using a 4-point scale (1 = Definitely not stated, 2 = Possibly not stated, 3 = Possibly stated, 4 = Definitely stated). As in Smith and Studebaker, the items were constructed in pairs describing a particular feature (e.g., Time of Day), with one item in the pair containing a typical cue (i.e., took place at night) and the other item in the pair containing an atypical cue (i.e., took place during the day). In other words, two different versions (e.g., took place at night vs. took place during the day) of the same feature (e.g., Time of Day) were presented.

Six of the item pairs (12 items total) were included for the purposes of assessing specific script-related false memories, with two of these item pairs being relevant to both scripts (i.e., Time of Day—both scripts were more likely to occur at night; Time of Week—both scripts were more likely to occur on weekends rather than during weekdays). We expected that, regardless of the script received, participants would be more likely to have false memory for the typical than the atypical response (e.g., falsely recalling that the events took place during the night, rather than during the day). For the other four item pairs (i.e., Context, Relationship Quality, Alcohol Consumption, Motivation Underlying Sex), one item was more typical of CS (party, just met, consumed alcohol, had sex because it felt good at the time), whereas the other item was more typical of a CR (restaurant, in a committed relationship, did not consume alcohol, had sex because they cared for one another). We expected that participants would show more false memories for features typical of the activated script than for features atypical of
the activated script. For example, we expected participants in the CS condition to be more likely to falsely recall the script as stating that the events took place at a party (vs. a restaurant), whereas we expected participants in the CR condition to be more likely to recall the script as stating that the events took place at a restaurant (vs. a party). It is important to emphasize that neither story made any explicit reference to the features described in these items, so endorsement of script-consistent items would be illustrative of false memory.

The recognition test also contained eight item pairs (16 items total) that were included for the purposes of assessing general memory accuracy. In these item pairs, one item included correct information and the other included incorrect information. For example, in both stories, Jennifer was described to have whispered something into Mike’s ear. Thus, the correct item on the test read, “Jennifer whispered into Mike’s ear,” whereas the incorrect item read, “Mike whispered into Jennifer’s ear.” Again, these items provided a means of assessing participants’ general abilities to recall information presented in the script and, more importantly, enabled us to conduct a signal detection analysis (see below).

**Judgments of sexual intent.** A sheet entitled “Impressions” comprised 12 questions (six per target) designed to measure participants’ perceptions of the targets’ sexual intent. Participants were asked to indicate, using a 7-point Likert scale, the degree to which they believed that the male and female targets (separately) were flirting with, sexually attracted to, interested in having sexual intercourse with, acting seductively toward, likely to accept another date with, and sexually interested in the other. Internal consistency of the scale was demonstrably robust, with Cronbach’s alpha = .87.

**Demographic survey.** The survey contained a brief demographic questionnaire in which participants were asked to indicate their sex, age, and race/ethnicity.

**Procedure**

Participants entered the lab in groups ranging in size from 1 to 10. After reading and signing informed consent forms, the experimenter gave a brief oral introduction to the study. Participants then listened to an audiotaped reading of one of the two stories (with all participants in a given experimental session assigned to the same condition). Following this, participants engaged in an unrelated 15-min filler task. Finally, participants completed the recognition test, measure of perceived sexual intent, and the demographic survey.

**Results and Discussion**

Participants’ responses to the items were categorized as instances in which they (a) correctly judged that something was stated (hit), (b) incorrectly judged that something was not stated when it actually was stated (miss), (c) incorrectly judged that something was stated when it actually was not stated (false alarm), and (d) correctly judged that something was not stated (correct rejection). Accordingly, among the eight item pairs (16 items) used to assess general memory accuracy, the eight items representing correct information were recoded so that “Definitely not stated” and “Possibly not stated” were categorized as misses, and “Definitely stated” and “Possibly stated” were categorized as hits. The eight items reflecting incorrect information were recoded so that “Definitely not stated” and “Possibly not stated” were categorized as correct rejections and “Definitely stated” and “Possibly stated” were categorized as false alarms. Similarly, the six item pairs (12 items total) used to assess specific script-related false memories were recoded such that “ Definitely not stated” and “Possibly not stated” were categorized as correct rejections and “Definitely stated” and “Possibly stated” were categorized as false alarms (see Lenton et al., 2001) according to their relevance to the scripts. False alarms were used as an indicator of false memories (i.e., having a memory that something was stated when, in fact, it was not). Thus, eight items captured correct memories (hits), eight items captured general false memories, and, importantly, six items (per script) captured script-specific false memories.

According to these definitions, 33.6% of the participants correctly endorsed all eight
potential hits, with another 40.1% endorsing seven out of eight potential hits. Only 7.3% endorsed five or fewer of the potential hits, suggesting that, overall, there was accurate detection of these items. At the same time, however, 97.8% of the participants had at least one false memory, with 41.0% making four or more errors. Of particular interest were participants' rates of false memories to the script-specific items.

**Signal detection analysis**

We analyzed participants' responses with signal detection analysis. In this type of analysis, one examines \( d' \) and/or \( \beta \). \( d' \) is a measure of sensitivity to, or discriminability between, hits versus false alarms. Thus, it reflects how well a person can differentiate what was really stated (hit) from what might be assumed to have been stated but was not actually stated (false alarm). Higher values of \( d' \) reflect more correct discriminations between hits and false alarms, whereas lower values reflect fuzzier memory of what was really stated versus what was not stated. The calculation of this measure of sensitivity or discriminability is fairly straightforward (Hochhaus, 1972): \( d' = Z_{FA} - Z_{Hit} \), where \( FA \) refers to the proportion of false alarms and \( Hit \) refers to the proportion of hits. \( d' \) is calculated for each individual.

\( \beta \), on the other hand, captures the extent to which an individual is willing to “guess” or indicate that something was stated: Some individuals may have a response set such that they have a greater tendency to judge that things have been stated, regardless of whether they were (this would result in \( \beta > 1 \)), whereas other individuals may be more conservative and have a greater tendency to judge that things have not been stated, regardless of whether they were (this would result in \( \beta < 1 \)). The benefit of adopting signal detection theory to analyze recognition performance is that one can examine participants' propensity for false memory independent of response “bias” or \( \beta \) (Hochhaus, 1972). \( d' \) controls for such bias by taking into account an individual's hit and false alarm rate simultaneously.

While we are primarily interested in the influence of Script Condition and Participant Sex on \( d' \), we will also examine the influence of these factors on \( \beta \), as several researchers investigating sex differences in judgments of sexual intent have suggested that men possess a lower threshold for (i.e., bias toward) imputing sexual intent to the behavior of others (Abbey, 1982; Haselton, 2003; Kowalski, 1992; Shotland, 1989; Shotland & Craig, 1988). If so, such a propensity might be observable in the recognition performance and, ultimately, relationship between this performance and judgments of sexual intent.

Again, the calculation of \( d' \) simultaneously depends on both the hit probability and the false alarm probability for each individual. In this study, there were the same eight potential hits for all participants. As indicated previously, the items constituting the false alarms, however, depended somewhat on Script Condition. In particular, both CS and CR had the potential to produce six false alarms, two of which were identical (weekend [Time of Week] and night [Time of Day]). The four potential false alarms that differed by Script Condition were (a) Context: party versus restaurant, (b) Level of Acquaintance: just met versus in a committed relationship, (c) Alcohol Consumption: consumed alcohol versus did not consume alcohol, and (d) Motivation Underlying Sex: had sex because it felt good at the time versus had sex because they cared for one another, with the first item in each pair representing a potential false alarm for those in the CS condition and the second item representing a potential false alarm for those in the CR condition. \( d' \) was then calculated as per the formula given by Hochhaus (1972).

A 2 (Script Condition) × 2 (Participant Sex) analysis of variance (ANOVA) was run on \( d' \). This analysis revealed both a significant main effect of Script Condition, \( F(1, 135) = 17.90, p < .001 \), and a significant main effect of Participant Sex, \( F(1, 135) = 6.63, p < .02 \). Participants in the CS condition evinced less
sensitivity \( (M = 1.60, SD = 1.17) \) than participants in the CR condition \( (M = 2.34, SD = .94) \). That is, CS participants were more likely to confuse hits with false alarms than were CR participants. Thus, the CS script may be more powerful or central than the CR script. On the other hand, perhaps this effect could be explained by the particular items used, with the CS items serving as better “lures” than the CR items. Men \( (M = 1.78, SD = 1.05) \) demonstrated lower sensitivity than women \( (M = 2.22, SD = 1.13) \). In other words, men were less able to discriminate between hits and false alarms than women. Thus, it would seem that men are more likely than women to have difficulty distinguishing between actual events and those they might have imagined. The interaction between Script Condition and Participant Sex was not significant, \( F(1, 129) = 2.17, ns \).

Calculation of \( \beta \), like \( d' \), relies upon a comparison of individuals’ propensity for hits versus false alarms \( (\beta = f(\text{hits})/f(\text{false alarms}), \text{where } f \text{ is a probability or frequency function; Galanter, 1994}) \). Thus, the items making up the hits and false alarms were the same as those described in the \( d' \) analysis. \( \beta \) was then calculated as per the formula given by Hochhaus (1972). A 2 (Script Condition) \( \times 2 \) (Participant Sex) ANOVA was run on \( \beta \). This analysis revealed no significant main effects or interactions, all \( Fs(1, 135) < 1.0, ns \). The two scripts did not differentially make participants more likely to guess that facts were stated. Similarly, men were no more likely to guess that facts were stated in the stories than were women. Finally, \( \beta \) was not significantly different from 1, \( t(136) = .39, ns \), \( \beta = 1.07 \), indicating that, on average, participants possessed neither a liberal (“yes saying”) nor conservative (“nay saying”) response threshold. Based on these results, we did not analyze the relationship between \( \beta \) and judgments of sexual intent.

**Judgments of sexual intent**

The last stage of analysis was designed to determine whether false memory for script-related information is predictive of sexual intent judgments. To answer this question, we regressed the average ratings of sexual intent on \( d' \). Following the deletion of two outliers,\(^5\) results revealed \( d' \) to be a significant predictor of judgments of sexual intent, \( F(1, 133) = 6.52, p < .02 \) \((r = -.22)\). Increased insensitivity, or decreased discriminability, between potential hits and false alarms is predictive of increased ratings of sexual intent. In other words, participants who had difficulty distinguishing script-related features that were not presented from those that were made higher ratings of the targets’ sexual intent. Thus, scripts result in script-consistent false memory, which, in turn, is associated with higher ratings of sexual intent.

We were also interested in investigating the extent to which discriminability might explain sex differences in judgments of sexual intent. To do so, our analysis comprised two steps. In the first step, both Participant Sex and Script Condition were entered as predictors of sexual intent judgments. Following the deletion of two outliers,\(^5\) results revealed a reliable sex difference in ratings of sexual intent, controlling for Script Condition, \( t(129) = 2.94, p < .01, b = 1.13 \) \((\text{female } = -1, \text{ male } = 1)\). As expected, male participants gave higher sexual intent ratings to the targets than did female participants. Script Condition was not reliably related to judgments of sexual intent over and above the effects of Participant Sex, \( t(129) = 1.20, ns \). In the second step, \( d' \), Participant Sex, and Script Condition were entered as simultaneous predictors of ratings of sexual intent. Participant Sex remained significantly predictive of judgments of sexual intent, \( t(129) = 2.48, p < .02, b = .95 \). Although the effect of sex on judgments of sexual intent was reduced by 16% with the inclusion of sensitivity in the model, sex differences in sensitivity cannot account entirely for sex differences in judgments of sexual intent. This multiple regression analysis also revealed \( d' \) to significantly predict sexual intent judgments,

\(^5\) In all the analyses reported, we examined Studentized Deleted Residuals (SDR) \((i.e., \text{ unusual } Ys)\). Where SDR \( \geq |4| \), the associated participants were deleted from analysis. Note that we also examined Cook’s D \((i.e., \text{ unusual } X-Y \text{ combinations}) \) and Levers \((i.e., \text{ unusual } Xs)\), but in no case did we find values on either of these indexes to exceed 1, which would indicate a problematic observation \((Judd & McClelland, 1989)\).
Thus, the relationship between sensitivity and sexual intent judgments described above held even after taking into account sex differences in judgments of sexual intent and the potential effects of script activation on these judgments. Finally, Script Condition was marginally related to judgments of sexual intent, over and above the effects of Participant Sex and $d'$, $t(129) = 1.92, p = .06$. This relationship suggests that participants in the CR condition were more likely to impute sexual intent to the targets' behavior than were participants in the CS condition. Perhaps, this result follows from that observed in the pilot study: Participants who generated the CR script were more likely to mention sex than were those who generated the CS script. We suggested that this could be due to the distinct natures of the respective settings as CS was most likely to occur in a social setting and CR in a private setting (home). Although we controlled for this somewhat in the stories developed by implying that the characters in both the CS and CR scripts spent equal amounts of time outside the home, perhaps people believe that the probability of sex occurring is simply higher for those in a CR. It is important not to overinterpret this result, however, as Script Condition was not reliably related to judgments of sexual intent on its own or when controlling for Participant Sex. Only when $d'$ was also controlled did this marginal effect emerge.

**General Discussion**

Sexual scripts can be generated for sexual interactions involving both casual sex and committed relationship encounters. The primary study demonstrates that we were able to successfully activate these scripts with stories as participants subsequently filled in missing information with script-consistent details. Finally, and consistent with our main hypothesis, the $d'$ analyses indicated that those participants who were less able to discriminate between details that were imagined and those that were real gave significantly higher ratings of the sexual intent of the targets. Put simply, participants who filled in the blanks with information consistent with the given sexual script were more likely to impute sexual intent to the targets. This occurred regardless of the type of sexual script implicated (i.e., casual vs. committed), suggesting that available sexual relationship scripts per se are associated with memory errors and, ultimately, increasing perceptions of sexual intent. These results provide the first empirical demonstration of the use of scripts as a basis for judgments of sexual intent. Thus, we now possess evidence regarding how sexual intent judgments are made, which is important for our understanding of everyday judgments of sexual intent as well as for how misperceptions of sexual intent might arise. As described in the introduction to this research, such knowledge may enable researchers to begin investigating concrete means by which to reduce misperceptions of sexual intent, for example, educating people as to the importance of paying attention to script-irrelevant or inconsistent items to provide a countermeasure to the production of script-relevant false memories.

The results also make clear that some sexual intent scripts are more common (e.g., casual sexual encounter), and thus perhaps more accessible, than others (e.g., committed sexual relationship encounter). Given that most researchers in the area of judgments of sexual intent utilize scenarios in which actors do not know each other well, are in the context of a party, and/or are often consuming alcohol (e.g., Abbey & Harnish, 1995; Kowalski, 1993; Muehlenhard, 1988), it seems reasonable to conclude that one of the common sexual scripts is being activated by these items. It would be interesting for future research to investigate the relative strength of sex differences in judgments of sexual intent as a function of the type of relationship the targets are suggested to have with one another, especially since the CR script was both more likely to be produced by women and to contain reference to sex.

With regard to participant sex, our analyses demonstrated that men are more likely than women to fail to discriminate between actual events and events that are script consistent but illusory. Recent research by Haselton (2003), in which men and women self-report their experience as “victims” of errors of sexual
intent perceptions, has shown that men are more likely to “false alarm” to women’s behavior. In other words, men are more likely to misperceive a woman’s friendly behavior as a sexual overture, while women show no such misperception bias of men’s behavior. Our demonstration that men are less able to distinguish between events that actually happened and those they filled in as part of the sexual intent script suggests a mechanism by which the overperception documented by Haselton (2003) might occur. Perhaps men, particularly if they are in a situation such as a party or social event that triggers a (casual) sexual intent script, are more likely to fill in any information gaps or uncertainties in the interaction with script-consistent details. That said, we still found sex differences in perceptions of sexual intent over and above sex differences in script sensitivity. As described previously, other research of ours shows that sex differences in sexual relationship goals partially mediate the relationship between sex and sexual intent judgments. Perhaps, discriminability and egocentric projection are unrelated. Future research might entail examining the relative influence of script-related versus motivation-based information processing in the production of sexual intent judgments.

This research, of course, does have its limitations. First, our ability to generalize the results of these studies is weakened by their reliance upon a sample of university students. Perhaps, people who possess more experience dating and/or interacting with the other sex (i.e., older adults) are less inclined to rely upon scripts to guide their judgments of others’ sexual intent. On the other hand, older adults might be more inclined to fill in “blanks” with script-relevant information, as their scripts may be more well-practiced or elaborate. To date, very little research on judgments of sexual interest has been conducted with a more mature adult population.

We must also note that, while we have referred to certain responses as false alarms, most participants did not actually believe that the items had been presented (e.g., “Possibly not stated” or “Definitely not stated”). We believe, however, that the conditions under which our participants were exposed to the scripts and responded to the recognition test are far less complex than real-world conditions. Consequently, our results might be illustrative of an upper-bound or ceiling effect, with more naturalistic settings resulting in increasingly deteriorating memory performance. Future research might entail the surreptitious activation and examination of memory for scripts in order to investigate the plausibility of this hypothesis.

**Conclusions**

This is the first research to clearly demonstrate that sexual scripts result in memory errors and that these errors are associated with inferring more sexual intent. This research also indicates that sex differences in susceptibility to script-relevant false memories, in part, accounts for sex differences in judgments of sexual intent. These studies contribute to an emerging literature on the role of proximal mechanisms for and sex differences in perceptions of sexual intent.

**References**


Appendix A

Casual sex script

Jennifer was born and raised in San Francisco, California, and is now a 19-year-old sophomore at CU (University of Colorado). She is quite close with her family, including her two siblings, a younger sister and brother. She is petite and has blonde hair and blue eyes: Most people think she is cute. Jennifer and a couple of her best friends are planning on going out, so they get together at Jennifer’s to put on their makeup and their “going-out” clothes and do their hair. The three listen to one of their favorite CDs as they get ready. They give one another advice about their appearance (because they want to look their best) and talk about recent social happenings. There is a lot of joking and laughter. When they are all ready, they grab their coats and purses and then get in Jennifer’s car to head out.

Mike was born and raised in Boulder, Colorado, and is now a 20-year-old junior at CU. He is also close to his family, including his elder brother. He has brown hair and green eyes: Most people think he is handsome. Mike is currently at his friend’s house where they are intently playing a video game. There is a lot of yelling as each tries to outmaneuver the other. After some close calls, Mike delivers the final blow to his friend and wins the game. They give each other a high five and then head to the kitchen to get some food and drink. In discussing what they are doing next, they decide to meet up with some other friends who said they know where to go for fun. They hop in Mike’s SUV to catch up with their other friends.

Jennifer and her friends walk in the room and see it is filled with a number of people gathered in small clusters. These people are talking, laughing, drinking, and eating, among other things. Some of the groups are same sex and others mixed sex. Jennifer and her friends spot some people they know, so they head over to say hello.

Mike and his friends are already there. They are talking with their other friends about the football game the day before. Mike reenacts the best play of the game, exaggerating the player’s facial expressions for laughs. Jennifer sees Mike and smiles. He sees her and smiles back. Jennifer turns back to her friends to join the conversation about a universally despised biology professor. Mike walks over and joins the conversation since he has also taken a class from this professor. Soon, Mike and Jennifer talk about this class and others they have both taken. They end up talking and laughing for some time about a variety of topics, ranging from summer vacations to sibling rivalry. They are standing close to one another as it is quite loud in the room. Jennifer touches Mike’s arm when he makes a joke. Mike puts his arm around Jennifer after she says she thinks that he ought to be a comedian. She whispers something in Mike’s ear. Shortly thereafter, Jennifer and Mike walk toward Jennifer’s place. When they get there, they listen to music, talk, kiss, and eventually have sexual intercourse.

Mike and Jennifer are both at the local diner the next day. Mike grabs a donut and coffee. Jennifer sits down to eat with a friend.

Appendix B

Committed relationship script

Jennifer was born and raised in San Francisco, California, and is now a 19-year-old sophomore at CU. She is quite close with her family, including her two siblings, a younger sister and brother. She is petite and has blonde hair and blue eyes: Most people think she is cute.
Jennifer is planning on going out, so she puts on her makeup and her “going-out” clothes and does her hair. She listens to one of her favorite CDs as she gets ready. She examines her appearance (because she wants to look her best) and thinks about recent social happenings.

Mike was born and raised in Boulder, Colorado, and is now a 20-year-old junior at CU. He is also close to his family, including his elder brother. He has brown hair and green eyes: Most people think he is handsome. Mike is currently at his friend’s house where they are intently playing a video game. There is a lot of yelling as each tries to outmaneuver the other. After some close calls, Mike delivers the final blow to his friend and wins the game. They give each other a high five and then head to the kitchen to get some food and drink. In discussing what they are doing next, Mike tells his friend that he is taking Jennifer out somewhere for fun. Mike hops in his SUV to pick up Jennifer.

When Jennifer sees Mike outside, she grabs her coat and purse and then gets in his car. They give each other a quick kiss on the lips. After a few minutes, they arrive at their destination. They walk in the room and see it is filled with a number of people gathered in small clusters. These people are talking, laughing, drinking, and eating, among other things. Some of the groups are same sex and others mixed sex. Jennifer and Mike spot some people they know, so they head over to say hello.

They talk with their friends about the football game the day before. Mike reenacts the best play of the game, exaggerating the player’s facial expressions for laughs. Jennifer looks at Mike and smiles. He looks at her and smiles back. Jennifer and Mike return to their seats. They begin to talk and the conversation turns to a universally despised biology professor from whom they have both taken a class. Soon, Mike and Jennifer talk about other classes they have both taken. They end up talking and laughing for some time about a variety of topics, ranging from summer vacations to sibling rivalry. They are sitting close to one another as it is quite loud in the room. Jennifer touches Mike’s arm when he makes a joke. Mike puts his arm around Jennifer after she says she thinks that he ought to be a comedian. She whispers something in Mike’s ear. Shortly thereafter, Jennifer and Mike return to Jennifer’s place. When they get there, they listen to music, talk, kiss, and eventually have sexual intercourse.

Mike and Jennifer are both at the local diner the next day. They sit down for some donuts and coffee.