

Challenging Traditional Dating Scripts: Female Initiator Requirements in Dating Apps

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### Abstract

This online experiment examined if a *female initiator requirement (FIR)*, a feature of a dating app that requires women to send the first message in a cross-sex match, could impact (a) the perception of a female initiator's dominance and affiliation in a dating app chat conversation and (b) expectations for a face-to-face date. This study measured the level of dominance and affiliation 113 Mechanical Turk workers attributed to a female initiator and the man she communicated with through a dating app, which either included a FIR or did not. Participants then wrote dating scripts containing the events they expected to occur on a face-to-face date between the two dating app users. One hundred of these scripts were analyzed to investigate if a FIR influenced how much dominance the man and women were expected to exhibit and if a FIR affected men's sexual expectations for the date. Results suggest that a FIR does not influence perceptions of a female initiator's dominance within a dating app chat conversation, does not change the expectation for the male and female user to exhibit similar levels of dominance on a face-to-face date, and does not impact men's expectations for sexual activity on the date. However, for the first two findings, the gender of the participant was an influential factor that exposed more nuanced results.

*Keywords:* gender roles, romantic relationships, dating, scripts, initiation, dominance, affiliation

### Challenging Traditional Dating Scripts: Female Initiator Requirements in Dating Apps

The lessening disparity between the roles of men and women—the grand gender convergence—is argued to be one of the most significant trends of our time (Goldin, 2014). Despite increasing equality in a multitude of realms including, but not limited to, the workforce, the home, and education, at least one area has failed to demonstrate such considerable strides towards gender convergence: dating. Gender roles have long informed the process of dating and especially date initiation. A meta-analysis of the heterosexual dating literature published from 1978 to 2010 in *Sex Roles* indicates that dating did not evolve much during that time frame and that traditional gender roles for dates, including male date initiation, persist (Eaton & Rose, 2011). Gendered expectations for how men and women should behave on dates are linked to unpleasant consequences; for example, the heightened social anxiety for male, but not female infrequent daters (Himadi, Arkowitz, Hinton, & Perl, 1980), and the tendency for both genders to consider date rape as more justifiable if it occurred on an expensive date that the man covered all expenses for (Muehlenhard, Friedman, & Thomas, 1985). Yet, there is also evidence for the negative consequences of rejecting gender norms on a date, such as the higher rate of date-rape justifiability by both genders for instances that occur on female-initiated dates (Muehlenhard et al., 1985).

#### **Online Dating and Female Initiator Requirements**

In contrast to stability of gender roles within dating, a much more recent phenomenon is rapidly changing the way we date: online dating and dating apps. Online dating is a popular method for meeting new people, with usage on the rise from 11% of Americans in 2013 to 15% of Americans in 2015; these statistics are even higher among the young-adult subset of the population, 27% of which had used online dating as of 2015 (Smith, 2016). The intersection of

online dating and gender roles during relationship formation is the subject of this paper, which focuses on the direct manipulation of gender roles through a deliberate dating app design feature, a *female initiator requirement* (FIR). A FIR is a feature, or constraint, that permits only women to carry out certain initiation behavior within an online dating site or dating app, sometimes with the intention to afford females a greater degree of control over their interactions on the site or app. FIRs could be one appropriate remedy to particular concerns in the online dating world given that women are outnumbered by men on such platforms (Abramova, Baumann, Krasnova, & Buxmann, 2016) and are too often bombarded with unwelcome, indecent messages (Thompson, 2018). FIRs are a recent addition to the online dating world, starting with the introduction of the dating app Bumble in 2014.

Only a handful of studies have analyzed Bumble specifically and all have been qualitative in nature. Two of these studies present the heteronormative nature of the app by analyzing how gender (Bivens & Hoque, 2018; MacLeod & McArthur, 2018) and sex and sexuality (Bivens & Hoque, 2018) are constructed or programmed into Bumble, concluding that Bumble's design prioritizes heterosexual users who fit into the gender binary. For example, Bumble's FIR becomes obsolete when a user indicates they are only interested in users of the same sex, which may make such users feel unwelcome on the app. Tanner and Tabo (2018) focus on the psychological empowerment of female Bumble users and conclude that the existence of a FIR is not sufficient to lead to the empowerment of female Bumble users but suggest that Bumble's reputation could lend female users a greater sense of control if the goals of a user are parallel to those of the app's reputation.

### **Masculinity and Femininity**

The emphasis placed on gender differences in cognition and behavior is foundational to understanding the effects of gender roles on heterosexual dating dynamics. The average man exhibits a higher level of *dominance* compared to the average woman, whereas the average woman exhibits more *affiliation*<sup>1</sup> than the average man (Costa Jr, Terracciano, & McCrae, 2001). Dominance refers to the influence, control, and power an individual possesses within relational communication while affiliation encompasses the intimacy, personalism, and affection a person exhibits (Burgoon & Hale, 1984). This gender difference is replicated when considering perceptions of the extent to which men and women are dominant and affiliative— gender stereotypes (Costa Jr et al., 2001; Leaper & Ayres, 2007).

The explanation for the synchrony between stereotype and actual trait display is a controversial topic; some scholars disagree about which factors are at the root of gender differences, such as differing evolutionary experiences like sexual selection (Buss, 1995), or if gender differences are a result of “interactions across multiple biological and sociocultural factors” including gender role beliefs themselves (Eagly & Wood, 2012, p. 14). Changes in the average level of dominance and affiliation that men and women exhibit over time support an explanation that considers a wider array of factors beyond mere biological or evolutionary differences. Since the advent of data collection using the Bem Sex-Role Inventory in 1974, women have been adopting more stereotypically masculine, or dominant, traits, but men have not replicated the converse of this trend by exhibiting more stereotypically feminine, or affiliative traits (Donnelly & Twenge, 2017). If it is true that there is a complex web of factors that inform

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<sup>1</sup> There is a range of terminology used to describe this dichotomy. Other common pairings include agentic/communal, instrumental/expressive, assertive/nurturant, and active/passive. These terms are essentially synonymous, but dominance and affiliation are used in this study because they are best equipped to capture the complexity specific to interpersonal communication.

gender-typed thinking and behavior, then the traits of dominance and affiliation must be somewhat malleable and subject to change in accordance to modifications of the determining factors. In the current study, a FIR is the variable of interest to examine if, in the context of dating, a FIR could be a factor shaping the perception and expression of dominance and affiliation.

### **Agency Offline and Online**

The incomplete empowerment process for female Bumble users reported by Tanner and Tabo (2018) aligns with what would be expected according to Bandura's social-cognitive theory (Bandura, 2000). Female-initiation on an app without a FIR demonstrates a high level of personal agency because the action is completed removed from external influences. Female-initiation on an app with a FIR, however, arguably demonstrates proxy agency, which is "socially mediated" through enlisting the help of others to achieve one's goal (Bandura, 2000, p. 75). In the context of human-computer interaction, proxy agency can involve enlisting the help of a machine, as some technologies possess machine agency (Jia, Wu, Jung, Shapiro, & Sundar, 2012). In such cases, the agency being exercised by the user could be said to be *computer-mediated agency*, a parallel to proxy agency. If a source of computer-mediated agency is intended to progress a user towards their goal, that agency can be partially claimed as one's own (Jia et al., 2012). A FIR aids a woman in accomplishing her goal of initiating a conversation by both providing an incentive (or requirement) and explanation for her behavior. These differing representations of agency lead to the first hypothesis. Unlike the existing research, the present study utilizes experimental methodology with a FIR as the independent variable to examine potential influences on the perception of interpersonal dominance and affiliation, the actions

expected to occur on a face-to-face (FtF) date, and more specifically, the extent of sexual expectations on a date.

Hypothesis 1: A female who initiates an in-app chat conversation will be considered less dominant when the conversation is enacted on an app with a FIR in comparison to an app without a FIR.

### **Gender Roles Offline and Online**

Gender roles have an especially heightened presence during date initiation and the beginning of relationship formation (e.g., a first date) (Eaton & Rose, 2011). When two people of the opposite sex meet for the first time, it is likely they will adhere to common practices in dating to avoid violating expectations (Eaton & Rose, 2011). The man is expected to hold the door for the woman, offer to pay the bill, and initiate physical contact, among other dominant behaviors. Because these events belong to the series of events we view as typical and would anticipate occurring on a date, these are elements of cultural scripts for dating, and when one does enact these expectations, they become part of an interpersonal script for dating.

In their meta-analysis of heterosexual dating literature, Eaton and Rose (2011), suggest that neither cultural scripts nor interpersonal scripts deviated much from their status in the late 1970s, with cultural scripts maintaining a higher degree of rigid persistency in comparison to the existent (but not common), diversions from interpersonal scripts. In general, cultural and interpersonal scripts are highly similar aside from the heightened detail provided in interpersonal scripts (Laner & Ventrone, 2000; Rose & Frieze, 1993). Additionally, regardless of which gender initiates a date, the male is still more likely to enact more dominant behaviors on a date (Eaton & Rose, 2011; Rose & Frieze, 1993). In one study, when participants wrote scripts for the actions expected to occur on a first date that was initiated by a woman, that woman was not

expected to be the primary actor of any one date event (Morr Serewicz & Gale, 2008). The present study also utilizes dating script methodology and places a similar focus on the gender of the primary actor of events included in scripts.

Gender roles manifest in online dating as well, but there are also notable distinctions between the offline and online dating contexts. There are more men on online dating sites and they send and respond to messages at a higher rate than women do (Abramova et al., 2016; Dinh, Gildersleve, & Yasseri, 2018; Kreager, Cavanagh, Yen, & Yu, 2014). In online dating, the power vested in the nonverbal communication that females often employ as flirting tactics offline, such as subtle glances or suggestive smiles, is challenged by the asynchronous online context and its corresponding “absence of body in cyberspace” (Whitty, 2003, p. 343). Conversely, the theory of online disinhibition (Suler, 2004) can be used to argue that computer-mediated communication (CMC) is a context in which females can more comfortably enact an assertive role. In FtF communication, violating expectations of gender roles tends to be responded to negatively (Rose & Frieze, 1993), but CMC can provide safety in anonymity and physical distance. However, the actualization of the potential for online dating and dating apps to harness gender norm-violating behavior is not supported by recent literature. In their study of large-scale eHarmony UK data, Dinh et al. (2018, p. 16) propose that online dating has “not only reflected but exacerbated male-dominated initiation”. According to their analysis, the disparity between male and female initiation on eHarmony UK has continuously grown between 2008 and 2018.

The functionality of some dating apps, including the hypothetical ones used in this study, revolves around a mutual-swipe feature. When browsing profiles, a user is presented with a profile of another user; if the user would like the chance to engage with this user, they can swipe right on the profile, but if they are not interested, users swipe left on the profile instead. When



two users both swipe right on each other, a “match” is made, hence the “mutual-swipe” terminology. Mutual-swipe features are beneficial for both senders and receivers of messages by aiding in both a navigation of rejection and also what might otherwise be an influx of unwanted messages (Van Hook, McHale, & King, 2018). Because of the disproportionate gender ratio of dating app users and their activity on the apps, mutual swipe features reduce the number of messages women receive, but this leveling process does not extend to message sending as it relates to initiation. In an analysis of over two million conversations from a dating app that includes the mutual swipe feature, men initiated five times more often than women did (Zhang & Yasseri, 2016).

With these figures on the behavior of men and women on online dating sites and apps, it is important to consider the scope of online dating. Some scholars propose that the term “online dating” implies an inaccurate definition (Finkel, Eastwick, Karney, Reis, & Sprecher, 2016). While there are exceptions, the purpose of the online realm is for matchmaking, whereas the actual dating process almost always occurs via FtF communication offline. Following this logic, the decision between two dating app users to meet FtF necessitates a transition between the disparate communication contexts, which is known as a modality switch (Ramirez Jr & Zhang, 2007). Changing to a completely new environment risks the loss of information from the original context, such as information on the perceived dominance of a female initiator. Perhaps more so, a new context also presents the opportunity for previously unattainable information to surface. For the purposes of this study, a modality switch also marks the switch between one set of gender norms set forth by the FIR to another set of norms present offline.

With a FIR, another change occurs even before a modality switch: the control solely allocated to females is relinquished after she initiates a conversation. In the case of Bumble, the

female in a cross-sex match is allotted 24-hours to initiate a chat conversation, and if she does not, the match expires. After this timespan, gender roles are once again permitted to emerge naturally. As Bivens and Hoque (2018, p. 446) describe it, "These 24 hours thus constitute the window of control afforded to female Bumble users". The non-traditional gender roles exhibited through use of a FIR would need to survive two substantial shifts in order to be effectively replicated and expanded upon FtF: the expiration of the FIR and the modality switch from online to offline.

Hypothesis 2: In both the FIR and control conditions, the interpersonal dominance attributed to female initiators in a dating app chat conversation will not be expected to be exhibited to the same extent on a FtF date between two users from the chat conversation; the male user will be described as taking the more active role in the date across both conditions.

### **Initiation and sexual expectations**

Beyond the potential influence of a FIR on expectations for the actions men and women direct on a date, expectations for the sexual aspect of dates may also be affected. The extent to which gender roles influence how men and women behave can hold serious consequences; some such consequences are described by sexual social exchange theory. In the movie *How to be Single* (2016), Robin (Rebel Wilson) discourages her friend Alice (Dakota Johnson) from purchasing her own drinks at a bar: "You don't buy the drinks, boys buy the drinks. It's kind of like a sexual currency that they use so they're not actually paying you to hook-up," illustrating the greater degree of erotic capital women hold over men (Hakim, 2010) and one side of the "no-win" situation for women that exists surrounding which gender enacts a behavior (Emmers-Sommer et al., 2010). The *How to be Single* quote encompasses sexual social exchange theory,

or the idea that female, but not male, sexuality has an inherent exchange value (Basow & Minieri, 2011; Baumeister & Vohs, 2004). This theory explains both men and women's lower tolerance for rape when a date is inexpensive and costs are split, compared to when the man pays for an expensive date (Basow & Minieri, 2011). Yet, when females defy cultural scripts and ask a male on a date, heightened date-rape justifiability from both genders and sexual expectations from the male recipient result as well (Emmers-Sommer et al., 2010; Morr Serewicz & Gale, 2008; Muehlenhard, Friedman, & Thomas, 1985).

This “no-win” situation is especially salient given the rise of the #MeToo movement, a campaign against sexual harassment and abuse that encourages women who have suffered such mistreatment to acknowledge and speak out about their experiences. #MeToo aims to diminish the stigma surrounding sexual harassment and abuse. According to recent data, the #MeToo movement is leading men to be increasingly unsure of how to conduct themselves on dates and in relationships with women: based off a sample of about 1,800 male 18–25 year-olds, 40% agreed that “The #MeToo movement has changed the way I act in potential romantic relationships” (Zeilinger, 2018). This current social climate reflects the potential for the grand gender convergence to take effect on the dating landscape.

Hypothesis 3: As a result of the computer-mediated proxy agency present with use of a FIR, men's sexual expectations for a date will be lower when a female initiates a date on an app with a FIR than if she initiates in the absence of a FIR.

## **Method**

### **Participants**

The current study was an experiment conducted via an online survey. Two hundred seventy-three Amazon Mechanical Turk (MTurk) workers started or completed the survey by

selecting a task titled, “Take a survey about dating apps” and described as an “academic research study.” One hundred of these workers did not complete the survey; these workers did not receive compensation and their data was deleted. In order to be granted access to the task, a worker had to have a 95% HIT approval rate and be located in the US. Additional requirements were listed on the MTurk interface and included as screener questions: workers had to be 18 years of age or older, native English speakers, taking the survey for the first time, and, to ensure the comfort of all participants, had to identify as heterosexual or bisexual because participants would be providing predictions for a heterosexual date (this concern was raised by a gay research assistant who piloted the survey). The screener also included a consent form; workers had to select “I agree” in order to take the survey.

Of the 173 completed surveys, 60 participants’ data were excluded because criteria were not met for the open-ended section of the survey. These criteria are further described in the “Dating Script Coding” section. Thus, after cleaning the data based on these guidelines, 113 MTurk workers were retained as the 113 participants for this study. For only the dating script portion of the study, 13 participants’ scripts were randomly selected to be excluded from the data set in order to counterbalance gender and condition (control/male = 25, control/female = 25, treatment/male = 25, treatment/female = 25).

Of the 113 participants, 93.81% identified as heterosexual and 6.19% as bisexual. 46.9% of the participants were female and the other 53.1% were male. Median age was 32 ( $SD = 8.30$ ) and ranged from 20 to 63. A majority of participants were White (67.26%), 10.62% were Black or African American, 7.08% Hispanic, Latinx, or Spanish origin, 6.19% Asian, 3.54% American Indian or Native Alaskan, and 5.31% either did not provide a response or identified as some other race, ethnicity, or origin. A majority of participants stated that they have at least some

dating app or online dating platform experience: 76.11% identified as a past or present user of a dating app or online dating site (see Table 1 for a summary of the dating apps that participants have used). Participants were compensated with \$2.50 for their time (Median survey time = 15 minutes).

Table 1  
*Dating Apps Used by Participants, in Order of Frequency*

App name	N	%
Tinder	61	53.98
OkCupid	36	31.86
PlentyOfFish	34	30.09
Match.com	29	25.66
Bumble	11	9.73
*Other dating app or site	10	8.85
Hinge	6	5.31
Coffee Meets Bagel	5	4.42
Tastebuds	3	2.65
Happn	2	1.77
Hater	1	0.88

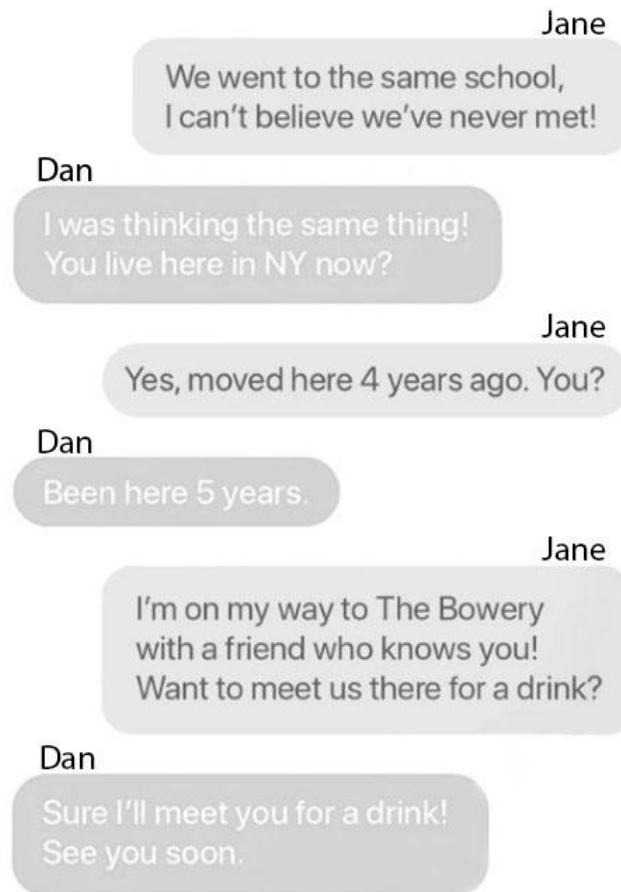
Notes. \*Other apps listed by participants included, but were not limited to, Bristlr, Her, eHarmony, Badoo, and Singlesnet. All apps and sites presented as options were selected by at least one participant. Participants could select more than one option.

## Materials and Procedures

The online experiment was conducted via a Qualtrics survey. Depending on which condition participants were randomly assigned to, participants read a short paragraph about how a particular dating app works. The control condition ( $n = 50$  participants) paragraph (94 words,

see Appendix A) was adapted from a description on tinder.com about how the dating app Tinder works, whereas the treatment condition ( $n = 50$  participants) paragraph (81 words, see Appendix A) was modified from a description on bumble.com about how the dating app Bumble works, including information on the FIR of Bumble. Tinder was chosen as the app to model the control condition off of because of the similarity in interface design between Bumble and Tinder (Tanner & Tabo, 2018). The words and phrases “women”, “men”, “initiate”, and “first move” were added to the control paragraph to balance the salience of gender and initiation behavior across the two conditions. Neither description includes the names “Tinder” or “Bumble”.

Both conditions then read that two users, Jane and Dan, matched on the dating app and have been chatting each other, and were presented a screenshot of the conversation. Both conditions viewed this same chat screenshot (see Figure 1). The chat screenshot was adopted from bumble.com, but did not include any reference to the app, and the image was edited to remove any evidence of branding. Next, participants rated the dominance and affiliation exhibited by the two users in the chat screenshot by completing items adopted from the Relational Communication Scale (RCS) (Burgoon, 1996; Burgoon & Hale, 1987). Ten items from the dominance subscale of the RCS and 10 items, two from each of the five intimacy subscales, were included to measure affiliation, and one additional item asking which user made the first move were included as 7-point Likert scales; the order of these items was randomized. Whether participants rated the dominance and affiliation of Dan or Jane first was also determined by the randomizer.



*Figure 1: Chat Screenshot (Bumble, n.d.)*

**Dating scripts.** The next section of the survey was conducted following commonly used methodology in dating script literature (e.g., Rose & Frieze, 1993; Morr Serewicz & Gale, 2008). Twenty-five text-entry fields were available—but only the first 20 required responses—for participants to list events they expected to occur in preparation for, during, and at the conclusion of the date that was initiated in the chat screenshot of the dating app. The directions for this section were adapted from Rose and Frieze (1993) and Morr Serewicz & Gale (2008), including the same specification that participants should write the events that they expected the user of their gender to perform (see Appendix B for full instructions). Beneath the instructions for this

section, the dating app paragraph description (which varied by condition) and chat screenshot were provided for a second time as a reference to provide participants with a reminder of how the dating app works and the chat conversation of concern. A manipulation check was not included to prevent the purpose of the experiment from being revealed.

**Other Measures.** Participants answered questions about their personal dating app usage after passing the screener. Demographic questions, an Ambivalent Sexism Inventory (Glick & Fiske, 1997) and Big 5 Personality Inventory (Gosling, Rentfrow, & Swann Jr, 2003) followed the dating script section to gather information that could be used to examine potential covariates.

## Analysis

### Dating Script Coding

Coding was completed iteratively by the author who created an initial set of codes from analyzing the first eight out of 91 scripts and then adapted the code book as coding progressed (at this time, the data set consisted of 100 completed surveys and 91 codable scripts). There were two categories of codes: item codes, which describe the content of an event expected to occur on the date, and actor codes, which describe if a particular date attendee is the primary actor of an event (e.g., if “Dan hugs Jane,” Dan is the primary actor).

A second coder used this initial code book to analyze a random subset of 10 out of 91 scripts ( $n = 215$  script items); reliability was not achieved for script items (66.05% agreement,  $\kappa = 0.65$ ) or actors (80.93% agreement,  $\kappa = 0.74$ ). After re-coding of some data and further modifications to the code book, another nine, randomly selected scripts ( $n = 201$  script items) were analyzed by a different coder, which resulted in acceptable intercoder reliability for both items (84.58% agreement,  $\kappa = 0.84$ ) and actors (82.59% agreement,  $\kappa = 0.78$ ). Although reliability was met, re-coding of some data and minor adjustments to the code book and were



made once again after this set was coded. The survey was then released for a second time; 32 MTurk workers started the survey and 28 completed the survey.

Due to observations of problematic scripts in the total set of scripts, additional data cleaning occurred at this stage. Criteria for inclusion were established as follows: following instructions (e.g., listing at least 20 actions without any n/a's), a demonstrated understanding of the task by providing responses relevant to the situation described in the instructions, and providing expectations, not options or versions of what might happen. In particular circumstances, scripts containing uncertain language were included, but only if these intrusions of hesitant responses did not hinder coding of the script. For example, "maybe tell a family member about her date" was coded as if that event certainly occurred, whereas "I might be expected to take on the large bill because I am the man" followed by "I might end up getting a free dinner if they pay" disqualified the script because the two responses directly contradict each other. These criteria also serve as an attention check. Therefore, for each of the 60 scripts for which criteria was not met, all data from the corresponding survey in addition to the dating script were excluded from the study.

One other exception was made for script inclusion criteria. The instructions asked participants to write the expectations they expected to be performed by the user of the same gender (see Appendix B). This directive was generally followed (see Table 4), but deviations from this were not uncommon and prove insightful. Participants often described events that equally involved two or more people (e.g., "Dan and Jane get to know each other better" or "Entering the Bowery, all three together", coded *both* and *all* respectively). Some participants also included script items performed solely by the actor of the opposite gender (e.g., "Dan orders an appetizer" in a female script and "Jane gives Dan her number" in a male script). Disobeying

the instructions in this particular way was excused because of Rose and Frieze (1993)'s observation of this same tendency in their study. Rose and Frieze (1993) observed that their female participants were more likely than the male participants to violate this instruction, which the researchers interpreted as demonstrating a greater level of dependency on their date. Thus, this violation of instructions was not only permitted, but utilized in the analysis.

Although 113 valid dating scripts were obtained, 13 of these were randomly selected to be excluded from the dating script analysis in order to counter balance gender across conditions, as only 25 of the 113 participants were males in the control condition. This final set of 100 scripts consisted of one hundred scripts and 2,245 script items. Finally, another random subset of 10% of the final set (10 scripts,  $n = 222$  script items) were coded by a coder other than the author, again resulting in acceptable intercoder reliability for both items (81.1% agreement,  $\kappa = 0.80$ ) and actors (86.5% agreement,  $\kappa = 0.79$ ). During all coding sessions, coders were blind to the condition and demographic data of the participants who wrote each script, with the exception of gender, which was evident in almost all scripts. In order to be coded accurately, five participants' gender was referenced because these five scripts provided no clear gender indicators in their scripts; participants were instructed to write from the perspective of their own gender.

Sixty-nine distinct codes were used, which is comparable to previous dating script studies (e.g., 65 categories in Morr Serewicz & Gale, 2008). During script analysis, some items were identified as containing more than one distinct item. Instances of this were split into separate rows to be coded individually. Script length varied from 20 to 31 items with a median of 22 items per script. If a code was listed more than once within the same script, subsequent instances were marked with a frequency tag in order to preserve the overall proportion of scripts an item appeared in, and to gather data on whether or not an item was mentioned multiple times within

scripts. Following this method, it was possible for one item to occur multiple times within one script. Each instance is listed separately in the scripts presented in the results section, except when they occurred in direct succession; in this case, the frequency is marked by a number in parentheses following the script item.

Like prior dating script literature (e.g., Morr Serewicz & Gale, 2008; Rose & Frieze, 1993), an item was established as an overall script item if 25% or more of participants included it in their script. Item position in the overall scripts was determined by the average position of an item within scripts, with varying script length taken into account. This method is an attempt to preserve the chronological order of scripts, but is an imperfect method (see Table 3 where Dan arrives at the date before traveling there, or where dates appear to contact each other in the middle of the date as a result of this item often occurring at the very beginning or end of scripts). Actor codes were assigned to every script item and included *Jane*, *Dan*, *other* (e.g., a waiter or an event with no actor) *both* (Jane and Dan, no primary actor), *Jane and friend*, *Dan and friend*, or *all* (Jane, Dan, and friend). Like Morr Serewicz and Gale (2008), an item in an overall script was assigned a primary actor if a particular actor was assigned to that item 40% of the time.

## Results

### In-App Perceptions of Dominance and Affiliation

Overall dominance and affiliation ratings for Dan and Jane by each participant were generated by averaging the respective items for each category from the Relational Communication Scale. A paired t-test determined that the female user was rated as more dominant ( $M = 5.37$ ,  $SD = 0.74$ ) than the male in the chat conversation ( $M = 3.71$ ,  $SD = 0.76$ );  $t[112] = 14.58$ ,  $p < 0.0001$ ;  $d = 2.21$ . Jane was also rated as more affiliative ( $M = 5.63$ ,  $SD = 0.77$ ) than Dan ( $M = 5.38$ ,  $SD = 0.80$ );  $t[112] = 4.69$ ,  $p < 0.0001$ ;  $d = 0.32$ . No significant results

were found regarding the ratings of the male and female users' dominance and affiliation between conditions. Hypothesis 1 was not supported— despite the FIR, the female user in the treatment condition was viewed as just as dominant in the chat conversation as female who initiated in the absence of a FIR.

However, when examined by gender of the participant, different results emerged. A 2 x 2 factorial ANOVA resulted in a main effect of gender; female participants rated Jane as more dominant ( $M = 5.56$ ,  $SD = 0.61$ ) than male participants did ( $M = 5.20$ ,  $SD = 0.81$ ) across both conditions;  $F(1,108) = 7.05$ ,  $p < 0.01$ ,  $\eta^2 = 0.06$ . As shown in Figure 2, this gender difference is associated with condition. In the control condition, an unpaired t-test resulted in no significant difference between male and female participants' attributions of Jane's dominance ( $t [42.78] = 0.80$ ,  $p = 0.43$ ), whereas there was a significant difference between male ( $M = 5.11$ ,  $SD = 0.79$ ) and female ( $M = 5.64$ ,  $SD = 0.64$ ) participants' attributions in the treatment condition ( $t [58.53] = 2.88$ ,  $p < 0.01$ ,  $d = 0.74$ ). This main effect of gender did not surface for attributions of Jane's affiliation, nor did any condition or gender differences arise for attributions of Dan's dominance and affiliation.

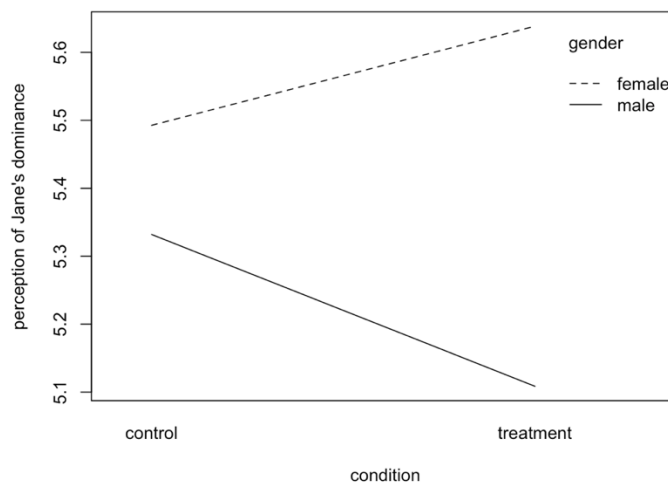


Figure 2: Main effect of gender in the perception of the female user's dominance

**Dating scripts: Expectations for a First Date**

Average scripts were generated for nine different categories: overall ( $N = 100$  participants,  $N = 2245$  items), control ( $n = 50$  participants,  $n = 1125$  items), treatment ( $n = 50$  participants,  $n = 1120$  items), male ( $n = 50$  participants,  $n = 1100$ ), female ( $n = 50$  participants,  $n = 1145$  items), male/control ( $n = 25$  participants,  $n = 562$  items), female/control ( $n = 25$  participants,  $n = 563$  items), male/treatment ( $n = 25$  participants,  $n = 538$  items), and female/treatment ( $n = 25$  participants,  $n = 582$  items). Of the 69 total codes applied during analysis, 34 reached the frequency required for script inclusion at least once within these nine categories. For the purpose of this study, five of these nine scripts are provided to address the hypotheses: the overall (Hypothesis 2, see Table 2), control, and treatment scripts (Hypothesis 2, see Table 3), and the male/control and male/treatment scripts (Hypothesis 3, see Table 4).

Hypothesis 2 predicted that both conditions would result in the man taking a more active role in the date. To provide a quantitative analysis of the various, averaged dating scripts by examining differences and similarities between conditions and genders, primary actor attribution data was used as a measure of expected dominance within a script. Each script was assigned a number that represented the proportion of script items that were self-initiated. For example, in a male participant's script, self-initiated items were those that were assigned to Dan as the primary actor. Producing a script with a high self-initiation score serves as an expectation for that actor, Dan or Jane, to exhibit a high level of dominance throughout the date. Various t-tests were performed on these data to respond to Hypothesis 2. This method, compared to less precise alternatives like chi-square tests, allowed for the variability between participant's scripts to be accounted for without skewing the results. Means are provided as decimals that represent the

proportion of script items in a given group that were self-initiated; these numbers are a proxy for the actors' dominance levels that is useful for comparisons between groups. Note that these methods mean expectations for Jane's dominance were determined by the female participants, as Dan's were controlled by the male participants. Considering cross-gender intrusions as well allows for some insight into men and women's expectations for each other.

Overall, there was no difference between Dan ( $M = 0.66$ ,  $SD = 0.28$ ) and Jane's ( $M = 0.60$ ,  $SD = 0.26$ ) expected levels of dominance ( $t[97.49] = 1.10$ ,  $p = 0.27$ ), which does not provide support for Hypothesis 2. Therefore, although some gender-typed behaviors appear in the overall script (see Table 2), there is no evidence that one gender over the other was expected to take a more active role on the date. This overall assessment was followed by additional tests to approach the data from multiple angles. When analyzed separately, this similarity between expectations for Dan and Jane's dominance remained consistent for both conditions.

Table 2  
*Overall Dating Script*

Actor	Item
	Groom and dress (3)
	MEET/GREET/INTRODUCE
M	Arrive at the Bowery
M	Travel to the location
W	Gossip
	ORDER ALCOHOL
	JOKE/LAUGH/TALK
	Ask/talk about career
	JOKE/LAUGH/TALK
	Drink alcohol
	Ask date question(s)
M	Talk about yourself

W	Express or gauge interest JOKE/LAUGH/TALK
M	Order alcohol Activity
M	Contact date Joke, laugh, talk
W	Hug Ask for or exchange contact info
M	Kiss FUTURE PLANS Let date know you had a good time Leave
W	Say goodbye

Note. Items in uppercase were mentioned by over 50% of participants and a *M* or *W* next to an item denotes that 40% of participants who included the item indicated that the primary actor of the item was the *man* or the *woman*, respectively. However, if both percentages exceeded 40%, no gender label was given.

Beyond comparisons between Dan and Jane, the expectations for each actor's dominance across conditions were also analyzed. Jane was expected to be more dominant in the treatment ( $M = 0.68$ ,  $SD = 0.21$ ) versus the control condition ( $M = 0.51$ ,  $SD = 0.29$ );  $t[44.41] = 2.30$ ,  $p < 0.05$ ,  $d = 0.65$ . This result was verified to be driven by differences in female participants' scripts, as there was no significant difference between male participants' items assigned to Jane as the primary actor ( $\chi^2[1] = 0.17$ ,  $p = 0.68$ ). In contrast, there were less script items attributed to Dan in the female/treatment group compared to the female/control group ( $\chi^2[1] = 4.07$ ,  $p < 0.05$ ,  $\phi = 0.06$ ). Unlike, prior literature (Rose & Frieze, 1993), there was no overall difference between cross-gender intrusions; men and women were just as likely to include a cross-gender intrusion ( $\chi^2[1] = 1.65$ ,  $p = 0.20$ ). Overall expectations for Dan's dominance did not differ between the

control ( $M = 0.60$ ,  $SD = 0.32$ ) and treatment ( $M = 0.71$ ,  $SD = 0.23$ ) conditions ( $t[43.82] = 1.44$ ,  $p = 0.16$ ).

In summary, the presence or absence of a FIR influenced the extent to which the female user was expected to be the primary actor, whereas the FIR did not influence the rate at which the male user was expected to be the primary actor. In a date initiated by a woman on an app with a FIR in comparison to a control app, women expected that the female user will take a more active role and the male user a less active role. However, men's expectations do not align with these predictions. In fact, men do not anticipate any changes in the dominance levels of either gender if the app used included a FIR.

The overall scripts generated by the control and treatment groups are presented in Table 3. In the control dating script, Jane was the primary actor of four items (*gossip, express or gauge interest, bring the date to an end, and travel elsewhere or home*), whereas in the treatment condition, Jane was the primary actor of eight items (*gossip, meet/greet/introduce, ask/talk about career, express or gauge interest, hug, let date know you had a good time, leave, and say goodbye*). Because primary actor assignment was done on the basis of a distinct cut-off, these results should not be expanded to definitively explain the expectations for her overall behavior on the date, but these results do provide further support for the expectation for Jane to be the primary actor of more items in the treatment condition.

Likewise, Dan was expected to be the primary actor of four items in the control condition (*order alcohol, talk about yourself, contact date, and pay*), and seven in the treatment condition (*arrive at the Bowery, travel to the location, order alcohol, talk about yourself, order alcohol (2), kiss, and future plans*).



Because these primary actor attributions in the average scripts may not be sufficiently representative of the actual gender differences or similarities provided in participants' expectations, an additional approach was taken to determine if certain behaviors were in fact expected to be gender-typed. For this analysis, chi-square tests on actor attribution and the 34 script items that reached the 25% standard for inclusion in one of the nine scripts generated for this study were performed. Ten additional script items were also tested; these were items that were listed more than once at least 25% of the time in one or more of the nine average scripts, for example, *joke, laugh, talk (2)*.

As mentioned, chi-square tests were run on each item to examine if the item was significantly more likely to be attributed to one of the genders. Three significant differences resulted. Jane was expected to gossip about the date significantly more often ( $\chi^2[1] = 14.16, p < 0.001, \phi = 0.27$ ), not only once, but twice ( $\chi^2[1] = 7.18, p < 0.01, \phi = 0.19$ ). Dan was expected to take care of the bill or offer to pay significantly more often ( $\chi^2[1] = 8.22, p < 0.01, \phi = 0.20$ ).

Table 3  
*Control and Treatment (FIR) Dating Scripts*

Control		Treatment (FIR)	
<u>Actor</u>	<u>Item</u>	<u>Actor</u>	<u>Item</u>
	Groom and dress (2)		GROOM AND DRESS (3)
	MEET/GREET/INTRODUCE	W	Gossip
	Arrive at the Bowery		MEET/GREET/INTRODUCE
	JOKE/LAUGH/TALK	M	Arrive at the Bowery
	ORDER ALCOHOL	M	<b>Travel to the location</b>
W	Gossip		<b>Get a table</b>
	JOKE/LAUGH/TALK	W	<b>Meet/greet/introduce</b>
	Ask/talk about career	M	ORDER ALCOHOL
	Drink alcohol		JOKE/LAUGH/TALK
	Order food		Ask date question(s)

	Activity		Contact date
W	Express or gauge interest	W	Ask/talk about career
M	Order alcohol		Drink alcohol
	JOKE/LAUGH/TALK	M	Talk about yourself
M	Talk about yourself		JOKE/LAUGH/TALK
	Ask date question(s)	W	Express or gauge interest
	<b>JOKE/LAUGH/TALK</b>	M	Order alcohol
	Hug		Joke/laugh/talk
	<b>Joke/laugh/talk</b>		Ask for or exchange contact info
M	Contact date	W	<b>Hug</b>
	Ask for or exchange contact info	M	<b>Kiss</b>
M	Pay	M	FUTURE PLANS
			<b>Let date know you had a good time</b>
W	Bring date to an end	W	<b>time</b>
W	Travel elsewhere or home	W	Leave
	FUTURE PLANS	W	<b>Say goodbye</b>
	Leave		

Note. Items in uppercase were mentioned by over 50% of participants, bold is used to distinguish differences between the two conditions' scripts, and a *M* or *W* in parentheses next to an item denotes that 40% of participants who included the item indicated that the primary actor of the item was the *man* or the *woman*, respectively. However, if both percentages exceeded 40%, no gender label was given.

### Dating Scripts: Sexual Expectations

Hypothesis 3 predicted a difference between conditions for male participants expectations of sexual behavior on the date, thus scripts for the male/control and male/treatment groups were generated (see Table 4). Four items constituted sexual expectations: *kiss*, *more than kiss*, *physical contact*, and *sex*. Repeat mentions of these items were not taken into account for this calculation to prevent any one script from being weighted more heavily in the calculation. Therefore, the test considered the presence of some or complete absence of any sexual expectations— whether a script either did or did not include one or more of the items at least

once. Hypothesis 3, the prediction that men in the FIR condition would have higher sexual expectations than men in the control condition, was not supported; no differences in sexual expectations across those two groups were detected ( $\chi^2[1] = 0.43, p = 0.5$ ). This lack of a difference in sexual expectations is consistent with female participants' predictions ( $\chi^2[1] = 0.36, p = 0.55$ ).

Table 4  
*Male/Control and Male/Treatment (FIR) Dating Scripts*

Male/Control		Male/Treatment (FIR)	
<u>Actor</u>	<u>Item</u>	<u>Actor</u>	<u>Item</u>
M	Groom and dress	M	GROOM AND DRESS (3)
M	MEET/GREET/INTRODUCE	<b>M</b>	<b>ARRIVE</b>
	JOKE/LAUGH/TALK	<b>M</b>	<b>TRAVEL TO THE LOCATION</b>
	<b>Ask if date wants a drink / offer</b>		
<b>M</b>	<b>drink</b>	M	MEET/GREET/INTRODUCE
<b>M</b>	Drink alcohol		JOKE/LAUGH/TALK
M	ORDER ALCOHOL	M	ORDER ALCOHOL
	JOKE/LAUGH/TALK	M	Contact date
M	Ask/talk about career	M	Ask date question(s)
<b>M</b>	<b>Check/worry about appearance</b>		Drink alcohol
M	Ask date question(s)	M	Ask/talk about career
<b>M</b>	<b>Order food</b>		JOKE/LAUGH/TALK
M	Talk about yourself	<b>M</b>	<b>Ask date question(s)</b>
	<b>JOKE/LAUGH/TALK (2)</b>		Joke/laugh/talk
M	Contact date	M	Talk about yourself
	<b>JOKE/LAUGH/TALK</b>	<b>M</b>	<b>Invite home</b>
<b>M</b>	<b>Pay</b>	M	Ask for or exchange contact info
<b>M</b>	<b>Hug</b>	<b>M</b>	<b>Kiss</b>
			Let date know you had a good
<b>M</b>	<b>Bring date to an end</b>	M	time
M	FUTURE PLANS	<b>M</b>	<b>Leave</b>

M Let date know you had a good  
time M FUTURE PLANS

Note. Items in uppercase were mentioned by over 50% of participants, bold is used to distinguish differences between the two conditions' scripts, and a *M* or *W* in parentheses next to an item denotes that 40% of participants who included the item indicated that the primary actor of the item was the *man* or the *woman*, respectively. However, if both percentages exceeded 40%, no gender label was given.

### Discussion

This study aimed to gain a better understanding of the potential influences a FIR has on the perception of interpersonal dominance within dating app communication as well as expectations of behavior when the context of dating transitions from online to offline.

#### **In-App Perceptions of Dominance and Affiliation**

Whether a female initiates a conversation on an app with a FIR or without a FIR, third party appraisals of her dominance and affiliation levels do not change. Although this statement is true overall, there is one caveat when considering gender differences or similarities. While neither gender significantly increased nor decreased their rating of Jane's dominance depending on condition, the main effect of gender was exacerbated in the treatment condition. Men's and women's dominance attributions of Jane trended in opposite directions depending on condition. Women's dominance ratings were higher in the FIR condition compared to the control condition whereas men's were higher in the control condition compared to the FIR condition, resulting in the disparity between men's and women's ratings in the FIR condition.

These results do not represent the mutability of female's judgements of a FI's dominance, nor do they demonstrate men's lowering of dominance attributions for a FI who used an app with a FIR. What can be derived from these results, however, is that a FIR is a polarizing mechanism in terms of men and women's judgements of how much dominance a FI exhibits. Without a FIR,

these two genders agree on the FI's dominance, but with a FIR, women rank the FI's dominance higher than men do (or conversely, men rank the FI's dominance lower than women do).

These results are surprising in light of Bandura's social cognitive theory. Firstly, the prediction that the FI would be perceived as less dominant in the FIR condition was not supported. Furthermore, the FIR condition presented a difference between male and female participants, with female ratings of the FI's dominance higher than men's. The relative order of this difference is logical when more critically considering the role of proxy, or computer-mediated, agency. The major tenet of proxy agency is the alignment of goals—the goals of the actor and whether or not the additional agent progresses the actor towards those goals. When this is the case, proxy agency still belongs to the original actor. Perhaps because the action of concern in this study—sending the first message—is more salient to women, female participants qualified the action as satisfying the requirements of proxy agency to a greater extent than men did. For example, female participants may have been more likely to consider the past actions the FI carried out leading up to sending the first message: wanting to be a user on the app, the deliberate act of creating an account on the app, and sending the first message as opposed to the alternative of taking no action. Thus, because the FIR is ingrained in the functionality of the app, simply being an active user of the app could reflect innate dominance. For women whose goal is to exhibit agentic dating behavior, a dating app with a FIR provides the necessary tool to aid such women in this objective (at least for the first message).

### **Dating Scripts: Expectations for a First Date**

The second hypothesis was an extension of the first, guessing that perceived dominance of the FI would not translate into expectations of the FI being more dominant than her male date on a face-to-face date. This prediction was based on dating script literature that has continuously

revealed highly gendered expectations for men and women's behavior on first dates (Eaton & Rose, 2011). Even when a hypothetical scenario involves nontraditional gender-typed behavior such as a woman asking a man on a date, expectations for that date return into alignment with traditional gender roles (Morr Serewicz & Gale, 2008).

Overall, Hypothesis 2 was not supported. Dan and Jane were expected to exhibit similar levels of dominance both overall and within each condition. Two gender-typed behaviors were expected to occur, however, with Jane expected to gossip more so than Dan, and Dan more so expected to take action in regard to paying the bill.

In treatment condition, however, female participants had higher expectations for Jane's dominance compared to the control condition. Like the trends in men and women's masculinity and femininity over time (Twenge, 1997), women appear to be more receptive of change when presented with a FIR. A similar explanation as applied to Hypothesis 1 could theorize a potential reason for this finding. Because FIRs are more salient to the female actor and thus the female participants, it is possible that this recognition of the presence of and meaning behind proxy agency, or computer-mediated agency, led to an expectation for Jane to be more dominant if she initiated on a dating app with a FIR. Consciously choosing to use an app with a FIR could be seen as a domino falling to set off a chain reaction of future, dominant actions.

Female participant's expectation of Dan's dominance was higher in the control condition, but men expected Dan's dominance to be consistent across conditions; additionally, men expected no change in female behavior across conditions while the female participants expected the woman to be more dominant in the treatment condition. These contradictory expectations between the male and female participants are also apparent when examining individual items. For example, in the treatment condition, 70% of the men who thought an exchange of contact

information would occur expected Dan to be the primary actor of this occasion; 75% of the female participants in the treatment condition who included this script item expected Jane to be the primary actor. It is sometimes possible for both the man and woman on a date to exhibit a higher level of dominance concurrently, as each actor's dominance is not always entirely dependent on the other's. For example, the man could order a drink for his date at one time and the female could order a drink for him later within the same date. Though in other cases, like the contact information exchange example, this explanation is not possible.

This misalignment of expectations for the opposite gender is a complicated but meaningful result. Convolved results like these demonstrate the potentially limited influence of a FIR in the sense that a FIR may influence expectations (as this study aimed to understand), but that these expectations might not manifest in real time. Prior research suggests that cultural scripts, like the ones produced in this study, are comparable to interpersonal scripts, or scripts describing actual dates participants experienced (Laner & Ventrone, 2000; Rose & Frieze, 1993). Perhaps that finding can be further specified to account for a higher level of detail beyond overall script similarity. For example, Emmers-Sommer et al. (2010) evidenced differences between these two types of scripts that are specifically related to egalitarian views of initiation behavior: a majority of participant agreed that the gender of who initiates a date is unimportant, yet compared to the women, a significantly higher number of men in their study had initiated a date in their past. Although it is important to understand expectations, future work should consider examining questions similar to the present study but focus on interpersonal scripts as well.

### **Sexual Expectations for a First Date**

Contrary to prediction, there was no difference in male participants' sexual expectations regardless of the presence of a FIR. Men's sexual expectations for a date are higher for a cross-

sex date when the woman initiates the date (Morr Serewicz & Gale, 2008; Muehlenhard et al., 1985), but knowledge that the initiation was required through a FIR neither diminishes nor heightens this expectation. There was also no difference between conditions in female participants' sexual expectations for the date. Morr Serewicz and Gale (2008) theorize that men's higher sexual expectations on female-initiated dates results from their higher confidence in the presence of interest from the other party. Following this logic, a FIR does not influence this level of confidence.

### **Limitations and Future Work**

The results of this study would be more robust if an additional condition was included: an app without a FIR where the male initiates the date. This would have provided a direct comparison for female initiation in general. However, comparisons can be drawn between these data and prior dating script literature. It could also be informing to instruct participants to write scripts withdrawn from their own gender to see what actions each gender expects the actor of the opposite gender to perform without having to defy the instructions to do so. The location of the date and alcohol availability were held constant, which are factors that have been found to affect first date scripts (Morr Serewicz & Gale, 2008). With a larger sample size, these factors could be manipulated to examine how they interact with a FIR.

### **Conclusion**

Overall, a FIR does not diminish a female initiator's perceived level of dominance but does increase the disparity between the level of dominance men and women attribute to her, with women rating her higher in dominance than men do. When a woman initiates a conversation on a dating app, the woman and man are expected to exhibit similar levels of dominance on a face-to-face date whether or not the app they used included a FIR. Yet, there is some evidence for a



higher degree of egalitarianism on dates initiated on an app with a FIR, which is driven by women's higher expectations for the woman's dominance, not men's. Finally, there was no difference in men's sexual expectations dependent on a FIR.

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## Appendix A

### *Control and Treatment Dating App Descriptions*

Control	Treatment
<p>Swipe Right to Like someone, Swipe Left to pass. If someone likes you back, It's a Match! We invented the double opt-in so that two people will only match when there's a mutual interest. No stress. No rejection. Just swipe, match, and chat online with your matches. Women can initiate the conversation, or men can initiate the conversation— either gender can make the first move. Then step away from your phone, meet up in the real world and spark something new.</p>	<p>On this app, after two users have mutually right-swiped one another, a match is created. After a match is created, you'll see a push notification appear on your phone's lock screen. From here, you can either start a chat or continue swiping through other profiles. The steps that follow will depend on the user's gender. Women always make the first move. If she doesn't initiate a conversation within 24 hours, the connection expires. Men cannot initiate a conversation with women. However, they can show they're especially interested by using the daily 24-hour extend feature.</p>

## Appendix B

In this section, we are interested in the events that you think would occur on the date that was initiated in the chat screenshot you read. What behaviors do you think would occur as the dating app users prepared for the first date, then met for the date, spent time during the date, and ended the date? If you identify as female, list the actions you would expect Jane to do. If you identify as male, list the actions you would expect Dan to do. Please list at least 20 actions or events, putting them in the order in which they would occur. Please only include a single action on each line. Please do not list "N/A" for any of the events.

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