The Perceived Effectiveness of Women's Pick-Up Lines: Do Age and Personality Matter?

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Recommended Citation

Evolutionary Behavioral Sciences

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One way to initiate a conversation for the purposes of mate attraction is to use a pick-up line. While past research has addressed men's use of pick-up lines, there has been far less research on those used by women. Here, we explored the perceived effectiveness of women's pick-up lines, particularly with regard to one's age but also as correlated with their Big Five personality factors. We hypothesized that both men and women would rate the same pick-up lines as effective and that older participants would rate pick-up lines as more effective than younger participants. Our results indicate that women's use of direct pick-up lines, sharing things in common, asking for a phone number, indirectly hinting at a date, and asking if single were perceived as most effective by both sexes. We did not support our prediction about age. The results demonstrate that of the Big Five dimensions, extraversion in particular is important and was positively correlated with perceived effectiveness.

Public Significance Statement
We examined the influence of age and Big Five personality dimensions on how effective men and women perceive women's pick-up lines to be. The findings show women's use of direct pick-up lines, sharing things in common, asking for a phone number, indirectly hinting at a date, and asking if single were perceived as most effective by both sexes. While age had a negligible influence, extraversion was particularly key in effectiveness ratings of women's pick-up lines.

Keywords: romantic relationships, flirting, sex difference, extraversion, mating

Flirting conveys one's interest in a potential partner, whether it be to start a relationship, establish sexual intentions, or promote intimacy (e.g., Weber et al., 2010). Flirting entails an assortment of behaviors and styles such as being sincere, polite, or playful (Hall & Xing, 2015). However, not all behaviors are equally effective, especially in terms of how they are evaluated by men versus women. For example, Apostolou and Christoforou (2020) found that having positive nonverbal behavior, being intelligent, and using a gentle approach were rated as the most critical for successful flirting. Women rated the gentle approach as more effective, while men rated attractiveness as most effective. Likewise, Wade and Slemp (2015) documented that women whose flirtations advertised sexual access and men whose flirtations advertised emotional commitment were seen as the most effective. Women have also been found to engage in competitive flirting whereby they perform flirtations to out-perform potential rivals who are interested in the same mate (Wade et al., 2021).

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Sex Differences in Use of Pick-Up Lines

Pick-up lines are one way that people may quickly and effectively engage in flirting behavior. Past studies have divided pick-up lines into direct (i.e., clearly convey interest), innocuous (i.e., to hide the intention and serve as a conversation starter), and flippant (i.e., use of humor; Kleinke et al., 1986; see also Weber et al., 2010). Flippant and innocuous pick-up lines may be used to protect the individual from rejection because they can hide a failed attempt as a question or joke (Kleinke et al., 1986). Cunningham (1989) posited that men's use of flippant pick-up lines is risky because women may perceive users as unintelligent or untrustworthy.

Given women are often highly selective in their mate choice (see Whyte et al., 2018, for a review), it follows that they will use pick-up lines more infrequently than men, who may instead focus on securing a larger number of possible mates. This difference, however, does not prevent women from initiating relationships. For instance, Lottes (1993) reported that both sexes believe they should be equal initiators of a sexual relationship, and both sexes report women initiate sexual intimacy and ask for dates. Meston and Buss (2007) reported that men and women list highly similar reasons for engaging in sex, too, which further points to women initiating interactions. Thus, the effectiveness of pick-up lines is a key issue, rather than simply trying to flirt via using one.

While there has been far less research on women's versus men's use of pick-up lines, there are two studies that found not all lines are equally effective when used by women. Wade and colleagues (2009) reported men and women rated direct pick-up lines (i.e., directly asking for a date) to be the most common, followed by implying a date (but not directly asking), and next by simply saying "hello." They also found the most effective lines, in terms of whether they communicated a woman's interest in dating, asked about romantic relationship status, contained a request for a phone number, or provided a phone number (Wade et al., 2009). Fisher et al. (2020) performed a similar study to Wade et al. (2009) except they manipulated the women's physical attractiveness and promiscuity. Their findings yielded the same trends except that attractive women were seen positively, regardless of the type of line they used. Our goal here is to replicate these findings among a sample of young adults but extend them to see how women's use of pick-up lines is influenced by one's age (via incorporating older adults) and personality.

A study of modified Tinder profiles with manipulated pick-up lines showed that the sole determinant of whether men sought a short-term or long-term relationship was the attractiveness of the woman in the profile (Dai & Robbins, 2021). For women, pick-up line humor and whether it contained a compliment significantly influenced their short-term and long-term dating intentions (Dai & Robbins, 2021). The authors point out that Tinder is a venue oriented toward finding short-term relationships, and further, use of such pick-up lines might be perceived a cheesy or ineffective when seeking a long-term relationship. Moreover, Tinder tends to be used by young adults (one third of their users are 18–24) and mostly men (twice as many men to women in the United States; Vervelogic, 2021), so the generalizability of these findings to older samples is not known.

Based on the Tinder study revealing men's primary focus on women's attractiveness (Dai & Robbins, 2021) and that studies have highlighted the importance of women's attractiveness on men's mate choice (e.g., 45-country study, $N = 14,399$; Walter et al., 2020), we predicted an age effect. Young women are typically considered the most attractive (e.g., Mathes et al., 1985; Walter et al., 2020), with fecundity closely tied to age. As women become older, their fecundity decreases, as well as the probability of bearing healthy babies (van Noord-Zaadstra et al., 1991), which means young women may be considered maximally attractive because they have the longest window to conceive. In a dating context, older women may be at a disadvantage in mating competition with younger (and hence more attractive) women. Therefore, we propose that older women may view pick-up lines differently from younger women given that the former possibly rely on them more readily to draw the attention of potential mates. We hypothesize that older women will consider pick-up lines more effective than younger women.

The Influence of Personality

There is no research on whether women with different personality types may be more or less likely to use pick-up lines or how personality influences how effective lines are perceived. The traits of extraversion and agreeableness, in particular, impact interpersonal relationships (DeYoung et al., 2013; Tov et al., 2016). Although both relate to

one's warmth (in personality terms; DeYoung et al., 2013), they are slightly different. Extraversion is linked to having more trust in others, while agreeableness is associated with less frequent negative exchanges, including criticism and perceived neglect and anger, with others (i.e., family, acquaintances, friends, mates; Tov et al., 2016).

Extraversion is associated with being assertive, talkative, enthusiastic, and motivated to engage in social contact (DeYoung et al., 2013; Wilt & Revelle, 2009). Those high in extraversion focus on the social impact of their actions and statements (Tobin et al., 2000), possibly because they have higher reward sensitivity (e.g., reward being warmth, affection, close emotional bonds; Lucas et al., 2000). In contrast, agreeableness is more associated with responding to other's needs, compassion, politeness, and being seen as likeable (DeYoung et al., 2013; Graziano & Tobin, 2009; Tov et al., 2016). Those high in agreeableness attempt to maintain positive interpersonal relationships, often by responding to conflict and trying to reduce it (Jensen-Campbell & Graziano, 2001).

Extraversion, in particular, has been examined in relation to mating behavior. Nettle (2005) argued that it positively impacts mating success (via a higher number of partners) yet involves costs associated with physical risk taking. Extraverted men were found to have more extradyadic partners, whereas extraverted women were reported as more likely to leave an existing relationship for new relationships (Nettle, 2005). Thus, we predict that those high in extraversion will perceive pick-up lines as more effective than those low in extraversion given that they focus more on mate acquisition for short-term relationships and that extraversion as compared to the other Big Five dimensions will be related to perceived effectiveness of pick-up lines. We include all of the Big Five, though, for exploration following Meston and Buss (2007) who found that agreeableness, consciousness, and neuroticism were most associated with motivators for engaging in sexual intercourse.

One final issue we addressed in the current work was replication of past findings. In keeping with Wade et al. (2009), who found both sexes rated direct pick-up lines to be the most effective, followed by implying a date (but not directly asking) and then saying "hello," we predicted the same findings would emerge in our data. We refer to these sorts of pick-up lines as categories. Further, we proposed, due to past research on pick-up line type (direct, innocuous, or flippant), that men would consider women's use of direct pick-up lines as the most effective, followed by flippant lines, and be least receptive to innocuous lines due to possible errors in understanding intent (Kleinke et al., 1986).

To summarize, the overarching goal of this research was to investigate whether there is a sex difference in the perceived effectiveness of women's pick-up lines, if age has an influence on evaluations of effectiveness, and if the Big Five personality domains, especially extraversion, impact perceived effectiveness. Last, we sought to replicate past findings showing that direct pick-up lines, either as opposed to other types of lines (i.e., innocuous or flippant) or compared to other categories of pick-up lines (e.g., complimenting, implying but not asking for a date), would be considered the most effective.

Method

Participants

Participants included 39 men and 57 women from a small, northeastern U.S. university and the surrounding community. Participants were aged 18–23 ($n = 69$), 30–49 ($n = 16$), and 50–96 ($n = 11$) such that the age ranges broadly represented young adults, middle-aged adults, and older adults, including those who are in their postreproductive years. Participants reported their race as Caucasian (91.7%), Asian (3.1%), Black (2.1%), Hispanic (2.1%), and other (1.0%). The participants in the 18–23 age group were obtained through the introductory psychology course participant pool, and they received credit as a part of a course requirement. Participants in the other age groups were recruited through the university by emailing them and the surrounding community by visiting a local senior center and asking individuals if they were willing to participate; they did not receive compensation for participation in the study.

Participants reported their sexual relationship experience; 77.1% had experience, 21.9% had no sexual relationship experience, and 1.0% did not answer the item. Forty-nine percent reported they were in a relationship, while 47.9% were not in a relationship, and 3.1% said they were unsure.

Procedure

Participants were given a questionnaire that included demographic information. Then, they

were presented with 10 statement categories representing commonly used female pick-up lines, resulting in a total of 52 questions. The statements were derived from previous research where female participants were asked to write statements that they have said or would say to a man to indicate to him they are interested in dating or spending time with him (Wade et al., 2008, 2009). Wade et al. (2008, 2009) compiled statements they gathered from participants into one list, and then the most common responses were found and broken down into 10 individual groups, which were included in the present survey. These 10 categories are directly asking out on a date (e.g., "Want to get dinner?"; 10 questions), indirectly hint at a date (e.g., "What are you up to tonight?"; seven questions), share things in common (e.g., "Do you watch that show? We should watch together"; three questions), give out phone number or ask for call (e.g., "Can I give you my number?"; five questions), give a compliment (e.g., "I have a lot of fun with you"; six questions), ask if single (e.g., "Are you single?"; three questions), personal interest question (e.g., "Are you from around here?"; five questions), say something funny (e.g., "You know I love you"; four questions), familiarity (e.g., "Have we met before?"; five questions), and subtle hello (e.g., smile and say "hello"; four questions; for a full list, see Wade et al., 2008, 2009).

Participants in the present research were asked to indicate how effective these 10 statement categories would be for a woman using them. Specifically, effectiveness was framed as showing a woman's interest in dating, or spending time with, a potential mate using a 7-point Likert-type scale (7 = *the line is very effective*, 4 = *the line is moderately effective*,

1 = *the line is not at all effective*). Participants were also asked to answer the following question from Wade et al. (2009): "How likely are you to approach (initiate the first interaction with) a man you are interested in dating or spending time with?" Answers were recorded using a scale from 1 = *very unlikely* to 7 = *very likely*.

Last, the participants completed the 10-Item Personality Inventory (Gosling et al., 2003), which measures the Big Five dimensions, and were debriefed and thanked. Consistent with American Psychological Association policy, these materials were reviewed and approved by the institutional review board prior to data collection, and informed consent was obtained.

Results

Sex Differences in Effectiveness by Pick-Up Line Categories

A 2 (Sex) × 10 (Line Categories) mixed-model repeated-measures analysis of variance (ANOVA) revealed a significant effect for pick-up lines, $F(9, 86) = 22.76$, $p < .0001$, $\eta^2 = .70$ (see Table 1). The most effective line categories, in order, were directly ask for a date, share things in common, ask for phone number, indirectly hint at a date, and ask if single.

Also, this same analysis revealed a significant interaction of sex of participant and lines, $F(9, 86) = 4.61$, $p < .0001$, $\eta^2 = .33$ (see Table 1). T tests with Bonferroni corrections revealed that men rated compliment lines significantly more effective than women, $t(94) = 3.15$, $p < .002$, as well as ask if single, $t(94) = 3.02$, $p < .003$, and directly ask for date,

Table 1
Mean Effectiveness of Pick-Up Lines

Line	Overall M (SD)	Male M (SD)	Female M (SD)
(a) Direct ask for a date	5.68 (1.25)	**6.21 (0.73)**	**5.32 (1.40)**
(b) Share things in common	5.47 (1.08)	5.31 (1.26)	5.58 (0.93)
(c) Give out or ask for phone number	5.04ac (1.32)	5.03 (1.16)	5.05 (1.43)
(d) Indirectly hint at a date	4.95ad (1.19)	4.90 (1.25)	4.98 (1.16)
Ask if single	4.64ab (1.52)	**5.18 (1.49)**	**4.26 (1.45)**
Give a compliment	4.61ab (1.24)	**5.08 (1.04)**	**4.30 (1.28)**
Personal interest question	4.46ab (1.51)	4.21 (1.49)	4.63 (1.51)
Say something funny, make laugh	4.24abcd (1.49)	4.15 (1.44)	4.30 (1.28)
Familiarity	3.81abcd (1.37)	**3.28 (1.26)**	**4.18 (1.34)**
Subtle hello	3.70abcd (1.42)	3.26 (1.25)	4.00 (1.45)

Note. Higher numbers mean more effective. Bold = sex difference, $p < .05$. The means were compared, with Bonferroni corrections. Means with the same superscripts were significantly different (not all comparisons are reported in this table).

$t(94) = 3.63$, $p < .0001$. In contrast, women rated familiarity lines as more effective than men, $t(94) = -3.29$, $p < .001$.

Sex Differences in Effectiveness by Pick-Up Line Type

We then collapsed the 10 categories into the three types of direct, innocuous, and flippant. Thus, asking someone directly out on a date, ask if single, and give out phone number or ask for call categories were grouped as direct. Innocuous was composed of the categories subtle, indirectly hint at a date, share things in common, compliment, personal interest question, and familiarity. Flippant included the say something funny and sexual humor category.

We created a 2 (Sex of Participant) × 3 (Line Types) mixed-model repeated-measures ANOVA. There was a significant interaction of sex of participant and lines, $F(2, 93) = 7.50$, $p < .001$, $\eta^2 = .94$. Men rated direct lines as more effective than women did, $t(94) = 3.60$, $p < .0001$; men $M = 4.35$ ($SD = .61$) and women $M = 3.75$ ($SD = .90$). There were no other significant differences. Further, for completeness, we note there were no significant differences caused by sexual relationship experience, relationship status, or birth control usage on the perceived effectiveness of the three types of lines.

Age Differences in Pick-Up Line Effectiveness by Pick-Up Line Categories

The mixed-model repeated-measures ANOVA for age (3 [Age] × 2 [Sex of Participant] × 10 [Lines Categories]) showed no significant effects for age. For the sake of completeness and to address low sample size, we grouped together those in the middle age category (30–49, $n = 16$) and older adults (age range 50–96, $n = 11$) and compared them with the younger adults (age range 18–23, $n = 69$). The 2 (Age) × 2 (Sex) × 10 (Line Categories) mixed-model repeated-measures ANOVA showed no significant effects due to age. Likewise, when we used line types (flippant, innocuous, and direct) and performed a 2 (Age) × 2 (Sex) × 3 (Line Types) mixed-model repeated-measures ANOVA, age had no significant effect in either analysis.

Personality and Pick-Up Lines

Pearson correlations were used to examine the relationship between the 10 pick-up line categories, the perceived effectiveness ratings, and the Big Five personality dimensions. Due to the number of correlations computed, we conservatively a priori selected $p < .01$ as indicating significance. Extraversion correlated with directly asking for a date, $r = -.29$, $p < .005$, familiarity, $r = .27$, $p < .008$, and likelihood of approaching a potential mate, $r = .34$, $p < .001$. There were no other significant findings.

We then examined the pick-up line types (direct, innocuous, and flippant) in terms of how they correlated with the Big Five personality dimensions, again with an a priori $p < .01$ significance level. There were no significant findings.

Discussion

We largely replicated the findings of Wade et al. (2009), who found both men and women rated direct pick-up lines as the most effective when used by women to attract men, with the second most effective lines being those that indirectly hinted at a date. Here, we found the most effective lines were those that were direct, followed by sharing things in common, asking for a phone number, indirectly hinting at a date, and then asking if single.

We then collapsed the 10 pick-up line categories into the three types of direct, innocuous, and flippant. This approach revealed a sex difference, with men reporting that direct lines are more effective than women. One study that focused on women was Wade et al. (2009), who relied on a more nuanced approach, leading to the 10 pick-up line categories used in this article. However, when a more general approach was taken, resulting in the three overarching types of direct, innocuous, and flippant, men and women rated effectiveness of women's direct lines differently. More work is needed to determine which approach is better; should pick-up lines be considered as falling into the three types or into several different, more nuanced categories?

Past findings, as well as the current study, show that men rate women's pick-up lines that are direct as the most effective (Fisher et al., 2020; Kleinke & Dean, 1990; Kleinke et al., 1986; Wade et al., 2009; Weber et al., 2010). Direct lines do not obscure intent and explicitly convey interest, meaning that there is little probability of missing a mating opportunity. The recurrent problem, over evolutionary history, of missing mating opportunities is argued to have shaped men's sexual psychology (e.g., via

error management theory; Haselton & Buss, 2000; Perilloux, 2014).

Further investigation is also required to determine why women did not rate direct lines as effective as men when only the three types were examined. Perhaps women rate the effectiveness of women's lines against the backdrop of what they, themselves, respond to when they are "hit on" by a man (i.e., most receptive to innocuous lines and least receptive to flippant lines; Cunningham, 1989; Kleinke et al., 1986), so perhaps women rating women's use of direct lines as less effective than men is mirroring this finding.

Our findings did not support our hypothesis that older women would rate pick-up lines as more effective than younger women. We must assume that older women rely on similar approaches to dating as young women, a conjecture that is supported by the small literature on dating among older adults. For example, McWilliams and Barrett (2012) examined older individuals' experiences with online dating and report women emphasize their appearance in their profiles, while men emphasize their financial and occupational success. This finding is parallel to those found among younger samples (Gallant et al., 2011; Rusu & Bencic, 2007).

Our findings highlight the important role of extraversion, compared to the other dimensions of the Big Five, in ratings of effectiveness for women's pick-up lines. Extraversion can be characterized as assertive, talkative, forward, or expressive versus shy, bashful, or inhibited (Goldberg, 1990). In this study, extraversion was negatively correlated with the perceived effectiveness of directly asking a mate on a date. This correlation means participants who scored low on extraversion rated direct pick-up lines as very effective. Those who score low on extraversion may not feel that they understand the nuances of dating, and subsequently, in order to show interest in a mate, they will utilize directness to show a potential mate they are interested in dating him.

Extraversion was also positively correlated with the perceived effectiveness of lines that suggest that the potential mate looked familiar and with likelihood of approaching a potential mate. Individuals who are more assertive and forward are thus more likely to approach a mate and, further, ask if they have met before. Women using this form of pick-up line are seen as effective. Do extraverted individuals experience greater success in approaching potential mates, and do they rely on direct lines most often? If flippant and innocuous lines are used

to help disguise a failed attempt (Kleinke et al., 1986), we predict extraverted individuals would be less reliant on these types of lines and instead primarily use direct lines based on past success and assertiveness.

An area that warrants more attention is the desired length of relationship on perceived pick-up line effectiveness. Senko and Fyffe (2010) examined women's hypothetical responses to men's pick-up lines according to whether the men were being considered for a short- versus long-term relationship. According to their findings, men using a flippant line were less successful in the long-term context but seen as funnier, more confident, and more sociable than men using innocuous or direct lines. Interestingly, when considering a short-term mate, male attractiveness mattered more than the type of pick-up line he used. Future researchers may wish to examine the effectiveness of women's pick-up lines within the context of whether she is seeking a short- versus long-term relationship. Fisher et al. (2020) have documented that female attractiveness overrides pick-up line type, but if attractiveness were held constant, would the effectiveness of the lines vary according to desired relationship length?

There are several limitations with the current study. We relied on perceived effectiveness of women's pick-up lines, rather than actually observing women use pick-up lines on men they are interested in and recording how they initiated a conversation. However, Wade et al. (2008, 2009) approximated this situation by asking participants what lines they had used in this situation, and these statements became the backbone for the 10 categories used in the current work. Sample size was also low for the older adults, which we addressed in part by collapsing with those over 30, and our findings show that there are no significant differences as compared to younger individuals. Further, menopausal status had a negligible effect, which provides evidence that age (as related to women's hormonal status) may not be a significant influence.

Future research could address the effectiveness of pick-up lines among those who do not identify themselves as heterosexual or cisgendered. Clark and colleagues (2021) recently examined gender identity, gender role, and sexual orientation, among other variables, and flirting behavior. Their findings showed that sexual orientation had a negligible role in flirting techniques, whereas gender did have a role, but it remains to be seen how pick-up lines are

used by those who are not heterosexual or cisgendered, for example.

In the current study, we replicate and extend the current literature pertaining to women's use of pick-up lines. Our findings demonstrate that men perceive women's use of direct pick-up lines as the most effective, presumably because there is little room for mistaking intention or missing a possible mating opportunity. Extraversion, compared to the other Big Five dimensions, is significantly correlated with perceiving women's pick-up lines as effective. Age, though, has minimal influence on perceptions of effectiveness but highlights the necessity for understanding the initiation of interactions among older individuals.

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