

**Original Pick-up Lines in Online dating and their Effects on Impression Formation:
Should they be both Novel and Appropriate?**

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Abstract

This study investigates the usage of pick-up lines as a way to increase success in the increasingly popular dating market. First, this study examined whether the perceived originality of senders of pick-up lines affects online daters' perceptions of attractiveness, dating intentions towards senders, and the likelihood to get a response back. Results showed a positive relationship between perceived originality and perceived attractiveness, dating intentions, and the likelihood to get a response back. Secondly, this study investigated the interplay of novelty and appropriateness, as previously defined as the criteria of originality, and their effects on impression formation when manipulated in pick-up lines. Results showed that original (novel and appropriate) pick-up lines indeed scored higher on perceived originality than random (novel but inappropriate) and common (not novel but appropriate) lines. Moreover, this study investigated whether perceived originality mediated the relationship between the sentence conditions (original, random, common) and perceived attractiveness, dating intentions, and the likelihood to get a response, which was confirmed by the results. These findings add to previous literature on pick-up lines in online dating, showing that original lines are preferred first, common ones second, and random ones last. It also adds to previous originality research as it explores the interplay of novelty and appropriateness and the effects on impression formation in an online dating context. Altogether, results suggest that the use of originality (novel and appropriate) is a way to positively influence impressions, as originality increases attractiveness, dating intentions, and the likelihood to get a response.

Keywords: online dating, pick-up lines, originality, novelty, appropriateness, attractiveness, dating intentions, likelihood to get a response

**Original Pick-up Lines in Online dating and their Effects on Impression Formation:
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Online dating is rising in popularity, normalizing it as a way to meet people and form relationships (Evans, 2019). The increased popularity of online dating has simultaneously increased the number of potential partners on dating platforms. Due to the large amount of choice, daters can get lost in the overwhelming volume of information and possible matches (Pronk & Denissen, 2020). Despite these hurdles, many people have found their partner online: in 2017, 39% of heterosexual American adults in a couple met their partner online (Rosenfeld et al., 2019).

This abundance of choice of potential partners might cause daters to feel the need to differentiate themselves from other matches by strategically using pick-up lines when first contacting someone they have matched with, such as sending a flattering compliment. By coming across as different in a positive way, daters could stand out and gain more attention (Toma, 2015). One way to do this, could be the use of originality in pick-up lines. As originality has been proven to be an attractive trait in a prospective partner (Gao et al., 2017; Kaufman et al., 2008). Pick-up lines can be seen as a first greeting or “the conversational gambits” used when trying to court someone romantically (Dai & Robbins, 2021). A pick-up line can display the character of the sender and can be an important indicator of their qualities for the recipient (Cooper et al., 2007), especially since online dating allows for very few communicative cues compared to an offline setting (Dai & Robbins, 2021). Thus, presenting oneself as original in a pick-up line could cause the receiver to perceive the sender as more original and thus attractive. The use of originality in pick-up lines may also increase dating intentions and the likelihood to get a response to that pick-up line (Sharabi & Dykstra-DeVette, 2019; Van der Zanden et al., submitted).

Earlier studies argue that something has to fit into two criteria, namely novelty and appropriateness for it to be found original (Sternberg & Lubart, 1999; Van der Zanden et al., submitted). Novelty refers to a certain uniqueness in the sense that it is unlike what others write, while appropriateness refers to something being socially meaningful (Heinen & Johnson, 2018; Van der Zanden et al., submitted). However, only limited research has been done into what originality is, and whether it is actually made up out of novelty and appropriateness. Earlier research claims that these two criteria make up originality. However, it has not yet been researched how those factors might influence impression formation in online dating. Thus, this study will explore if pick-up lines have to include both factors for them to be found considerably original and if that originality then also is the most attractive.

Overall, knowledge is lacking on how the possible criteria of originality, novelty and appropriateness, work together to convey originality in pick-up lines. Specifically in the context of online pick-up lines, little is known about the effects of original (novel and appropriate) lines on impression formation. Thus, the current study investigates how originality in pick-up lines originates and the possible positive effects of using originality in pick-up lines in online dating. Altogether this leads to the research question: “To what extent do the originality criteria, novelty and appropriateness, in complimentary pick-up lines influence perceived attractiveness, dating intentions, and the likelihood to get a response, and is this effect mediated by the perceived originality of the sender of the pick-up line?”. This will be investigated by showing participants pick-up lines that are manipulated on the originality criteria (novelty and appropriateness) and having them rate the lines on perceived originality, perceived attractiveness, dating intentions, and the likelihood to get a response back.

Background

Online Dating and Relationship Formation

When presenting oneself in a romantic context through an online dating profile, many people self-select what they present to others (Ellison et al., 2006). Here, online dating refers to using dating websites or applications to find short- or long-term romantic mates (Toma, 2015). Oftentimes, users experience tension between presenting their authentic self and a positive self (Ellison et al., 2006). Reality shows that users do slightly present themselves more favorably, but to a level that is still attainable (Ellison et al., 2006).

When two users indicate that they like each other, for example by swiping right on Tinder, they become a match according to the dating platform. The most popular applications, such as Tinder, only allow “matches” to start a conversation (Dai & Robbins, 2021). One of the users has to start the conversation with an opening remark. When the other user responds to the remark, the two users can engage in a conversation. Some conversations die out and other users might continuously message back-and-forth. When the conversation does flow well and both parties are equally interested, a physical or virtual date might be organized (Frost et al., 2008). When things progress further, communication usually takes place outside of the dating platform like people would with offline partners.

In online dating, it is also very common to send someone an opener and get no response back (Kreager et al., 2014; Sharabi & Dykstra-DeVette, 2019). Only a few studies have acknowledged this problem (Heino et al., 2010; Kreager et al., 2014). In Heino et al. (2010) the number of responses compared to the number of dating advances sent out can be connected to one's "dating market worth". The higher the percentage of responses to invitations ratio, the more favorable the market position. In Kreager et al. (2014) getting a response is also used as a measure of desirability on the dating market. In general, nonresponses could be explained by

the increased popularity and thus potential daters to choose from (Best & Delmege, 2012). In individual cases, a nonresponse could indicate that the receiver of the pick-up line was not satisfied with the content of the line, hence decided to restrain from answering.

Overall, the online dating experience as it is described above, differs greatly from an offline one due to the reduced cues. The social cues that people rely on to form impressions in offline settings are not the same online (Sharabi & Dykstra-DeVette, 2019). In face-to-face (FTF) dating, people rely greatly on non-verbal cues such as facial expressions and gestures when forming impressions (Finkel et al., 2012). These reduced cues in online dating can have either one or two effects. According to the Cues-Filtered-Out Theory (Culnan & Markus, 1987), these reduced cues in computer-mediated communication (CMC) might negatively influence the relationship-building potential. An example of reduced cues in CMC when dating online could be the lack of nonverbal facial expressions which would normally give signals indicating what kind of personality the other has. For instance, lots of laughter could indicate a fun and humorous personality. In CMC, the reduced cues also could make the conversation feel less “real”, leading to people reacting in a more impersonal way and thus different than in an FTF conversation (Finkel et al., 2012). In the context of online dating, this impersonal nature of the conversation could cause receivers of pick-up lines to form less positive impressions than in FTF settings. The receiver might feel less connected to the other due to reduced cues and find the sender less attractive.

Contrary to the Cues-Filtered-Out Theory, the hyperpersonal perspective (Walther, 1996) argues that reduced cues can lead to greater relationship-building potential. This perspective suggests that CMC messages give more opportunities to control how someone may come across, influencing impressions as, for example, socially desirable. To connect more through CMC and send out more cues, online daters could disclose more than in FTF, enhancing intimacy between the users. In online dating, this could cause users to send pick-up

lines strategically. By manipulating what cues they send out, they could come across as more attractive to the other users.

In the context of online pick-up lines, these reduced cues could influence how the senders of the lines are perceived. According to the Cues-Filtered Out Theory (Culnan & Markus, 1987), the reduced cues in online dating could induce that a small attribute of the line already greatly influences how that sender is perceived (e.g., original line indicates an original sender). According to the hyperpersonal perspective (Walther, 1996), senders can manipulate how they come across to receivers by sending online pick-up lines strategically. In conclusion, the theories both suggest that the cues that are present online are increasingly important for how impressions are formed about senders, while also providing the senders with more control.

Pick-up Lines

Previous research in offline dating has identified all kinds of communication strategies when courting someone, which includes different types of pick-up lines (Fisher, et al., 2020; Kleinke et al., 1986; Senko & Fyffe, 2010; Weber et al., 2010; White et al., 2018). Pick-up lines are a way of making your interest in the other known and it can be the first step towards a long-term or short-term relationship (Weber et al., 2010). The types of pick-up lines that have primarily been investigated are direct, flippant, and innocuous lines. Direct lines clearly communicate interest, such as “You’re pretty, can I have your number?”. In contrast to direct lines, innocuous lines hide the intention of the sender, such as “Do you know what time it is?”. Last, flippant lines are considerably humorous, for example, "You must be tired, because you've been running through my mind all day." (Kleinke et al., 1986).

According to Fisher et al. (2020) and Kleinke et al. (1986), direct lines are most preferred, followed by innocuous ones and then flippant lines, indicating that the type of pick-up line that is sent out matters. According to Cunningham (1989), flippant lines may be less

convincing since such humorous unserious remarks can make someone seem less intelligent because humor is not always received positively. This indicates that some kinds of pick-up lines are more effective than others. A possible explanation for this could be that the type of pick-up line that is used, says something about the personality of the sender. For example, the use of flippant lines could indicate that someone has humor, however that signals low trustworthiness, resulting in making a less attractive impression (Senko & Fyffe, 2010). In contrast, the use of a direct line indicates likeability and responsibility, signaling higher attractiveness (Kleinke & Dean, 1990). This shows how receivers of pick-up lines make associations between the type of line and the personality of senders.

Besides the types of lines identified by Kleinke et al. (1986), Dai and Robbins (2021) also identified the complimentary pick-up line. In complementary lines, the sender is trying to appraise the other, usually about their appearance or personality (Doohan & Manusov, 2004). Compliments can be seen as a verbal communication strategy in which a flirty message is transferred to show interest in some form of a romantic relationship (Gao et al., 2017). Most of the time, compliments are perceived in a positive way (Knapp et al., 1984). This is due to compliments being able to satisfy people's need to belong, which is a fundamental human need (Baumeister & Leary, 2017; Zhao & Epley, 2021).

Originality

The Ambiguity of Originality

The exact definition of originality or creativity remains difficult to determine. However, a consensus does exist about the thought that originality is something that is both novel (unexpected, unique) and appropriate (socially meaningful, valuable; Sternberg & Lubart, 1999). When something is both novel and appropriate it is likely to be perceived as original by others. Originality is then derived from the combination of the two criteria, rather than the

criteria by themselves. Researchers do contradict each other when talking about the noun's creativity and originality. Sometimes the concepts are seen as synonyms (Van der Zanden et al., submitted) and other times originality is seen as the novel part of creativity (Acar et al., 2017; Heinen & Johnson, 2018; Hennessey & Amabile, 2010). To prevent confusion, this study will make use of what Sternberg & Lubart (1999) describe (novelty and appropriateness) and call it originality.

As originality is a hard to define concept, it is also hard to measure, causing researchers to contradict each other in what might be the best method to do so (Corazza, 2016). One possible method to measure originality is measuring the semantic distance. In measuring semantic distance, the specific values are acquired by looking at the overlap of certain language items within big texts (Heinen & Johnson, 2018). Original responses occur less frequently in such a text, compared to less original responses, which is called being more semantically distant (Heinen & Johnson, 2018). Another way to measure originality could be the subjective evaluation of phrases or answers by participants. In this method, texts are evaluated by having people rate language items on novelty, appropriateness, and originality (Heinen & Johnson, 2018).

Originality and Impression Formation

Performing an original action, can make a person come across as original too (Nettle, 2009), which has been proven to influence perceptions in a positive way (Gao et al., 2017). Thus, behaving a certain way, like original, can influence perceptions in such a manner that the performer is also seen as an original person. Previous research has shown that making an original impression is an attractive trait in a prospective partner (Gao et al., 2017; Nettle, 2009), as it is a desirable characteristic that many people seek in a mate (Buss, 1989). Hence, behaving in some type of way can impact how others see you in the context of dating.

The reduced cues that online pick-up lines do provide are determinative for how the senders are perceived, just like an original line can indicate an original sender. This can be explained by the Theory of Attribution (Heider, 1982). This theory states that the characteristics of an action that is performed, such as sending an original pick-up line, are generalized to the performer of that action. The character of the behavior is overattributed to the actor, implying a causal perception. Another explanation for assigning originality to someone that performs original behavior could be the Social Identification/Deindividuation (SIDE) model (Lea & Spears, 1991, 1995). SIDE acknowledges the lack of individuating cues in CMC and argues that this leaves people considerably anonymous. This deindividuation can make people more reliant on remaining cues, such as communication style, causing for more exaggerated and stereotypical impressions (Hancock & Dunham, 2001). For instance, when the only known information is a pick-up line, the character of the pick-up line is determinative for how that user is perceived and to which social group others will attribute this person. This indicates that the pick-up line is especially important, since the receiver only has few other cues to rely on when trying to form an impression of the sender.

Originality & Attractiveness

Originality is a trait that is generally seen as positive and attractive in a partner (Gao et al., 2017; Nettle, 2001; Watkins, 2017). Research by Watkins (2017) even found how being original can compensate for lower physical attractiveness. Making originality a character trait that is very desirable in a prospective partner (Gao et al., 2017). Positive traits that have previously been linked to originality are being open to experiences, extraversion, and intelligence (Furnham & Bachtiar, 2008; White et al., 2018)

Originality is an attractive trait in a potential mate that could partially be explained by originality coming across as intelligent. For instance, using originality or verbal fluency in

conversations can be indicators of intelligence, which has been previously identified as a desirable trait in a partner (Rosenburg & Tunney, 2008). The attractive nature of originality could then be explained by intelligence, as that is attractive in both short-term and long-term mating (White et al., 2018). Dillon et al. (2016) suggest that mating intelligence positively correlates with mating value. Thus, the more intelligent someone is perceived as, the more appealing they will seem as a possible partner (Gao et al., 2017). Originality and intelligence can even indicate a sense of “mental fitness”, which is attractive for prospective partners (Rosenburg & Tunney, 2008). Thus, it is expected that someone that is perceived as more original, will also be perceived as more attractive in the online dating context, partially due to increased intelligence.

Originality & Dating Intentions.

Besides the fact that being perceived as original is attractive (Gao et al., 2017), it can also increase dating intentions towards the other. Van der Zanden et al., (submitted) found a positive relationship between perceived originality and dating intentions, meaning that people are more open to date someone who comes across as original than those who seem less original. The usage of metaphorical language, indicating originality and intelligence, also facilitates higher dating intentions when compared to using prosaic language (Gao et al., 2017).

The attractiveness derived from originality is also a factor that people keep in mind when deciding who to date (Gao et al., 2017; Hitsch et al., 2010). People can be attracted to others for multiple reasons, with one being that the other’s personality appeals to them (Byrne et al., 1967). Earlier research revealed that most people seek to date someone who is physically attractive, possesses similar norms and values and that has desirable personality characteristics (Buss & Barnes, 1986). Examples of such desirable personality characteristics could be intelligence and creativity (Gao et al., 2017; Rosenburg & Tunney, 2008). This means that

those positive personality traits, such as intelligence, that original people possess (White et al., 2018), can make them more "date-worthy".

Originality & The Likelihood to get a Response

Sending original pick-up lines could also be a way to get more responses in comparison to sending non-original lines. When experiencing many nonresponses when sending pick-up lines in online dating, standing out by the use of originality in openers may be a way to get noticed. Online dating is oftentimes compared to online shopping (Ellison & Hancock, 2013). There are many profiles and matches to sort through. Getting an original pick-up line may give more incentive to "pick" that person over other matches when deciding who to converse with.

A way of combating the nonresponses could be by being perceived as more positive or special than other matches, for instance through the conversation opener. The dating application has matched the two users, however now one has to draw the attention of the other and get a reaction to start a conversation. Performing an original action, such as sending an original pick-up line, will cause the receiver to perceive the performer of that action, the sender, as more original too (Nettle, 2009). Such originality has been found to correlate with intelligence (White et al., 2018) and attractiveness (Gao et al., 2017). When the sender is perceived as someone that possesses many positive personality traits, such as intelligence and creativity (Gao et al., 2017; White et al., 2018), the natural reaction would consist of being more likely to respond to that person with the intent of dating them.

The Originality Criteria

Something is original when it is both novel and appropriate (Sternberg & Lubart, 1999) and originality is generally seen as an attractive trait (Gao et al., 2017), however receiving an appropriate line might be more attractive than a novel line. In this study, lines that are novel are inappropriate as well (random) and appropriate lines are not novel (common) in this study.

Lines that are novel but inappropriate could be considered as random, such as: “You look nice, just like my mother!”. Lines that are appropriate but not novel could be considered as rather common, such as: “You look nice!” (Heinen & Johnson, 2018).

Lines that are novel, but inappropriate (random) might come across as unfamiliar to receivers, just like surprises (Noordewier & Breugelmans, 2013), which have been found to not be appreciated by many people. In general, people prefer predictability and consistency more (Abelson et al., 1968). This is also true in a dating context, as most people want to date someone that they can trust and that is predictable (Campbell et al., 2010). Keeping in mind that novel lines could come across as odd, that novelty could violate the socially constructed expectations. This could result in daters perceiving random (novel, but inappropriate) lines as predominantly unattractive.

Random lines might violate expectations surrounding language, as they are inappropriate, which could cause those senders to be perceived as less attractive. According to language expectancy theory (Burgoon & Jones, 1976), society has developed what language is considered appropriate in a specific context. In the dating context, this could be sending your match something positive and flattering, compared to sending them something negative and insulting, as the first is more appropriate and common. This can be explained by the familiarity principle (Berscheid & Regan, 2016). As stated in this principle, familiarity leads to attraction. Hence, a line that is random (novel, but inappropriate) might indicate unpredictability and violate expectations, which could be perceived as unattractive. When the sender of a line is considered less attractive, dating intentions and the likelihood to get a response to the line will decrease as well (Rosenburg & Tunney, 2008).

Common pick-up lines (not novel, but appropriate) are something that daters are probably familiar with (Berscheid & Regan, 2016), having been exposed to them more often (Zajonc, 1968), making them more attractive. Common lines fit well into the dating context,

meaning that people have heard them before and are used to seeing such lines in the online dating setting. What is considered appropriate is partly determined by contextual expectations. Daters expect to receive certain pick-up lines in online dating, in which they expect to be approached positively and appropriately. Because common lines (not novel, but appropriate) are used more frequently, it is expected that daters will be more attracted to them than random (novel and inappropriate) lines, according to the mere exposure effect (Zajonc, 1968). This effect proposes that “the observation that repeated, unreinforced exposure is sufficient to enhance attitude toward a stimulus” (Bornstein & D’Agostino, 1992, p. 545). Hence, people perceive something that they are familiar with as more attractive than the unknown. On that account, senders of common lines (not novel, but appropriate) are more likely to be perceived as attractive due to regular exposure to them and a feeling of familiarity towards those lines, when compared to random lines (novel, but inappropriate). The general more positive attitude towards common lines (not novel, but appropriate) could also increase the chances that receivers of those lines would like to date the senders, while also being more likely to respond to them.

Altogether, this study proposes that an original pick-up line is novel and appropriate at the same time (Sternberg & Lubart, 1999) since research has implied that originality is derived from those criteria in other contexts (Heinen & Johnson, 2018; Van der Zanden et al., submitted). The sender of an original line will be perceived as more original (Nettle, 2009), which has been found to increase perceived attractiveness in a partner (Dillon et al., 2016; Gao et al., 2017; White et al., 2018). Originality can be seen as a positive and attractive personality trait (Buss & Barnes, 1986; Rosenberg & Tunney, 2008), which is also associated with other positive traits such as intelligence. This could cause daters to be more prone to date someone they perceive as original. Lastly, being perceived by others as original in an online dating context can increase the likeliness of getting a response from the receiver of the pick-up line.

People will be more likely to respond to someone that is perceived as someone that possesses many positive personality traits, like intelligence and creativity (Gao et al., 2017; White et al., 2018). All previously mentioned information leads to the following hypotheses:

H1: Senders of pick-up lines that score higher on perceived originality also score higher on perceived attractiveness, reported dating intentions, and the likelihood to get a response.

H2: Senders of pick-up lines that are both novel and appropriate (original) score higher on perceived originality than senders of pick-up lines that are (a) novel, but inappropriate (random), and (b) not novel, but appropriate (common).

H3: Senders of novel and appropriate (original) pick-up lines score higher on perceived attractiveness, reported dating intentions, and the likelihood to get a response than senders of pick-up lines that are novel, but inappropriate (random), and not novel, but appropriate (common).

H4: Senders of novel and appropriate (original) pick-up lines score higher on perceived originality than senders of (a) novel, but inappropriate (random), and (b) not novel, but appropriate (common) pick-up lines, which in turn causes senders of novel and appropriate (original) lines to score higher on perceived attractiveness, reported dating intentions and the likelihood to get a response than senders of (a) novel, but inappropriate (random), and (b) not novel, but appropriate (common).

H5: Senders of appropriate, but not novel pick-up lines (common) score higher on perceived attractiveness, reported dating intentions, and the likelihood to get a response than senders of novel, but inappropriate pick-up lines (random).

Method

Design

This study has made use of a single-factor design, in which the effect of one factor on the dependent variables was investigated. In this study, the factor had three levels, which were the three sentence conditions. This study used a within-subjects design, meaning that participants encountered all three sentence conditions in this experiment. In total, each participant was presented with six pick-up lines. All pick-up lines were compliments about someone's looks. Each pick-up line belonged to a different theme and each sentence condition was seen twice.

The first sentence condition was called "random", which included lines that were novel but inappropriate. This sentence condition was called random since these lines were something participants might not have seen before – making it novel – together with the topics of the lines being uncommon to bring up when trying to court someone. The second sentence condition was called "common", which included lines that were not novel but appropriate. These lines may have come across as common since they were more basic and fitted well into the context. The third sentence condition was called "original", which included lines that were both novel and appropriate. These lines were expected to come across as more original since they fitted into the context but were also unlike what participants generally have seen.

Participants

A total of 194 people started the survey. After cleaning the data, 121 responses were valid and were included in the further analyses. Of the final sample, 24.0% identified as male, and 76.0% identified as female. The average age was 25.55 years ($SD = 9.67$). The sample consisted of a total of 10 different nationalities. The biggest part of the sample was Dutch

(81.8%), followed by English (5.0%), and German (5.0%). The most common educational degree in the sample was a bachelor's degree (54.5%), followed by a master's degree (20.7%), and a high school degree (14%). Among the sample, most participants had experience with online dating (62.8%), compared to fewer participants having no experience with online dating (37.2%). Lastly, more participants were currently in a relationship (59.5%) than single (39.7%).

Materials

For this study, three sentence conditions were developed in English. Each sentence condition called for a different manipulation within the pick-up lines when it came to novelty and appropriateness. When a sentence condition called for a line to be novel, the line was structured in such a way that the line was not like what participants commonly have come across when receiving pick-up lines online. Similarly, when a sentence condition required the line to be appropriate, the line was formed in such a way that it was fitting and meaningful in the context of online dating. The three sentence conditions were common, random, and original pick-up lines. Common lines were not novel, but appropriate, such as “Hey! You remind me of a model, you are so good-looking!”. Random lines were novel, but inappropriate, such as “You remind me of my ex, you are just as good-looking!”. Lastly, original lines were both novel and appropriate, such as “Hey! you remind me of a beautiful summer day, you are so joyous!”. Appendix A can be consulted for all lines included in the study.

For inspiration when designing the themes, this study looked at different sources. Amongst others, Senko and Fyffe (2010) were consulted for examples of themes and pick-up lines in FTF settings. Dai and Robbins' (2021) study was reviewed to gain insight into pick-up line topics in online settings. Since this study had to create many pick-up lines that fit specific requirements, a website with user-generated pick-up lines was also consulted to get a sense of what pick-up lines daters use and how they are constructed (<https://www.pickuplines.nu/>). In

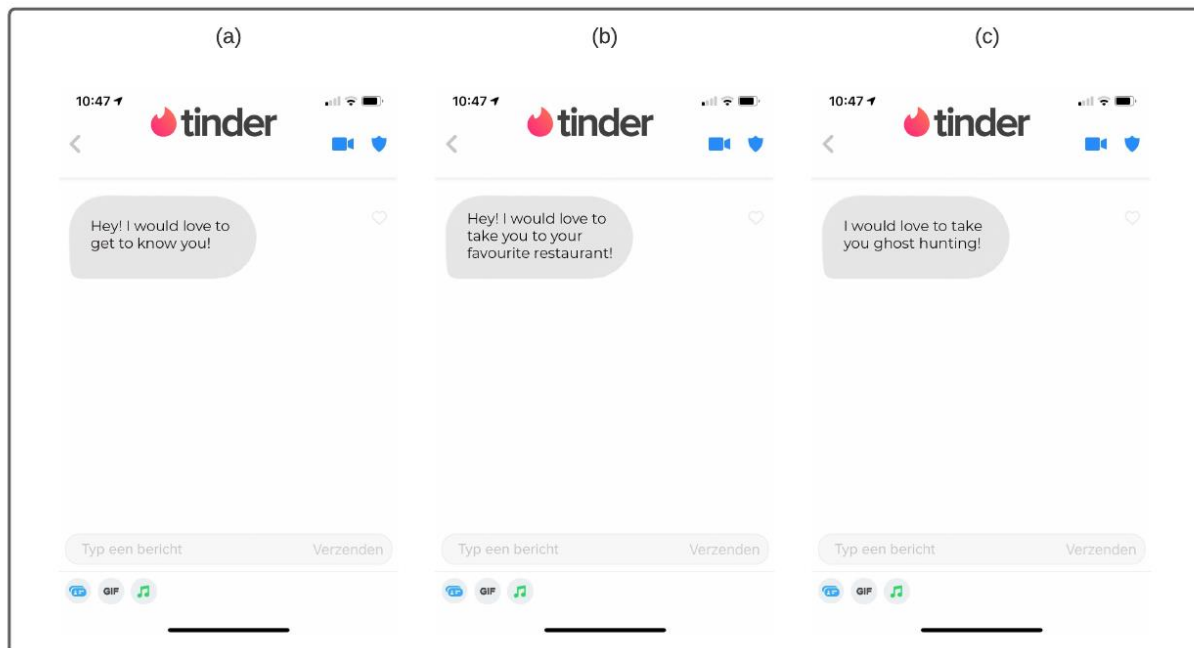
total, this study developed six themes. Multiple themes were designed to be able to test each sentence condition multiple times and thus generalize. On top of this, participants could not be shown all sentences within one theme. This would have made the manipulations between the sentence conditions very apparent and thereby could have influenced results.

For each condition, six lines were designed, resulting in a total of 18 (6x3) lines. All lines were complimentary pick-up lines about someone's looks. All lines were placed into the online chatting format of the dating application Tinder for an experience that resembled receiving pick-up lines in real life (see Figure 1). Normally, the Tinder format displays a name and a picture. In this study, the format was adapted in such a way that the format was gender-neutral, not showing a name or picture. This gender-neutrality was meant to make all participants feel called upon.

Within each theme, there was a random line (novel, but inappropriate), a common line (not novel, but appropriate), and an original line (novel and appropriate). Within each theme, the lines were similar in the way they were structured when it came to the opening remark. As can be seen in the example lines from the first theme, they all started with "You remind me" and were approximately the same length.

Figure 1

Examples of the Pick-up Lines in the Online Chatting Format of the Dating Application Tinder



Note. This example is from theme 6 (Appendix A) and includes a common line (a; not novel, but appropriate), an original line (b; novel and appropriate), and a random line (c; novel, but inappropriate).

Pretest

To ensure that the lines that were expected to be perceived as novel, appropriate, or both novel and appropriate, actually came across this way, a pretest was performed using one-way repeated measures ANOVA testing. The first goal of the pretest was to confirm that random lines came across as novel, but inappropriate, common lines as appropriate, but not novel, and original lines as both novel and appropriate. Therefore, 46 participants were presented with nine pick-up lines, which they all had to rate on novelty and appropriateness. In total 27 (9x3) lines were designed. Nine themes with each containing a line within each of the three sentence conditions (common, random, original), were used in the pretest. Participants were randomly assigned to one of three versions of the survey. Each version contained one sentence out of each of the nine themes, thus each version contained nine lines. Each sentence condition was covered three times within those nine lines. Within the versions, the lines were

randomized as well. For the three versions, Appendix B can be consulted.

The novelty of the pickup lines (Cronbach's $\alpha = .90$) was rated using a self-made three-item scale, including items such as "This pick-up line is not common". The Cronbach alpha coefficient for the novelty scale was .90, indicating that the internal consistency of the scale is excellent. The appropriateness of the pickup lines (Cronbach's $\alpha = .94$) was rated using a self-made three-item scale with items such as "This pick-up line fits in the context". The Cronbach alpha coefficient for the appropriateness scale was .94, indicating that the internal consistency of this scale is also excellent. For all scale items, Appendix C can be consulted. The items were measured using a Likert scale from 1 (completely agree) and 7 (completely disagree), which was later recoded to ensure that a higher score on perceived novelty and appropriateness actually meant higher novelty and appropriateness.

A one-way repeated measures ANOVA was conducted. In this analysis, the units of analyses were the means of one participant rating the three sentences of one sentence condition that they were shown (either common, random, or original) on novelty and appropriateness. For instance, one participant rating three common statements on novelty was a unit of analysis. The means and standard deviations are presented in Table 1.

Table 1

Descriptive statistics for Novelty and Appropriateness with Statistics Test Scores for the Sentence Conditions

Sentence condition	Novelty	Appropriateness
Common sentence	2.97 (1.08)	5.34 (.92)
Random sentence	4.71 (1.13)	3.12 (.90)
Original sentence (novel & appropriate)	4.25 (1.04)	5.37 (.92)

Note. Common sentences are appropriate, but not novel. Random sentences are novel, but inappropriate. Original sentences are novel and appropriate.

Overall, the results showed a significant effect of sentence condition on novelty, Wilks' Lambda = .27, $F(2, 44) = 58.51$, $p < .001$, $\eta_p^2 = .73$, which indicates that the sentence conditions differed significantly from each other on perceived novelty. The results also showed a significant effect of sentence condition on appropriateness, Wilks' Lambda = .16, $F(2, 44) = 120.32$, $p < .001$, $\eta_p^2 = .85$, which indicates that the sentence conditions differed significantly from each other on perceived appropriateness. Post hoc tests using the Bonferroni correction revealed which mean values for novelty and appropriateness differed significantly, to see where the differences actually lied. As intended, the original sentences scored higher on novelty ($M = 4.25$, $SD = 1.04$) than the common sentences ($M = 2.97$, $SD = 1.08$), $p < .001$, 95% CI [.95, 1.60], and the random sentences also scored higher on novelty ($M = 4.71$, $SD = 1.13$) than the common sentences ($M = 2.97$, $SD = 1.08$). This indicates that there is a significant difference between the sentence conditions random and common, and common and original for novelty.

As intended, the original sentences scored higher on appropriateness ($M = 5.37$, $SD = .92$) than the random sentences ($M = 3.12$, $SD = .90$), $p < .001$, 95%, CI [1.81, 2.69], and the common sentences also scored higher on appropriateness ($M = 5.34$, $SD = .92$) than the random sentences ($M = 3.12$, $SD = .90$), $p < .001$, 95% CI [-2.61, -1.84]. This indicates that there is a significant difference between the sentence conditions random and common, and random and original for appropriateness, which was expected. Altogether, this means that the expectations surrounding the sentence conditions and novelty and appropriateness were confirmed.

The second goal of the study was to select six themes that would be used in the final study, meaning that three themes had to be eliminated. All manipulations for the nine themes were successful. This meant that three themes had to be eliminated by looking at the mean scores on novelty and appropriateness for each sentence condition within each theme (see Appendix D). For novelty, this meant calculating the difference in mean score between the common and random condition, and the common and original condition. For appropriateness,

this meant calculating the difference in mean score between the random and common condition, and the common and original condition. This gave each theme a score on how greatly the sentence conditions differed on novelty and appropriateness as they were supposed to. The themes with the lowest numbers were eliminated, while also keeping in mind that a theme had to differ greatly on both novelty and appropriateness and not just one of the two. This way, themes four, five, seven were eliminated from the study (Appendix E).

Procedure

The online questionnaire was hosted on Qualtrics and was distributed using the method of snowball sampling. Once participants opened the survey link, they were presented with an online questionnaire that took around seven minutes to complete. First, participants were welcomed and informed about the procedure and goal of the experiment and presented with the consent form. Participants were informed that participation in the study was completely voluntary. Next, the participants were shown the pick-up lines in the chat format of the online dating application Tinder. Every participant was randomly presented with one of the three versions of the survey. Each version contained six lines, two from each of the three sentence conditions, and one out of each theme (See Appendix F for the versions). This means that participants did not see multiple lines from the same theme, such as two lines starting with “You remind me”. After each line, participants were asked to rate impression formation statements on a 7-point Likert scale from 1 (completely disagree) to 7 (completely agree). These were statements regarding the perceived originality and perceived attractiveness of the sender of the pickup lines, as well as their intentions to date the sender and the likelihood that they would respond to this pick-up line. After all six pickup lines were read and evaluated, participants answered a few demographic questions, such as about their age, gender, education

level, and nationality. Finally, participants were thanked, debriefed, and reached the end of the survey.

Measures

All variables in this study were measured using a Likert scale from 1 (completely disagree) to 7 (completely agree). The study's mediation variable was perceived originality (Cronbach's $\alpha = .87$), which was measured with a self-made three-item scale, including items such as "The sender of this pick-up line seems original to me". The Cronbach alpha coefficient for the perceived originality scale was .87, indicating that the internal consistency of the scale is good.

The perceived attractiveness of the pick-up line sender (Cronbach's $\alpha = .92$), which was a dependent variable, was measured using an adapted version of the Romantic Attraction scale (RAS; Campbell, 1999). A reverse-coded example item of this adapted three-item scale was "I would not want to go out with the sender of this pick-up line". The Cronbach alpha coefficient for the adapted RAS was .92, indicating that the internal consistency of the scale is excellent.

Another dependent variable, the likelihood to get a response was measured with a self-made 3-item scale (Cronbach's $\alpha = .91$), including items such as "It is likely that I would respond to this pick-up line". The Cronbach alpha coefficient for the likelihood to get a response scale was .91, indicating that the internal consistency of the scale is excellent.

Lastly, another dependent variable, reported dating intentions was measured with the adapted item "I would like to go on a date with this person" (Van der Zanden et al., submitted). Full scales can be found in Appendix C.

Statistical Analysis

To test the mediation hypotheses, we used the PROCESS v3.5 macro in SPSS (Hayes, 2012; model 4) with a bootstrapping approach with 10,000 samples and 95% Monte Carlo confidence intervals. The independent variable was sentence condition which consisted of three levels: common, random, and original pick-up lines. Perceived attractiveness, dating intentions, and likelihood to get a response were the dependent variables. Perceived originality was the mediating variable.

The within-subjects design of the experiment in which each participant rated six pick-up lines in total, made it necessary to restructure the data. This was done in such a way that each participant supplied six cases to the dataset, representing the six lines they rated. Since these cases do not exist independently from each other, the variable 'participant' was included in the analyses as a covariate.

Multicategorical mediation analyses were performed with the indicator contrast. To answer H1 up to and including H4, the indicator contrast was used in which the original condition was compared to the common and the random condition. To answer H5, the indicator contrast was used in which the independent variable sentence condition was recoded, meaning that the common condition could be compared to the random condition.

Results

Before conducting mediation analyses, a one-way ANOVA showed an effect of sentence condition on the mediating variable perceived originality, $F(3, 681) = 47.05, p < .001, R^2 = .17$. Sentence condition also had an effect on all three dependent variables, perceived attractiveness, $F(3, 681) = 40.93, p < .001, R^2 = .15$, dating intentions, $F(3, 681) = 43.26, p < .001, R^2 = .16$, and the likelihood to send a response back, $F(3, 681) = 30.25, p < .001, R^2 = .12$. Thus, when sentence condition changes, perceived originality, perceived attractiveness,

dating intentions, and the likelihood to send a response back all change as a result. The means and standard deviations for all three sentence conditions on the mediator and the three dependent variables can be found in Table 2.

Table 2

Mean Scores (SD) for all Variables per Condition

Variables	Common pick-up lines (n = 242)	Random pick-up lines (n = 242)	Original pick-up lines (n = 242)
Perceived originality	2.75 (1.23)	3.86 (1.72)	4.29 (1.39)
Perceived attractiveness	3.70 (1.46)	2.74 (1.33)	4.14 (1.42)
Dating Intentions	3.87 (1.58)	2.86 (1.46)	4.36 (1.50)
Likelihood to send a response back	4.22 (1.54)	4.09 (1.61)	4.63 (1.41)

Note. Perception scores could range from 1 (negative attitude) to 7 (positive attitude). Common is appropriate but not novel, random is novel but inappropriate, and original is novel and appropriate.

H1 posed that senders of pick-up lines that score higher on perceived originality also score higher on perceived attractiveness, reported dating intentions, and the likelihood to get a response. Results from mediation analyses show that perceived originality is indeed a significant predictor of perceived attractiveness, $b = 0.38$, $t(680) = 10.70$, $p < .001$, dating intentions, $b = 0.32$, $t(680) = 8.32$, $p < .001$, and the likelihood to send a response back, $b = 0.41$, $t(680) = 11.01$, $p < .001$. Thus, when a sender scores a point higher on perceived originality, perceived attractiveness will rise with .38, dating intentions with .32, and likelihood to send a response back with .41. This means that the data supports H1.

H2 stated that senders of pick-up lines that are both novel and appropriate (original) score higher on perceived originality than senders of pick-up lines that are novel, but inappropriate (random), and not novel, but appropriate (common). Senders of pick-up lines that are original score indeed higher on perceived originality ($M = 4.29$, $SD = 1.39$) than senders of

random ($M = 3.86$, $SD = 1.72$), $b = -1.54$, $t(681) = -11.87$, $p < .001$, or common pick-up lines ($M = 2.75$, $SD = 1.23$), $b = -0.72$, $t(681) = -5.29$, $p < .001$. Thus, H2 is accepted.

H3 stated that senders of novel and appropriate (original) pick-up lines score higher on perceived attractiveness, dating intentions, and the likelihood to send a response back than senders of pick-up lines that are novel, but inappropriate (random) and not novel, but appropriate (common). Results indicate that compared to senders of random lines, senders of original pick-up lines also scored higher on perceived attractiveness, $b = -1.47$, $t(681) = -10.90$, $p < .001$, dating intentions, $b = -1.62$, $t(681) = -11.20$, $p < .001$, and the likelihood to get a response back, $b = -1.34$, $t(681) = -9.32$, $p < .001$. Moreover, results indicate that compared to senders of common lines, senders of original pick-up lines score higher on perceived attractiveness, $b = -0.44$, $t(681) = -3.45$, $p = .001$, dating intentions, $b = -0.48$, $t(681) = -3.51$, $p = .001$, and the likelihood to get a response back, $b = -0.41$, $t(681) = -2.97$, $p = .003$. Thus, H3 is confirmed.

Due to the way the sentence conditions needed to be coded (0 = original, 1 = common, 2 = random) in order to perform the analyses in SPSS, the negative beta can be explained. Normally, a negative beta indicated a negative relationship, however in order for the argument to make sense, this study argued the contrary. For example, a negative beta would normally indicate that common lines scored lower on perceived attractiveness than original lines, but in this study it is interpreted as original lines scored higher on perceived attractiveness than common lines. Thus, please interpret the negative beta accordingly in the rest of the study.

H4 looked at the mediation effect of perceived originality on the relationship between sentence condition and perceived attractiveness, dating intentions, and the likelihood to get a response back. It stated that senders of novel and appropriate (original) pick-up lines score higher on perceived originality than senders of novel, but inappropriate (random), and appropriate, but not novel (common) pick-up lines. In turn, this higher perceived originality

causes senders of the novel and appropriate (original) lines to score higher on perceived attractiveness, dating intentions, and the likelihood to get a response back than senders of novel, but inappropriate (random) lines and appropriate, but not novel (common) lines.

Results indicate that, when comparing original and random lines, perceived originality mediated the relationship between sentence condition and perceived attractiveness, $b = -0.27$, $SE = 0.06$, BCa [CI: -0.40, -0.16], dating intentions, $b = -0.23$, $SE = 0.06$, BCa [CI: -0.35, -0.13], and the likelihood to send a response back, $b = -0.30$, $SE = 0.07$, BCa [CI: -0.44, -0.17]. Results indicate that, when comparing original and common lines, perceived originality mediated the relationship between sentence condition and perceived attractiveness, $b = -0.58$, $SE = 0.07$, BCa [CI: -0.72, -0.45], dating intentions, $b = -0.50$, $SE = 0.07$, BCa [CI: -0.65, -0.36], and the likelihood to send a response back, $b = -0.63$, $SE = 0.08$, BCa [CI: -0.79, -0.50]. This means that H4 is accepted. For an overview of all results surrounding the mediation analyses of H4, Figure 2 can be consulted.

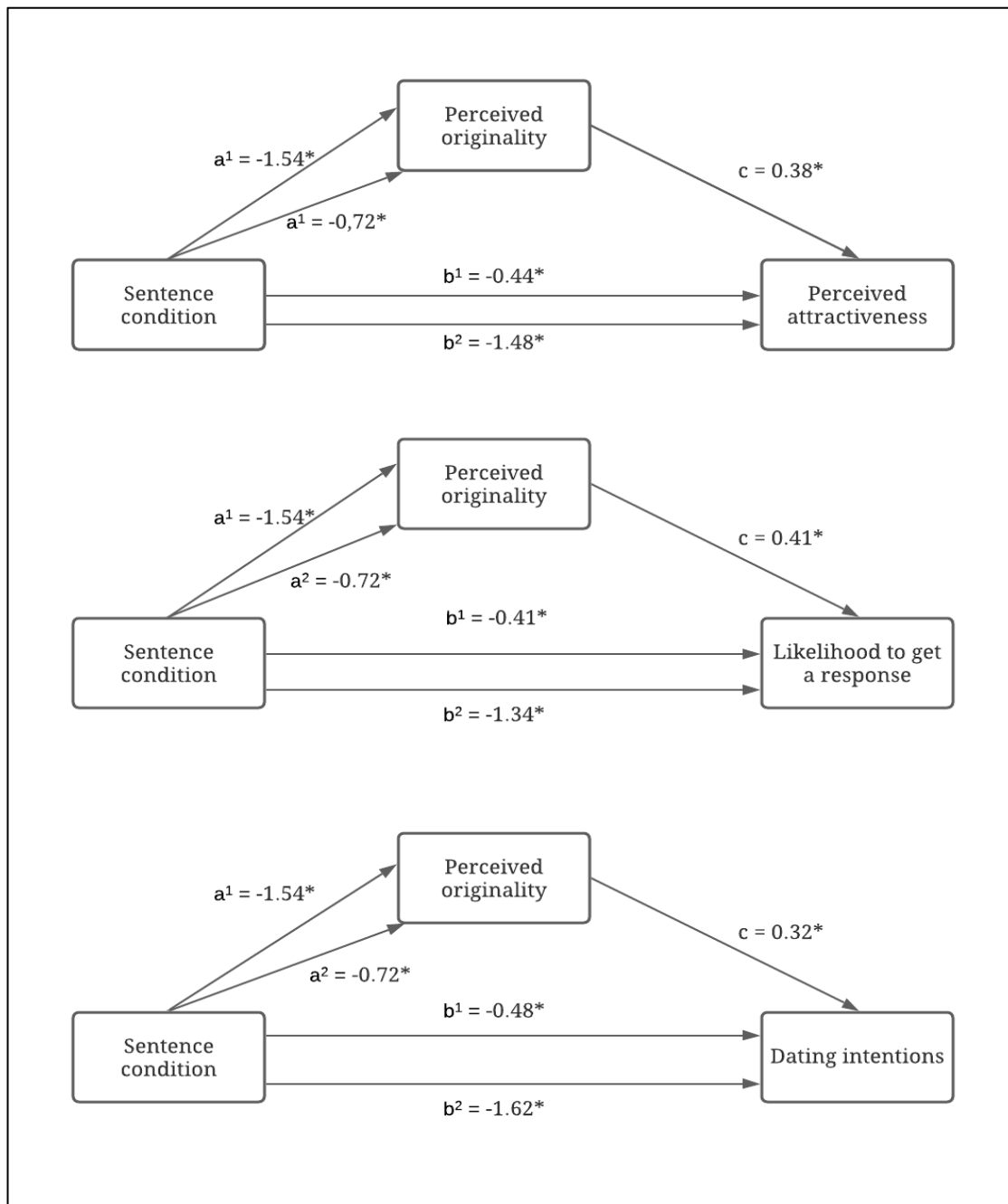
After controlling for the mediator perceived originality, when comparing original and common lines, sentence condition is no longer a significant predictor for perceived attractiveness, $b = 0.14$, $SE = 0.13$, $p = .300$, dating intentions, $b = 0.01$, $SE = 0.14$, $p = .924$, and the likelihood to send a response back, $b = 0.23$, $SE = 0.14$, $p = .105$. However, after controlling for the mediator perceived originality, when comparing original and random lines, sentence condition is still a significant predictor for perceived attractiveness, $b = -1.20$, $SE = 0.13$, $p < .001$, dating intentions, $b = -1.39$, $SE = 0.14$, $p < .001$, and the likelihood to send a response back, $b = -1.05$, $SE = 0.14$, $p < .001$. This together shows that there is a full mediation effect when comparing original and common lines and a partial mediation effect when comparing original and random lines.

Finally, H5 posed that senders of appropriate, but not novel pick-up lines (common) score higher on perceived attractiveness, reported dating intentions, and the likelihood to send

a response back, than senders of novel, but inappropriate pick-up lines (random). New multicategorical mediation analyses were performed, in which the common and random sentence condition were compared. The results indicated that senders of common lines score higher on perceived attractiveness, $b = -1.03$, $t(681) = -7.61$, $p < .001$, dating intentions, $b = -1.14$, $t(681) = -7.85$, $p < .001$, and the likelihood to get a response back, $b = -0.93$, $t(681) = -6.49$, $p < .001$, than senders of random lines. The data thus confirm H5, indicating that senders of common lines (appropriate, but not novel) score higher on perceived attractiveness, reported dating intentions, and the likelihood to send a response back, than senders of novel, but inappropriate pick-up lines (random).

Figure 2

Results of the Mediation Analyses for all Three Dependent Variables



Note. X^1 = original vs. common, X^2 = original vs. random. The negative beta can be explained by the way that the sentence conditions were coded (0 = original, 1 = common, 2 = random). The negative beta needs to be interpreted as it was a positive one. * indicates $p < .05$

Discussion

This study aimed to investigate the relationship between the originality criteria, novelty and appropriateness, and perceived attractiveness, dating intentions, the likelihood to get a response, and the possibility of the perceived originality of the pick-up line senders mediating this relationship in complimentary pick-up lines. Novelty refers to a certain uniqueness in a manner that is different from what others commonly write (Heinen & Johnson, 2018). In this study, that meant making pick-up lines unlike what people have come across when receiving lines in online dating. Such as, talking about ghost hunting and doing the splits. Appropriateness refers to something being socially meaningful in the context (Van der Zanden et al., submitted). In this study, that meant designing pick-up lines that are considered normal and fitting in the online dating context, like appraising someone's eyes or picture.

This study made use of three sentence conditions to test hypotheses surrounding novelty and appropriateness: pick-up lines that were not novel, but appropriate (referred to as common lines), pick-up lines that were novel, but inappropriate (referred to as random lines), and lines that were both novel and appropriate (referred to as original lines). Participants had to form and report on their impressions when presented with complimentary pick-up lines from the three conditions.

In line with H1, results showed that senders of pick-up lines that score higher on perceived originality also score higher on perceived attractiveness, reported dating intentions, and the likelihood to get a response. This positive relationship between perceived originality and perceived attractiveness, reported dating intentions, and the likelihood to get a response accords with findings from previous studies (Gao et al., 2017; Rosenburg & Tunney, 2008; Van der Zanden et al., submitted). Originality is attractive when looking for a partner since it can signal "good genes" (Senko & Fyffe, 2010). From an evolutionary perspective, an original partner would pass those good genes on to potential offspring, making that partner more

attractive (Gangestad & Simpson, 2000; Senko & Fyke, 2010). As previously suggested in the context of mating intelligence and value, Dillon et al. (2016) accord the finding that originality is seen as a positive trait that may provide success in an online dating context, which could be in the form of more conversations and scoring more dates.

As expected, results showed that senders of pick-up lines that are both novel and appropriate (original) scored higher on perceived originality than senders of pick-up lines that are novel, but inappropriate (random), and not novel, but appropriate (common; H2). This finding accords with previous research which states that originality is derived from the combination of novelty and appropriateness (Sternberg & Lubart, 1999), instead of only novelty or only appropriateness. It also confirms the Theory of Attribution (Heider, 1982) in which the traits of actions, such as sending novel and appropriate (original) pick-up lines, are generalized to the performer of the actions, thus perceiving senders as original (novel and appropriate).

Furthermore, senders of novel and appropriate (original) pick-up lines score higher on perceived attractiveness, the likelihood to get a response, and dating intentions than senders of pick-up lines that are novel and inappropriate (random), or not novel and appropriate (common; H3). The original (novel and appropriate) line increases the attractiveness of senders, dating intentions towards senders, and the likeliness to get a message back from the receivers when comparing this to lines that meet only one criterion, that is, lines that are only novel (but inappropriate) or appropriate (but not novel; Gao et al., 2007; Rosenberg & Tunney, 2008; Van der Zanden et al., submitted).

Further, when investigating a mediation effect, results showed that perceived originality mediated the relationship between sentence condition and perceived attractiveness, dating intentions, and the likelihood to get a response (H4). Thus, sentence condition affects perceived attractiveness, the likelihood to get a response, and dating intention because of the difference

in perceived originality between the sentence conditions (common, random, original). There was a full mediation effect when comparing original and common lines, meaning that perceived originality was the reason for the effect of the difference in sentence condition on perceived attractiveness, the likelihood to get a response, and dating intentions.

There was a partial mediation effect when comparing original and random lines, meaning that there might be other mediators that could also (partially) explain why perceived attractiveness, dating intentions, and the likelihood to get a response back differ for each sentence condition. One possible explanation might be that senders of random lines could be perceived as odder than senders of original lines. In this context, oddness refers to when a sender is perceived as strange or eccentric (Ashton & Lee, 2012). Sending odd lines could lead the receiver to believe that one would act similarly on, for example, a date (Van der Zanden et al., submitted). This low level of predictability from a potential mate is generally not preferred (White et al., 2018). Oddness could then also explain why senders of random lines are perceived as less attractive, are less dateable, and are less likely to get a response,.

In addition, the results of this study showed that senders of appropriate, but not novel pick-up lines (common) score higher on perceived attractiveness, reported dating intentions, and the likelihood to get a response, than senders of novel, but inappropriate pick-up lines (random; H5). This finding is in line with previous findings that show that predictability and familiarity (common) are preferred over unpredictability and oddness (random; Berscheid & Regan, 2016; Campbell et al., 2010).

Theoretical Implications

This study has several implications that add to the literature on originality and the use of pick-up lines in online dating. First, this study reveals that both novelty and appropriateness are necessary for something to be perceived as original in an online dating context, adding to

originality research in the context of online dating and specifically online pick-up lines. Previous research has highlighted how those two criteria (novelty and appropriateness) can be important to create an original product (Heinen & Johnson, 2017; Sternberg & Lubart, 1999). However, the results of this study confirm that participants considered the pick-up lines that were novel and appropriate as the most original when compared to the novel, but inappropriate (random) and not novel, but appropriate (common) pick-up lines. This suggests that novelty and appropriateness can generate something original, making them the factors that originality is derived from in online pick-up lines.

Second, the results of this study show that original (novelty and appropriateness) pick-up lines provide the most positive results in online dating, however the results also add a different view on the interplay of novelty and appropriateness, indicating that appropriateness may be more important for “dating success” than novelty. The combination of novelty and appropriateness (originality) was found to be the most attractive in online dating, according with previous research (Gao et al., 2017; White et al., 2018). Earlier research also suggests that original products may be novel and appropriate, however increasing appropriateness only made the product more original, when the product was high in novelty as well (Diedrich et al., 2015). Thus, when looking at originality, one could argue that novelty is more important than appropriateness (Diedrich et al., 2015). The results correspond with this in the sense that lines high in novelty were perceived as more original than lines high in appropriateness. However, what is surprising is the fact that lines high in appropriateness provided senders with greater dating success compared to lines high in novelty. In that case, people prefer commonness and regularity over oddness (White et al., 2018). Thus, this study adds to originality literature and implies that when originality cannot be achieved, appropriateness is preferred in a sender over novelty, which is surprising considering that novelty is more essential in creating originality.

Third, this study gave insight into how online daters can influence impressions by the

strategic use of pick-up lines, possibly providing them with more “dating success”. Due to the limited cues in online dating (Sharabi & Dykstra-DeVette, 2019), the cues that are there carry more weight. The results of this study accord with the SIDE model (Lea & Spears, 1991, 1995), suggesting that the information and cues that are present, in this case, a pick-up line in online dating, are determinative for how the receiver forms an impression about the sender. Thus, the content of the lines influences how senders of those lines, are perceived and how people will act towards those matches in the future, such as sending a message back.

Practical Implications

This study has yielded three practical implications, both for online daters and online dating applications or websites. First, this study found that, as the dating market is becoming busier (Evans, 2019), standing out through the use of novelty and appropriateness in pick-up lines could help daters become more successful. According to the results, original lines (novel and appropriate) were preferred most, common (not novel, but appropriate) ones second, and random (novel, but inappropriate) lines last. Daters could incorporate novelty into their pick-up line by creating sentences that other daters not commonly come across, such as conversing about new topics and by avoiding the use of clichés. Appropriateness could be incorporated by looking at what is meaningful within the context and by avoiding inappropriate topics such as sex or the other person’s body.

Second, this study provides online daters with information on how to minimize nonresponses when sending pick-up lines. Previous research mentions that this commonly happens, however provides no methods to reduce the nonresponses (Heino et al., 2010; Kreager et al., 2014). According to the results, coming across as original may help in getting more messages back. This would mean more meaningful interactions on online dating applications or websites.

Lastly, this study provides online dating companies with information to advise users on how to open the lines of communication and thus have more conversations, causing the companies to be perceived as a better tool for forming connections as a result, due to increased dating success of users. The companies could help their users by giving them suggestions as to how people like to be approached online and by providing them with this information when a new “match” has been formed. This could be done by providing them with information on what kinds of pick-up lines have proven to be, for example, most attractive by this study. By doing so, online dating users are provided with tools to have better interactions with more possible partners.

Limitations and Directions for Future Research

Although this study offers some interesting findings, some limitations have to be noted. First of all, around two-third of the participants from the sample indicated to be female, which might have influenced impression formation surrounding pick-up lines in general and appropriateness. Females tend to get more pick-up lines than males (Senko & Fyffe, 2010), which may cause female selectivity (Cunningham, 1989). In this case, females might be more critical of any pick-up line that they receive. This could be due to many matches fighting for females’ attention, inducing them to be more selective in which match they give a chance (Buss & Schmitt, 2016; Senko & Fyffe, 2010). When forming impressions about the three types of lines (common, random, original), females may have perceived appropriateness differently, influencing the results of this study. In the random condition, sentences are novel, but inappropriate too. Inappropriateness can indicate promiscuity which is disliked more by females than males in a dating setting (Kleinke et al., 1986), causing females to rate inappropriate sentences lower than males would. Males rating the lines as higher, in general, can be explained by them being opportunistic maters (Buss & Schmitt, 1993). Hence, future

research could perform the study with a sample including an equal representation of gender, which could potentially result in different findings. For example, with a 50/50 sample of men and women, attractiveness scores could have been higher due to males being less critical of the pick-up lines and their appropriateness compared to females.

Next, this study mainly focused on pick-up lines that are commonly used on online dating applications, indicating that results might be less true for online dating websites on which users commonly send longer e-mail like messages. This study's pick-up lines are more centered around online dating applications, which can be seen in the usage of the Tinder format in the survey. On mobile dating applications, it is considered more appropriate to send short fast messages as is often done in "hook-up culture", in which daters are mostly interested in short-term relationships (Licoppe, 2020). On some dating websites, the appropriate thing to do would be to send longer detailed messages with the intention of developing long-term relationships. Therefore, the findings of this study might be more true for online dating applications than online dating websites, since data was collected in an online dating application format. A future study could look at the effects of the originality criteria in pick-up lines while focusing on dating platforms where users commonly send longer detailed messages. When having more words at your disposal, presenting yourself as novel and appropriate (original) might be more difficult, since the whole message has to be a unified piece for it to be perceived a certain way. Besides the harder to manipulate meaning, the form of the message could also influence how original it is perceived as (Van der Zanden et al., submitted).

Moreover, this study chose to investigate originality in online dating by manipulating novelty and appropriateness in pick-up lines, but originality could also have been manipulated in other ways. A future study could research manipulating the originality criteria (novelty and appropriateness) in, for example, online dating profiles. Normally in online dating, daters form a first impression about someone based on what is shown on their profile. As shown in previous

research, online dating revolves greatly around photos and whether those display attractiveness (Fiore et al., 2008; Toma & Hancock, 2010), making photo's an interesting aspect of the profile to manipulate. A photo within the random (novel and inappropriate) condition could then, for example, be a picture of the dater with another person that is clearly their significant other.

In addition, this study focused on impressions based on online pick-up lines, which oftentimes can only be sent out after a match has been formed according to the platform, which could influence impressions of that sender positively. The forming of a "match" must indicate that the dater liked the other's profile for some reason, possibly influencing how the other is perceived when receiving a pick-up line from them. In an offline setting, there is no profile that daters get to see beforehand, resulting in the pick-up line being the first impression. The results of this study indicate that people do pay attention to the type of pick-up line that they receive and that they transfer the impression based on the line over to the sender. A possibility for future research could be to present participants with a manipulated profile and measure if that first impression based on the profile, transfers over into how that dater is perceived when sending a pick-up line.

In all, the results of this study add to previous research about the originality criteria in the context of using pick-up lines in online dating. Incorporating originality (novel and appropriate) into online pick-up lines can be a good way to increase dating success in the sense that it increases attractiveness, dating intentions towards the sender of the line, and the likelihood to get a response back. When daters lack to generate originality (novel and appropriate), they are better off coming across as common (not novel, but appropriate) than random (novel, but inappropriate). Altogether, this study highlights how originality can yield positive results in an online dating setting, indicating that strategic usage of pick-up lines can make a difference.

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Appendix A

Pick-up Lines included in the Final Study

Theme #1 : You remind me of

- Random: You remind me of my ex, you are just as good-looking!
- Common: Hey! You remind me of a model, you are so good-looking!
- Original: Hey! you remind me of a beautiful summer day, you are so joyous!

Theme #2: You look

- Random: You look so good in your profile picture, I love your body!
- Common: Hey! You look so good in your profile picture, I love your eyes!
- Original: Hey! You look so good on your profile picture, I love your energy!

Theme #3: Do you mind if I

- Random: Do you mind if I kiss your tasty lips?
- Common: Hey! Do you mind if I tell you how good-looking you are?
- Original: Hey! Do you mind if I take this lovely match to my favourite spot?

Theme #4: You look like someone

- Random: You look like someone that is great at doing the splits!
- Common: Hey! You look like someone I would get along with!
- Original: Hey! You look like someone that my pet would really like!

Theme #5: I like/love

- Random: I like your unique look, you look like a Halloween party!
- Common: Hey! I like your picture, you look good!
- Original: Hey! I love your enthusiasm, you look so happy!

Theme #6: I would love to

- Random: I would love to take you ghost hunting!
- Common: Hey! I would love to get to know you!
- Original: Hey! I would love to take you to your favourite restaurant!

Appendix B

Versions of the Pre-Test Survey

Version	1	2	3
Theme 1	Theme 1_Random	Theme 1_Common	Theme 1_Original
Theme 2	Theme 2_Original	Theme 2_Random	Theme 2_Common
Theme 3	Theme 3_Common	Theme 3_Original	Theme 3_Random
Theme 4	Theme 4_Random	Theme 4_Common	Theme 4_Original
Theme 5	Theme 5_Original	Theme 5_Random	Theme 5_Common
Theme 6	Theme 6_Common	Theme 6_Original	Theme 6_Random
Theme 7	Theme 7_Random	Theme 7_Common	Theme 7_Original
Theme 8	Theme 8_Original	Theme 8_Random	Theme 8_Common
Theme 9	Theme 9_Common	Theme 9_Original	Theme 9_Random

Appendix C

Scales used in the Study

Perceived originality scale (self-made; $\alpha = .87$)

- The sender of this pick-up line seems original to me
- The sender of this pick-up line appears to be creative
- The sender of this pick-up line does not come across as unique (reverse-coded)

Romantic Attraction scale (RAS; adapted from Campbell, 1999; $\alpha = .92$)

- I do not feel attracted to the sender of the pick-up line (reverse-coded)
- I would not want to go out with the sender of the pick-up line (reverse-coded)
- I would not want to have a relationship with the sender of the pick-up line (reverse-coded)

Likelihood to get a response (self-made; $\alpha = .91$)

- It is likely that I would respond to this pick-up line
- I would like to send a message back to the sender of this pick-up line
- It is not likely that I would react to this pick-up line (reverse-coded)

Dating intentions (adapted from Van der Zanden et al., submitted)

- I would like to go on a date with the sender of this pick-up line

Novelty (self-made; $\alpha = .90$)

- This pick-up line is novel
- This pick-up line is unlike what others do
- This pick-up line is not common

Appropriateness (self-made; $\alpha = .90$)

- This pick-up line is appropriate
- This pick-up line fits in the context
- This pick-up line is suitable in the context

Appendix D

Means of each sentence condition within each theme for novelty and appropriateness

Measure	Novel		Appropriateness	
	<i>M (SD)</i>	MD	<i>M (SD)</i>	MD
Theme 1				
Common	3.12 (1.13)	-	4.53 (1.42)	-
Random	5.06 (1.30)	1.94	2.04 (1.32)	2.49
Original	5.11 (1.27)	1.99	5.83 (1.37)	3.79
Total	-	3.93	-	6.28
Theme 2				
Common	1.94 (0.97)	-	6.22 (0.50)	-
Random	2.73 (1.14)	0.79	3.41 (1.38)	2.81
Original	3.94 (1.60)	2.00	5.84 (0.60)	2.43
Total	-	2.79	-	5.24
Theme 3				
Common	3.33 (1.43)	-	4.75 (1.39)	-
Random	4.47 (1.21)	1.14	2.75 (1.13)	2.00
Original	4.86 (0.99)	1.53	4.86 (1.45)	2.11
Total	-	2.67	-	4.11
Theme 4				
Common	3.63 (1.51)		4.75 (1.49)	
Random	4.24 (1.61)	0.61	3.49 (1.51)	1.26
Original	3.31 (1.49)	-0.32	5.08 (1.24)	1.59
Total		0.29		2.85
Theme 5				
Common	2.72 (1.06)		5.56 (1.04)	
Random	3.76 (1.59)	1.04	2.57 (1.41)	2.99
Original	3.63 (1.14)	0.91	5.82 (0.77)	3.25
Total		1.95		6.24
Theme 6				
Common	3.08 (1.18)		5.35 (0.97)	
Random	5.25 (0.85)	2.17	3.53 (1.23)	1.82
Original	5.55 (1.73)	2.47	4.80 (1.67)	1.27
Total		4.64		3.09
Theme 7				
Common	3.84 (1.50)		5.61 (1.07)	
Random	5.88 (0.93)	2.04	3.59 (1.02)	2.02
Original	2.92 (1.44)	-0.92	4.58 (1.42)	0.99
Total		1.12		3.01
Theme 8				
Common	2.00 (1.02)		5.92 (1.34)	
Random	5.47 (1.83)	3.47	2.67 (1.07)	3.25
Original	4.06 (1.61)	2.06	5.88 (0.81)	3.21
Total		5.53		6.46
Theme 9				
Common	2.43 (1.10)		5.90 (0.62)	
Random	6.03 (0.87)	3.60	4.39 (1.10)	1.51
Original	4.43 (1.43)	2.00	5.55 (1.37)	1.16
Total		5.60		2.67

In MD for novelty: Common is compared to random and original.

In MD for appropriateness: Random is compared to common and original

Appendix E

Pick-up Lines included in the Pre-Test

Theme #1 : You remind me of

- Random: You remind me of my ex, you are just as good-looking!
- Common : Hey! You remind me of a model, you are so good-looking!
- Original : Hey! You remind me of a beautiful summer day, you look so joyous!

Theme #2: You look

- Random: You look so good on your profile picture, I love your body!
- Common: Hey! You look good on your profile picture, I love your eyes!
- Original: Hey! You look so good on your profile picture, I love your energy!

Theme #3: Do you mind if I

- Random: Do you mind if I kiss your tasty lips?
- Common: Hey! Do you mind if I tell you how good-looking you are?
- Original: Hey! Do you mind if I take this lovely match to my favourite spot?

Theme #4: What does it feel like

- Random: What does it feel like to be the hot one in the family?
- Common: Hey! What does it feel like to be so good-looking every single day?
- Original: Hey! What does it feel like to so good-looking while also having great taste?

Theme #5: You have

- Random: You have a really nice behind!
- Common: Hey! You have really nice hair!
- Original: Hey! You have such a good vibe around you!

Theme #6: you look like someone

- Random: You look like someone that is great at doing the splits!
- Common: Hey! You look like someone I would get along with!

- Original: Hey! You look like someone that my pet would like!

Theme #7: I feel like

- Random: I feel like you are really good at math!
- Common: Hey! I feel like you are such a nice person!
- Original: Hey! I feel like you are too cool to be single!

Theme #8: I like/love

- Random: I like your unique look, you look like a Halloween party!
- Common: Hey! I like your picture, you look good!
- Original: Hey! I love your enthusiasm, you look so happy!

Theme #9: I would love

- Random: I would love to take you ghost hunting!
- Common: Hey! I would love to get to know you!
- Original: Hey! I would love to take you to your favourite restaurant!

Appendix F*Versions of the Final Survey*

Version	1	2	3
Theme 1	Theme 1_Random	Theme 1_Common	Theme 1_Original
Theme 2	Theme 2_Original	Theme 2_Random	Theme 2_Common
Theme 3	Theme 3_Common	Theme 3_Original	Theme 3_Random
Theme 4	Theme 4_Random	Theme 4_Common	Theme 4_Original
Theme 5	Theme 5_Original	Theme 5_Random	Theme 5_Common
Theme 6	Theme 6_Common	Theme 6_Original	Theme 6_Random