

# The mediating role of self-disclosure on the relationship development process in online and offline dating

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# Abstract

For many, being in a romantic relationship is an important life goal, and it is common to find this through an online dating app nowadays. Research shows that dating apps may foster the relationship development process, but also hinder this process. Additionally, there is much disagreement about the degree of self-disclosure – an important aspect involved in relationship formation – in online and offline dating settings. It was hypothesized that self-disclosure has a positive effect on the relationship development process and that the degree of self-disclosure is higher in online dating settings. Besides, the online dating setting was expected to slow down the relationship development process. Taken together, it was hypothesized that self-disclosure mediates the effect of dating setting on the relationship development process. A cross-sectional study (*N* = 144) has been conducted among 18- to 29-year-olds who were involved in a relationship at time of participation. Contrary to predictions, regression analysis showed that self-disclosure causes a slower relationship development process. Independent samples t-test showed no significant difference in the relationship development process, nor the extent of self-disclosure between the two dating settings. Self-disclosure thus does not mediate the effect of dating setting on the relationship development process. Further research is needed to further explore the effect of self-disclosure on the relationship development process, incorporating relationship duration and type of dating app. In addition, it may be valuable to create an up-to-date scale for measuring the relationship development process.

*Keywords*: self-disclosure, relationship development process, online dating, mediation-analysis

# The mediating role of self-disclosure on the relationship development process in online and offline dating

Using an online dating app or site to find a romantic partner is nothing new (Finkel et al., 2012). With one *swipe*, you can have found your partner for life (Domevscek, 2020). Before online daters start swiping, they create a profile on the dating app and set their preferences. When both daters like each other’s profile, they become a match and can chat with one another after which they decide on arranging an offline date (Domevscek, 2020). Over the years, more and more apps have been developed, and these apps are also used by more and more people (Castro & Barrada, 2020). Nowadays there are even apps that immediately arrange a date when there is a match, skipping the online chatting part (Dorlo, 2018).

In 2017, more than 175 million people worldwide were using an online dating app, and this rose to more than 230 million people in 2021 (Statista Research Department, 2021a). This increase can be due to a rise in the percentages of singles (GSS Data Explorer, 2018). Currently, there are three and a half million single-person households in the Netherlands, compared to two million 20 years ago (Statista Research Department, 2019). Of these people in single households, 22% are having a long-distance relationship and the rest are single (Huisjes, 2017). This accounts for nearly 2.75 million single people of which 70% says they would like to be in a relationship (Central Agency for Statistics, 2018). For many, being in a romantic relationship is an important life goal, and this is not surprising when the benefits are considered – greater well-being and living longer (Erevik et al., 2020).

Users of dating apps and sites come from all age groups, however, young adults are represented most on dating apps. GlobalWebIndex (n.d.) indicated that 45% of unmarried (single, divorced, widowed) internet users aged 16 to 34 years use online dating apps/sites and Statista Research Department (2021b) shows that the age group 18-to-29-year-olds is represented the most on online dating apps. Older people are more active on dating websites (Huisjes, 2017), an internet site where you must log in, instead of a dating app that is mainly available on smartphones and tablets.

As mentioned above, there has been a rise in people using online dating apps. Often, online dating is an addition to traditional ways of dating (Finkel et al., 2012), since 30% of app users have more than two offline dates with the people they met online (McKenna, 2002). While online dating allows someone to like or dislike potential partners from the couch (Domevscek, 2020), offline dating is defined as meeting someone face-to-face after which partners decide on continuation of their interactions (Dindia & Timmerman, 2003).

Online dating apps may foster the formation of a serious relationship (Paul, 2014), but also hinder such formation according to some studies (Finkel et al., 2012). While the rising percentage of couples who meet online – 1.7% in 2003 versus 13% in 2013 (Huisjes, 2017) – suggests that serious relationships do get formed online, it is often said people join dating apps just to have fun (Finkel et al., 2012). This could be tedious for people who do seek a sincere relationship as the proportion of potential (serious) partners becomes smaller if the overall pool grows (Paul, 2014). The intention to find a serious dating partner is not the only thing that is important in forming a relationship. What emerges from many studies is that how partners make themselves known to the other is also important (Willems et al. 2020). This concept is known as self-disclosure.

According to Sprecher and colleagues (2013): “[self-disclosure] likely determines whether two people will desire to interact again and develop a relationship” (p.860). Indeed, self-disclosure leads to further liking, closeness, perceived similarity and enjoyment (Sprecher et al., 2013). Therefore, self-disclosure has a positive effect on the relationship development process (RDP). This is the process from the initial interaction to bonding and commitment into an official relationship (LumenLearning, n.d.; King & Christensen, 1983). Whether and how online or offline dating develops into a romantic relationship is examined by several researchers (Finkel et al., 2012; Paul, 2014). However, there is much disagreement in the literature about the relationship development process in these two dating settings and the degree of self-disclosure in online and offline dating. On the one hand it is found that partners self-disclose more in offline dating settings compared to online settings (Paul, 2014; Willems et al., 2020). On the other hand, most research finds that self-disclosure is higher in online dating apps (Nguyen et al., 2012; Whitty, 2008).

## Self-disclosure in the relationship development process

“The primary task of a romantic relationship is to accomplish relationship development, that is, to initiate the relationship, move it to intimacy or bonding, and then keep it there” (Dindia & Timmerman, 2003, p.685). To accomplish the task of relationship development, several dimensions are important. These dimensions are frequency and duration of interaction, intimacy and liking, and these dimensions change as the relationship develops (Dindia & Timmerman, 2003). Frequent interactions help to establish and increase intimacy, which is a major base for a close relationship and also increases while the relationship develops (Miller, 2018; Dindia & Timmerman, 2003). To get intimate, it is important that potential partners are attracted to and like each other, which can be accomplished by self-disclosure on the one hand and proximity, similarity and physical attractiveness on the other hand (Miller, 2018).

A relationship cannot be started without interaction, so to initiate a relationship there must first be a successful interaction that leads to multiple interactions (Dindia & Timmerman, 2003). The second task for both daters then is to find out whether the other potential partner is cleared and available for a relationship (Dindia & Timmerman, 2003; Derlega et al., 2008). A dater can find out by asking the right questions and by revealing information about themselves, assuming that the dating partner will do the same. This process is also called self-disclosure as mentioned earlier. When people like one another, they want to know more about each other and in return will talk more about themselves.

Research by Collins and Miller (1994) found that disclosers and recipients of information believe that self-disclosure is more than the actual exchanged content. It is assumed that self-disclosure has an important symbolic function when it comes to interpersonal relating. Disclosing information indicates an assumption and expectation that the recipient can be trusted and that his or her opinion matters. Recipients, in turn, will feel that the discloser trusts and likes them (Collins & Miller, 1994; Willems et al., 2020). Reciprocated self-disclosure, the giving and receiving of disclosure thus leads to liking (Sprecher et al., 2013). In the early stages of the relationship development, partners disclose mainly about superficial things, such as musical preferences and educational background (Ogolsky et al., 2013). When partners perceive the mutual disclosure as rewarding, they increase their disclosures in depth and breadth and the revelations move to more intimate matters (Ogolsky et al., 2013; Nguyen et al., 2012).

Taken together, interaction and (reciprocated) self-disclosure leads to liking, intimacy and similarity which in turn are important for relationship development. The first hypothesis that thus arises is:

H1. *Self-disclosure is positively related to relationship formation.*

## Disclosing online and offline

Although self-disclosure is required to initiate a relationship, its degree is not always the same and may differ in different contexts, such as in online and offline encounters. One argument is that there is less self-disclosure in online settings, due to possible negative consequences. Joinson (2001) denotes that anonymity in online dating settings allows daters to construct a predominantly positive impression of the other which can lead to idealized impressions. For this reason, daters who meet online are often afraid of misleading self-presentations by their dating partners (Paul, 2014). In addition, people have less control over the responses they receive to information disclosed online (Willems et al., 2020). Furthermore, daters are afraid that their dating partner broadcasts personal information to everyone instead of disclosing information to them personally (Willems et al., 2020). Consequently, the recipient of the disclosure does not feel special, while a sense of being special is strongly positively related to relationship satisfaction (Finkenauer et al., 2018).

However, many studies show that people self-disclose more in online settings than offline settings. In a systematic review, Nguyen and colleagues (2012) show that people tell each other more online than they would in traditional face-to-face settings, due to the anonymity people experience in online settings. This anonymity reduces the risk of disclosing intimate aspects and being emotionally honest (McKenna et al., 2002; Whitty, 2008). Additionally, “people report feeling more able to disclose their ‘true selves’ to others online than in face-to-face settings” (Finkenauer et al., 2018, p.276). Disclosers feel there is no fear of disapproval and sanctions to their disclosure (McKenna et al., 2002). Not unimportant to mention is that daters are in control of what they do and do not share with others. Disclosers can manipulate their self-presentation this way and thus influence how others will perceive them (Nguyen et al., 2012). This strategic self-presentation encourages recipients of the intimate disclosures to form a positive impression of the sender (Finkel et al., 2012), and this positive self-presentation has a function of generating liking and is thus very important in relationship formation (Dindia & Timmerman, 2003).

A second major reason why people would disclose more in online settings is that the absence of situational or verbal cues could influence or inhibit an individual’s behavior (Nguyen et al., 2012; McKenna et al., 2002). Easily discernible features and stigmas such as stuttering or shyness are not visible in the online world which makes it easier to discuss information in greater depth (McKenna et al., 2002). However, Kim and Dindia (2011) note that the absence of nonverbal communication can make an interaction less personal. In addition, the absence of visual information and nonverbal behaviors cause a lack of richness in online settings (Joinson, 2001), while the possibility to use gestures and intonation in face-to-face communication can help make it a richer medium in which people can communicate more difficult concepts (Nguyen et al., 2012). In contrast, since there are limited possibilities to convey information online, everything must be translated into words and as a result more disclosure may happen in online settings (Nguyen et al., 2012).

All in all, it seems there is more to be said for the finding of more self-disclosure takes place online rather than face-to-face. It is even suggested that more intimate relationships are formed because of increasing self-disclosure online (McKenna, 2002). Given these plausible findings, the following hypothesis arises:

H2. *People self-disclose more in online dating settings than offline dating settings.*

## Relationship development in different dating settings

 As described above, it thus appears that self-disclosure in online settings leads to more intimate relationships than in offline settings. So, it seems that online dating opportunities may promote relationship formation, yet many people are on online dating apps for fun rather than to find a serious connection (Sumter et al., 2017). The emphasis placed on self-presentation through photos and profiles on apps like Tinder supports the notion that dating apps are used to seek casual sex or hookups (Erevik et al., 2020). However, Sumter and colleagues (2017) show that the percentage of users having the motive to find a long-term romantic relationship via Tinder greatly surpasses the percentage of users motivated to find a casual sex partner.

 People who are serious about seeking a relationship claim they have more choice in finding the right partner online (Paul, 2014). In online dating, the large pool of potential dating partners consists of more people with whom someone might match well (Paul, 2014; Domevscek, 2020). And a good match speeds up the RDP (Rosen et al., 2008). The use of filters for preferences such as age and matching algorithms can even help construct a good match and exclude people who are likely to be poor matches (Finkel et al, 2012). McKenna and colleagues (2002) found that online relationships develop intimacy and closeness more quickly than offline relationships. People in online dating environments expose their true selves and therefore feel they have reached more intimacy than people who meet offline. Accordingly, they are more motivated to move this development to the offline world (McKenna et al., 2002 ). Furthermore, it appears that partners who meet online are more satisfied with their relationship than partners who have met face-to-face (Finkel et al., 2012). Yet, Finkel et al. (2012) argue that many of these findings are being trumpeted by dating sites without critical analysis.

In contrast to all the above, Paul (2014) and Finkel et al. (2012) show that relationship formation takes longer in an online setting. If partners meet each other online, often a period of chatting preceded a potential offline meeting (Paul, 2014). Yet, daters often want to meet their potential partner in real life before committing to a relationship (Finkel et al., 2012). Contact, initiated online, will thus be continued in an offline setting before further development of a relationship. This makes the online dating app or site merely a platform where daters can easily get to know and talk to others instead of a platform where relationships are formed without any offline interaction (Finkel et al., 2012). In addition, research has confirmed that online communication is only beneficial if the duration of communication is brief because online dating can lead to dissatisfaction for both daters if expectations formed about each other online cannot be met offline (Finkel et al., 2012).

 The many online choices daters have can also slow down the relationship process. Having choice is valued by people and is associated with motivation and reward, but too much choice, in choice overload, can lead to making no choice at all (Finkel et al., 2012).

This is because a large pool of potential partners also consists of many people with whom someone might not match well (Paul, 2014). Because there is such a large pool of potential partners available, there is a lack of exclusivity which means daters find it difficult to choose and commit to one partner when there are hundreds more available, and they are unsure if any specific partner is the one (Paul, 2014). Another point that would make the relationship formation take longer in an online setting is that more time is needed to build trust (Paul, 2014). Online daters invest more time in getting to know their partner “to increase the odds of revealing any discrepant information before getting too emotionally involved” (Paul, 2014, p. 666) because online daters are concerned about falsification of information and misrepresentation. Online daters thus put in more effort to build a level of trust (Paul, 2014). “Thus, within a given frame of time, online relationships are less matured and developed compared to their offline counterparts” (Paul, 2014, p. 666).

This concluding remark suggests that relationships may develop quicker in offline settings rather than in online dating settings, which leads to the following hypothesis:

H3*. An online dating setting slows down the relationship development process compared to an offline dating setting.*

 Relationship formation has been studied in online and offline dating settings separately, but there is little research comparing the RDP across the two settings. The role of self-disclosure on the dating setting and the RDP will also be considered. As described above, specific hypotheses were formed for the associations with dating settings. Furthermore, a combination of the above-mentioned hypotheses leads to a fourth hypothesis:

H4. *Self-disclosure mediates the effect of online dating setting on the relationship*

*development process.*

Taken together, the research question that will thus be addressed, is: *“Does the relationship development process differ for online and offline dating settings and does self-disclosure mediate this relationship?*

*Figure 1*. Conceptual model of the relationship between dating setting, self-disclosure and the RPD. Dating setting has a direct effect on the RDP, however, self-disclosure is thought to be a mediator in this relationship.

# Methods

## Design

This study used a correlational and cross-sectional design, using a quantitative survey. The outcome variable was relationship development process. The predictor variable was dating setting and the mediating variable was self-disclosure.

## Participants

A G\*power analysis showed that at least 74 respondents were needed to have a power of .95, an effect size of 0.15 and a significance of .5 with two predictors. The survey was started by 252 respondents. All unfinished questionnaires (*n* = 101) were excluded from the database and seven respondents did not meet the inclusion criterium of having an official relationship. Another inclusion criterion was that respondents must have met their partner online or face-to-face. Eventually, 144 respondents aged 18 to 29 years old (*M* = 22.73, *SD* = 2.08) remained and were included in the analyses. This number is close to the median sample size (*n* = 142.5) of a mediation analysis (Fritz & MacKinnon, 2007) and the power analysis requirement. In the sample, 82.6% were women (*n* = 119) and 16.7% were men (*n* = 24), and one person identified as other.

## Measurements[[1]](#footnote-1)

Relationship development process (RDP).

This outcome variable was measured using an adapted version of the Relationship Events Scale (King & Christensen, 1983), which consists of 19 items. Respondents were asked to indicate if and/or when certain, increasingly more serious milestones were achieved (“We have arranged to spend time together without planning any activity”). Originally, this scale used the Guttman measurement, which was adapted to a 5-point Likert scale for the present study (*1 = happened within one month, 2 = happened after one month, 3 = happened between two and three months 4 = happened after more than three months, 5 = has not (yet) happened*). Previously, this has been shown to be a reliable and valid Guttman scale with a Cronbach’s alpha of .90 (King & Christensen, 1983). Since, in contrast to King & Christensen’s study, the present study did not focus on partner data, the reliability of the scale was measured with level correlations[[2]](#footnote-2). The inter-item correlations were moderately strong with an average of *r* = .440, see Appendix A. To make a total score, the items were summed (with a possible range of 19 to 95) in which a lower score meant a quicker relationship formation.

Dating setting.

The dating setting was the predictor variable, which was measured with self-constructed items. The respondents were asked how they met their current partner: online (coded as 1) or offline (coded as 0). Besides, respondents were asked after how much time of online dating they met their partner offline (“If you met your partner online, after how many days/weeks/months of online dating did you and your current partner meet offline?”).

Self-disclosure.

This was the mediator variable and was measured using the Self-Disclosure Index from Miller and colleagues (1983). This scale consisted of 10 items where respondents indicated what they disclosed to their partners using a 5-point-Likert scale

ranging from *1 = discuss not at all* to *5 = discuss fully and completely*. In the present study, this scale had good internal consistency, with a Cronbach’s alpha of *a* = .889. The average of items was taken to make a scale score, as described in Miller and colleagues (1983). A higher score meant a higher level of self-disclosure. Before respondents answered the self-disclosure items, they were asked to think back to when they first started dating their partner and asked to how well they remember this time by indicating this on a scale of 1 to 10.

Demographics.

To assess whether respondents belonged to the appropriate target group, some demographic data were requested. Respondents’ age in years and their gender were asked. In addition, they were asked about their current relationship duration (“How long have you been together with your partner in a relationship?”) and a question about the relationship label was asked (“After how much time of dating was your relationship with your current partner labeled as ‘in a relationship’”?).

## Procedure

This study was approved by the Faculty Ethics Review Board of the University of Utrecht. Respondents were recruited trough the network of the researcher and collaborator, using social media platforms (e.g., Facebook, WhatsApp, Instagram and LinkedIn) for three and a half weeks. In addition, a snowballing technique was used to reach a larger sample. The survey was designed in QualtricsXM. Before respondents started completing the questions, they were informed about the content and purpose of the survey after which they had to consent their participation. Additionally, respondents were informed about the anonymity of their answers, the fact that their participation was voluntary, and the right to withdraw their participation at any point. Information on the storage of data according to the UU data storage protocol was provided. At the end of the survey, there was the opportunity to send questions and comments to the researcher(s). The order of questions was the similar for every respondent.

## Statistical analysis

The analyses were carried out in IBM SPSS Statistics 26. After dataset cleaning, the reliability of the self-disclosure scale and relationship events scale were tested with respectively Cronbach’s alpha and correlation test. Hypothesis 1 was tested with a regression analysis. The assumptions for a regression analysis were met (Field, 2018). A graph indicated a linear relationship between the outcome variable (RDP) and the predictor (self-disclosure). The residuals were normally distributed, according to the P-P plot and a Kolmogorov-Smirnov test *D*(142) = .065, *p* = .200. The scatterplot showed homoscedasticity of residuals. There was one outlier on Leverage but no influential cases; removing the outlier did not affect the significance of results, therefore it was decided to keep it in the dataset.

Hypotheses 2 and 3 were tested with an independent samples t-test. Levene’s test showed that the predictor variable dating setting had equal variances for both self-disclosure (*p* = .056) and RDP (*p* = .616). Kolmogorov-Smirnov and Shapiro-Wilk (for less than 50 respondents) tests indicated that self-disclosure was normally distributed with *D* = .052, *p* = .200 for the offline and *W* = .989, *p* = .320 for the online dating setting. Similarly, RDP was normally distributed in the offline dating setting, *D* = .053, *p* =.200, and the online setting,

*W* = .962, *p* =.248. Hypothesis 4 was tested with a mediation analysis using PROCESS v3.5 by Hayes in SPSS. The same assumptions of a regression analysis apply for this mediation analysis.

# Results

## Descriptive statistics

Descriptive statistics are tabulated in Tables 1 and 2. The scale score created for the duration of the relationship indicated that respondents had an average relationship length of 3.34 years which is moderately low in comparison with the range. Because there were few (*n* = 4) respondents with the maximum relationship length, there was only a low average and median (μ = 3.00). The average score of 8.08 on remembering of the dating period was a high score on a scale of 1 to 10. The lowest score of 4 was given by only four respondents. The score of 2.35 on the self-disclosure scale was moderately low compared to the range of this scale, while the score of 55.11 on the RDP scale was a very average score considering the range.

**Table 1**

*Descriptive statistics of the variables.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | *Range* | *Mean* | SD |
| Duration of relationship (in years) | 0.01-11 | 3.34 | 2.65 |
| Offline meeting (in days) | 0-730 | 9.47 | 61.17 |
| Remembering | 4-10 | 8.08 | 1.49 |
| Self-disclosure | 1-4.8 | 2.36 | 0.73 |
| RDP | 30-78 | 55.03 | 10.51 |

*Note.* N = 144. RDP = Relationship Development Process.

Table 2 shows the characteristics of the respondents by dating setting. In the online dating setting, 5 respondents identified as male, 30 as female and 1 as other. In the offline setting, there were 19 males and 89 females.

**Table 2**

*Means (and standard deviations) of key variables by dating setting.*

|  |  |  |
| --- | --- | --- |
|  | Online dating (*n* = 36)*M(SD)* | Offline dating (*n* = 108)*M(SD)* |
| Age | 23.11(2.42) | 22.60(1.95) |
| Gender | 1.89(0.40) | 1.82(0.38) |
| Duration of relationship | 2.11(1.79) | 3.74(2.78) |
| Remembering | 8.03(1.49) | 8.25(1.50) |
| Self-disclosure | 2.33(0.58) | 2.37(0.78) |
| RDP | 54.00(10.89) | 55.37(10.41) |

*Note.* N = 144.

 **Explorative analyses**

Exploratory analyses were done with respect to relationship duration, gender, age and the time it took before online daters met offline. There was a significant difference of the duration of the relationship between online (*M* = 2.11, *SD* = 1.79) and offline dating setting (*M* = 3.74, *SD* = 2.78), *t*(1,144) = 3.33, *p* = .001, *d* = 0.70. This means that people who met online currently have, on average, shorter relationships than people who met offline. Additionally, duration of the relationship significantly affected the RDP, *F*(1,142) = 5.21,

*p* = .024, *R*2 = .04, β = -.19. Duration of the relationship did not affect self-disclosure,

*F*(1,142) = .03, *p* = .858, β **=** .01, or remembering, *F*(1, 142) = 3.71, *p* = .056, β = -.16.

Gender did not affect self-disclosure, *t*(1,141) = -.55, *p* = .587, *d* = 0.01, neither dating setting, *X*2(2, 144) = 3.23, *p* = .198, or the RDP, *t*(1,141) = 1.11, *p* = .269, *d* = -0.24. Age also did not affect the extent of self-disclosure, *F*(1,142) = .04, *p* = .849, *R*2 = .00, β = -.02, dating setting, *t*(1,142) = 1.27, *p* = .205, *d* = -0.23, or the RDP, *F*(1,142) = .66, *p* = .416, *R*2 = .01,

β = -.07. The time it took for respondents to plan an offline meeting with their potential partner was also examined, but this had no significant effect on the RDP, *F*(1,142) = 3.14, *p* = .079, *R*2 = .02, β = .15.

**Inferential statistics: main effects of self-disclosure, RDP and dating setting**

A simple linear regression analysis was used to examine whether more self-disclosure was positively related to a quicker RDP. Contrary to predictions, more self-disclosure was significantly related to a slower RDP, *F*(1, 142) = 8.40, *p* = .004, *R*2 = .06, β = .24. Controlling for the covariate, duration of relationship, did not change this effect, *F*(2,141) = 7.19, *p* = .003, *R*2 = .00, β = .24.

Hypotheses 2 and 3 were both tested with an independent samples t-test. People did not significantly self-disclose more in online settings (*M =* 2.33, *SD* = 0.58) compared to offline settings (*M* = 2.37, *SD* = 0.78), *t*(1,142) = 0.29, *p* = .769, d = -0.06. The second t-test indicated no significant difference of dating setting on RDP for online (*M* = 54, *SD* = 10.89) and for offline settings (*M* = 55.38, *SD* = 10.41), *t*(1,142) = 0.68, *p* = .497, d = -0.13. An online dating setting thus does not slow down the RDP, also when controlling for the covariate duration of relationship with an ANCOVA test, *F*(1,141) = 1.83, *p* = .178, *d* = -0.13. In conclusion, hypotheses 2 and 3 are rejected.

 Analyzing the effects of the mediation analysis, the only significant effect was that of self-disclosure on RDP, *B* = 3.37, *t* = 2.87, *p* = .005, which causes the complete model to be significant *F*(1,142)= 4.38, *p* = .014, *R*2 = .06. However, the total effect of dating setting on RDP was not significant, *B* = -1.38, *t* = -0.68, *p* = .497. The indirect effect of dating setting on RDP via self-disclosure was also not significant, *B* = -0.14, 95% CI [-.981, .804]. The direct effect of dating setting on RDP corrected for self-disclosure was not significant, *B* = -1.24,

*t* = -.62, *p* = .532. Considering the insignificant effects, self-disclosure thus does not significantly mediate the relationship between dating setting and the RDP, and the last hypothesis must be rejected.

# Discussion

Research concerning relationship formation in online and offline dating settings and the role of self-disclosure is inconclusive. Therefore, the present study investigated the mediating role of self-disclosure on the relationship between dating setting and the RDP. To answer this research question, self-reported data on dating setting, self-disclosure and RDP was collected and a mediation analysis was conducted. Results showed that this implied mediating effect is not found, thus failing to find confirmation for the research question of this study.

Contrary to most studies and the first hypothesis, more self-disclosure is related to a slower RDP instead of a quicker RDP. No known research shows that more self-disclosure causes a slower RDP. One possible explanation for this fact is that self-disclosure can be inappropriate and poorly timed (Greene et al., 2006), which can lead to restraint and uncomfortableness in the recipient of the disclosure (Cherry, 2020). This reticence may cause the recipient want to get to know the other person more deeply first, before moving onto the next stage.

In contrast to the second hypothesis and to what several researchers claim, online daters do not disclose more about themselves than offline daters. A possible explanation for this finding could be that even though Levene’s test indicated equal variances (*p* = .056), many more respondents indicated that they have met their partner offline (*n =* 108) compared to online (*n =* 36). Perhaps if these two groups had been more evenly distributed, a difference in self-disclosure would have been found. One explanation for the differently sized groups may have to do with the corona pandemic. The current study is conducted during a period without corona measures, but since March 2020 there have been frequent periods of lockdown. During several lockdowns, dating apps like Tinder saw a surge of 15% in users, however, people prefer to be in physical contact again after a lockdown (NOS Nieuws, 2021). After such a long time of not being able to meet offline, people were so called ‘*Tinder tired’*, tired of the constant swiping without results (Verberckmoes, 2021). Dating apps can cause choice stress due to the wide range of potential partners, and when people feel they are interchangeable (because of the wide choice), the fun is gone. Therefore, people probably prefer to meet their potential partner face-to-face after the period of lockdowns (Verberckmoes, 2021), and this potentially causes fewer people to search for their partner online. This may have created the different group sizes of the online and offline settings.

There are three further possible explanations for the similar levels of self-disclosure in both groups. First, it is quite possible that memory errors occurred among respondents (who have been in a relationship for a long time). Memory errors were attempted to be overcome by asking how well respondents could recall their dating period. The results show that on average, online daters remembered their dating period quite well (with a score of 8.08). However, this is a self-reported and therefore maybe biased answer and respondents may not actually remember that period as well as they indicated. Since it was not possible to conduct a longitudinal study due to time constraints, the choice was made to work with this possible memory bias because it provides a higher response rate, which in turn ensures better statistical power.

Additionally, the questionnaire related to the degree of self-disclosure during the dating period. However, these dating periods differ for the two groups, since in the online setting, there is first a period of chatting, while the offline setting skips this period and goes straight to the face-to-face meeting. The periods may therefore be unequal for both groups, which may mean that the questions were filled in differently by both groups. This could be a reason for the lack of a significant difference in self-disclosure.

Third, it is better “to meet up sooner rather than later” (Gulla, 2020, third paragraph) to counteract overthinking and keep the spark alive. The current study shows that online daters arrange an offline date with their potential partner after 9 days of online chatting. The question is how much daters disclose in such a short time. It is possible that not the quality of exchanges is heightened, but the quantity (Attrill & Jalil, 2011), perhaps due to the existing anonymity in online dating (Joinson, 2001). Many daters are afraid of misleading representations of their dating partner and spreading of personal information. This can lead online daters to discuss few intimate matters and talk more about superficial things. This may be one reason for the fact that no difference can be found in the degree of self-disclosure between online and offline daters.

 Also, contrary to expectations, the RDP is not significantly longer in an online dating setting compared to an offline dating setting in the present study. Again, several reasons may account for this lack of significant difference. These days, the label ‘relationship’ is less likely and less quickly to be attached, although the two daters do behave as a couple (Dorlo, 2018). This may indicate a slower relationship formation, but this effect may not be found because these relevant people were excluded from this study as they had not yet made their ‘relationship’ official. This may explain why no significant difference of RDP is found between the two dating settings.

 A second reason could be that many respondents in the online setting met their partner through Breeze, which is a fairly new dating app that lets daters choose between four profiles (instead of a hundred) and immediately arranges a date if there is a match (De Ruiter, 2021). This makes online dating settings merely a meeting platform rather than a dating platform (Finkel et al. 2012), where the chatting part is skipped and immediately moved on to offline dating. Online dating then moves very quickly to offline dating, making the dividing line between online and offline dating very small. This could be the reason why the RDP in online dating is not significantly different – slower – than in offline dating.

 According to the present findings, self-disclosure does not have a mediating effect on the relationship between dating setting and the RDP. Given that the only significant effect is that of self-disclosure on RDP and there were no other significant effects, there is no mediation effect of self-disclosure on the effect of dating setting on the RDP. The alternative explanations given for the individual paths listed above may also apply to this outcome.

## Strengths, limitations and recommendations

One strength of this study is that it focused on both dating apps and websites. This provides more respondents to be eligible for this study. In addition, people were asked to recall their dating period as best as possible and to give an indication of it using a number. This ensures that respondents are primed with their dating period and thus perhaps also with the degree of self-disclosure in that period. This may ensure that fewer memory errors were made. Next to these strengths, there are also some limitations to this research that need to be highlighted. The fact that people are primed about their dating period is a strength, but it is still possible that memory errors occurred. In the future, research may better focus on couples who have not been together very long and follow them longitudinally.

 In the current study, covariate testing found that relationship duration did have a significant positive effect on the RDP. This may mean that people who have been in a relationship for a long time may be less able to remember the beginning of the relationship, despite the just non-significant effect of duration on self-disclosure. Taking this covariate into account in future research and conducting a longitudinal design may reveal this. In addition, the rare effect of self-disclosure causing a slower RDP can also be investigated by means of longitudinal research and it can be determined whether or not it is a false positive (type I error) finding. If the effect turns out to be truly negative, it is interesting to examine the course of the relationship. How does the relationship last if little information about the partners is being exposed at the beginning of the relationship?

In addition, this study only included the respondents’ current relationship, but it may well be that previous relationships have influenced the RDP of the current relationship. Future research could therefore be conducted using a longitudinal design instead of a cross-sectional design. This way, relationships throughout the life of a respondent can be included. This could possibly also explain the result that people who meet offline have, on average, longer relationships (*M* = 3.74, *SD* = 2.78) compared to online (*M* = 2.11, *SD* = 1.79). Currently, it is unknown how long the relationships will last and thus whether the dating setting influences the duration of the relationship. A longitudinal design may confirm or disconfirm this.

 Fourth, in the absence of a contemporary scale for measuring RDP, King and Christensen’s outdated Relationship Events Scale (1983) was used in this study. In this scale, originally using a Guttman measurement, various relationship milestones are listed in order from less serious to more serious. The milestones in this scale have a dated sequence of seriousness. A solution to this dated scale may be to create a contemporary scale in which the sequence of events is taken into consideration. In addition, in this study, the scale was modified from a Guttman measurement to a Likert measurement, so reliability could possibly be compromised. Also, for this reason, it is good to adjust the scale, to possibly also a Likert measurement.

 A final limitation of this study is that seemingly fewer respondents reported having met their partner online compared to offline. Future research should ensure a better distribution of the respondents in these two dating settings. In this study, there was seemingly not enough power to find significant differences, which may result in a Type II error. Future research should ensure a better distribution of groups to be able to test with greater power.

To rule out that, as described above, the dating app Breeze may have caused the RDP of online and offline daters to not differ significantly, future research could ask respondents about the app they used to meet their partner. This possibly confirms what has already been mentioned in Finkel and colleagues’ (2012) research, namely that some online dating apps or websites are becoming more of a meeting platform instead of a chatting and dating platform.

## Implications

 The results of the present study create a practical implication for dating app makers. Results show that self-disclosure has a negative effect on the RDP. Dating apps and websites can take advantage of this and one app that already has done so is Breeze. Other dating apps can take cue from this by only allowing users to fill out a limited number of questions or putting a limit on the number of characters they can use to describe themselves. This may ensure a higher chance of success among their users which benefits the revenue of the app or site, but also the users who are looking for a serious relationship. However, before such an implication is implemented, it is important to further investigate this result in more depth by replicating the current study.

**Conclusion**

 Nowadays, dating apps are an integral part of the lives of people looking for a relationship. While Sprecher and colleagues (2013) show that an important aspect associated with forming a relationship is the degree of self-disclosure, the present research suggests that disclosing more about yourself is related to a slower relationship formation. The more self-disclosure that takes place in the period of dating, the slower a relationship is formed. However, the literature is inconclusive about whether this self-disclosure is different in online dating settings or offline dating settings. As this study showed, there appears to be no difference in the degree of self-disclosure in online and offline dating settings. In addition to this result, no significant difference was found in the RDP in online and offline dating settings. This means that, contrary to what Paul (2014) describes, online dating does not necessarily make relationship formation faster. With these results, the implied mediation effect of self-disclosure on the relationship between dating setting and RDP cannot be confirmed.

# References

Attrill, A. & Jalil, R. (2011). Revealing only the superficial me: Exploring categorical self-disclosure online. *Computers in Human Behavior, 27*(5), 1634-1642. <https://doi.org/10.1016/j.chb.2011.02.001>

Castro, Á., & Barrada, J. R. (2020). Dating apps and their sociodemographic and psychosocial correlates: A systematic review. *International Journal of Environmental Research and Public Health 17*(18). <https://doi.org/10.3390/ijerph17186500>

Central Agency For Statistics. (2018). *Honderd jaar alleenstaanden.* Accessed on January 22, 2022, from <https://www.cbs.nl/nl-nl/achtergrond/2018/26/honderd-jaar-alleenstaanden>

Cherry, K. (2020, November 5). *How self-disclosure affects relationships.* Accessed on May 25, 2022, from <https://www.verywellmind.com/how-does-self-disclosure-influence-relationships-4122387#citation-10>

Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic view. *Psychological Bulletin, 116*(3), 457-475. <https://doi.org/10.1037//0033-2909.116.3.457>

Derlega, V. J., Winstead, B. A., & Greene, K. (2008). Self-disclosure and starting a close relationship. In S. Sprecher, A. Wenzel, & J. Harvey (Eds.) *Handbook of relationship initiation* (pp. 153-174). Psychology Press.

De Ruiter, M. (2021, May 2). Breeze wil met algoritmes daten weer ‘menselijk’ maken. *De Volkskrant.* Accessed on May 13, 2022, from <https://www.volkskrant.nl/economie/breeze-wil-met-algoritmes-daten-weer-menselijk-maken~b79e50a0/?referrer=https%3A%2F%2Fwww.google.com%2F>

Dindia, K., & Timmerman, L. (2003). Accomplishing romantic relationships. In J. Greene and B. Burleson (Eds.), *Handbook of Communication and Social Interaction Skills* (pp.685-721). Lawrence Erlbaum Associates.

Domevscek, E. (2020, February 14). Super Like! Liefde na de eerste swipe, kan dat? *RTL Nieuws.* Accessed on January 22, 2022, from <https://www.rtlnieuws.nl/tech/artikel/5020651/super-liefde-na-de-eerste-swipe-naar-rechts-kan-dat-tinder-datingsapps>

Dorlo, C. (2018, January 9). Online daten: wat als er na de volgende swipe een leukere match is? *NOS Nieuws.* Accessed on May 13, 2022, from <https://nos.nl/artikel/2211168-online-daten-wat-als-er-na-de-volgende-swipe-een-leukere-match-is>

Erevik, E. K., Kristensen, J. H., Torsheim, T., Vedaa, Ø, & Pallesen, S. (2020). Tinder use and romantic relationship formations: A large-scale longitudinal study. *Frontiers in Psychology, 11*(1757). <https://doi.org/10.3389/fpsyg.2020.01757>

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th edition). SAGE edge.

Finkel, E. J., Eastwick, P. W., Karney, B. R., Reis, H. T., & Sprecher, S. (2012). Online Dating: A critical analysis from the perspective of psychological science. *Psychological Science in the Public Interest, 13*(1), 3-66. <https://doi.org/10.1177/1529100612436522>

Finkenauer, C., Kerkhof, P., & Pronk, T. (2018). Self-disclosure in relationships; Revealing and concealing information about oneself to others. In A. Vangelisti & D. Perlman (Eds.). *The Cambridge handbook of Personal Relationships* (pp. 271-281). Cambridge University Press. <https://doi.org/10.1017/9781316417867.022>

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*(3), 233-239. <https://doi.org/10.1111/j.1467-2007.01882.x>

GlobalWebIndex. (n.d.). *Online dating across the world.* Accessed on January 22, 2022, from <https://www.gwi.com/hubfs/Downloads/Online-dating-across-the-world-infographic.pdf?t=1539703781928>

Greene, K., Derlega, V. J., & Mathews, A. (2006). Self-disclosure in personal relationships. In A. Vangelisti & D. Perlman (Eds.), *The Cambridge Handbook of Personal* *Relationships* (pp.409-427). Cambridge University Press.

GSS Data Explorer. (2018). *Does respondent have marital partner?* Accessed on December 20, 2021, from [https://gssdataexplorer.norc.org/trends/Gender%20&%20Marriage?measure=possl](https://gssdataexplorer.norc.org/trends/Gender%20%26%20Marriage?measure=possl)

Gulla, E. (2020, February 24). How long should you wait to meet a dating app match IRL? *Cosmopolitan*. Accessed on June 11, 2022, from <https://www.cosmopolitan.com/uk/love-sex/relationships/a30999011/meet-dating-app-how-long/>

Huisjes, B. L. (2017, April 4). Stand van het Land (Season 6, Episode 4) [Tv series episode]. In J. Bleiksloot, S. Numansen & R. Schilder (Producers), *Stand van Nederland*. WNL.

Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology, 31*(2), 177-192. <https://doi.org/10.1002/ejsp.36>

Kim, J., & Dindia, K. (2011). Online self-disclosure: A review of research. In K. Wright & L. Webb (Eds.). *Computer-mediated communication in personal relationships* (pp. 156-180). Peter Lang Publishing.

King, C. E., & Christensen, A. (1983). The Relationship Events Scale: A Guttmann scaling of progress in courtship. *Journal of Marriage and Family, 45*(3), 671-678

LumenLearning. (n.d*.). Developing and maintaining romantic relationships*. Accessed on January 23, 2022, from <https://courses.lumenlearning.com/introductiontocommunication/chapter/developing-and-maintaining-romantic-relationships/>

McKenna, K. Y. A., Green, A. S., & Gleason, M. E. J. (2002). Relationship formation on the Internet: What’s the big attraction? *Journal of Social Issues, 158*(1), 9-31. <https://doi.org/10.1111/1540-4560.00246>

Miller, L. C., Berg, J. H., & Archer, R. L. (1983). Openers: Individuals who elicit intimate self-disclosure. *Journal of Personality and Social Psychology, 44*(6), 1234-1244. <https://doi.org/10.1037/0022-3514.44.6.1234>

Miller, R. S. (2018). *Intimate Relationships* (8th edition). McGraw Hill Education.

Nguyen, M., Sun Bin, Y., & Campbell, A. (2012). Comparing online and offline self-disclosure: A systematic review. *Cyberpsychology, Behavior and Social Networking, 15*(2), 103-117. <https://doi.org/10.1089/cyber.2011.0277>

NOS Nieuws. (2021, July 6). *Datingapps zagen piek tijdens lockdown, ‘nu willen mensen weer fysiek contact’.* Accessed on May 10, 2022, from <https://nos.nl/artikel/2388224-datingapps-zagen-piek-tijdens-lockdown-nu-willen-mensen-weer-fysiek-contact>

Ogolsky, B. G., Lloyd, S. A., & Cate, R. M. (2013). *The Developmental Course of Romantic Relationships.* Taylor & Francis.

Paul, A. (2014). Is online better than offline for meeting partners? Depends: Are you looking to marry or to date? *Cyberpsychology, Behavior, and Social Networking, 17*(10), 664-668. <https://doi.org/10.1089/cyber.2014.0302>

Rosen, L. D., Cheever, N. A., Cummings, C., & Felt, J. (2008). The impact of emotionality and self-disclosure on online dating versus traditional dating. *Computers in Human Behavior, 24,* 2124-2157. <https://doi.org/10.1016/j.chb.2007.10.003>

Sprecher, S., Treger, S., Wondra, J. D., Hilaire, N., & Wallpe, K. (2013). Taking turns: Reciprocal self-disclosure promotes liking in initial interactions. *Journal of Experimental Social Psychology, 49*, 860-866. <https://doi.org/10.1016/j.jesp.2013.03.017>

Statista Research Department. (2019). *Number of single-person households in the Netherlands 2000-2019.* Accessed on January 22, 2022, from <https://www.statista.com/statistics/888067/number-of-single-person-households-in-the-netherlands/>

Statista Research Department. (2021a, March 23). *Forecast of the number of online users for Dating Services worldwide until 2024*. Accessed on January 20, 2022, from <https://www.statista.com/forecasts/891146/eservices-dating-services-online-user-by-segment-worldwide>

Statista Research Department. (2021b). *U.S. adult online dating usage 2019, by age.* Accessed on January 22, 2022, from <https://www.statista.com/statistics/309461/us-adults-online-dating-site-usage-age/>

Sumter, S. R., Vandenbosch, L., & Ligtenberg, L. (2017). Love me Tinder: Untangling emerging adults’ motivations for using the dating application Tinder. *Telematics and Informatics, 34*(1), 67-78. <https://doi.org/10.1016.j.tele.2016.04.009>

Verberckmoes, Y. (2021, November 13). Tindermoeheid slaat toe: ‘Mensen beginnen zich bij swipen heel eenzaam te voelen’. *De Morgen*. Accessed on May 10, 2022, from <https://www.demorgen.be/nieuws/tindermoeheid-slaat-toe-mensen-beginnen-zich-bij-het-swipen-heel-eenzaam-te-voelen~b216b9e2/>

Whitty, M. T. (2008). Liberating or debilitating? An examination of romantic relationships, sexual relationships and friendships on the Net. *Computers in Human Behavior, 24*, 1837-1850. <https://doi.org/10.1016/j.chb.2008.02.009>

Willems, Y. E., Finkenauer, C., & Kerkhof, P. (2020). The role of disclosure in relationships. *Current Opinion in Psychology, 31*, 33-37. <https://doi.org/10.1016/j.copsyc.2019.07.032>

**Appendix**

**Correlation table for reliability**

**Table A1.**

*Correlations between levels of the Relationship Events Scale (RES).*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. |
| *Level 1* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_1 | - | .812\*\* | .350\*\* | .339\*\* | .373\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_2 |  | - | .389\*\* | .343\*\* | .296\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_3 |  |  | - | .655\*\* | .493\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_4 |  |  |  | - | .627\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_5 |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Level 2* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_6 |  |  |  |  |  | - | .446\*\* | .435\*\* |  |  |  |  |  |  |  |  |  |  |  |
| RD\_7 |  |  |  |  |  |  | - | .931\*\* |  |  |  |  |  |  |  |  |  |  |  |
| RD\_8 |  |  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |
| *Level 3* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_9 |  |  |  |  |  |  |  |  | - | .931\*\* | .106 | .101 |  |  |  |  |  |  |  |
| RD\_10 |  |  |  |  |  |  |  |  |  | - | .092 | .067 |  |  |  |  |  |  |  |
| RD\_11 |  |  |  |  |  |  |  |  |  |  | - | .902\*\* |  |  |  |  |  |  |  |
| RD\_12 |  |  |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |  |  |
| *Level 4* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_13 |  |  |  |  |  |  |  |  |  |  |  |  | - | .679\*\* |  |  |  |  |  |
| RD\_14 |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |
| *Level 5* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | .887\*\* | .138 |  |  |
| RD\_16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | .098 |  |  |
| RD\_17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  |  |
| *Level 6* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RD\_18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | .056 |
| RD\_19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |

*Note.* RD=Relation\_Development. N=144. \*\*p<.01

1. Since there are multiple researchers conducted this study, one concept was measured in the questionnaire which was not part of the present study. This concept included attachment style. [↑](#footnote-ref-1)
2. See Miller et al. (1983) for the levels. [↑](#footnote-ref-2)