Online dating:
A threat to our mental wellbeing or the self-validation we need?

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Abstract

Background

Nowadays online dating is a common way to meet a romantic partner, a friend or a one-night stand. Many users enjoy the advantage of increasing possibilities to get to know multiple potential partners simultaneously. However, with numerous potential dates, numerous rejections tend to follow. Therefore, possible negative consequences on self-esteem are investigated. Research investigating the relationship between frequent online dating usage and self-esteem is quite contradictory until now. However, most prior research found a gender difference in self-esteem levels after using dating apps frequently, thus potential differences are tested. Lastly, research investigating the relationship between mental wellbeing and frequent online dating is lacking, thus, this study focuses on possible negative consequences.

Aim

This study aims to analyze whether self-esteem levels, as well as mental wellbeing levels, differ between male and female online dating users.

Methods

Participants (n=149; 59,1% females) described the frequency of their dating app use as well as their self-esteem levels and mental wellbeing levels.

Results

Frequent online dating was significantly correlated with lower mental wellbeing (r=-0.189). Also, gender was significantly correlated with self-esteem levels, indicating lower levels for males (p=0.006). Moreover, the relationship between self-esteem and frequency of online dating was negative but not significantly correlated (r=-0.054). Also, gender did not act as a moderator between the frequency of online dating and self-esteem or mental wellbeing levels.

Conclusion

Findings suggest further research investigating factors influencing the relationship between the frequency of online dating and mental wellbeing as well as a pre and posttest to account possible negative effects on mental wellbeing to online dating usage.

Keywords: online dating, self-esteem, mental wellbeing, mental health, dating apps

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Online dating trend

Online dating has become, since 2009, the most common way to meet a potential partner in the U.S. according to Stanford University (Rosenfeld et al., 2019; Shashkevich, 2019). Internet portals or smartphone applications (apps) offer users the opportunity to get to know a potential partner, friend or a one-night stand without being forced to go outside. Especially people between 18 and 44 years tend to search for a partner online (Smith, 2016). This is not surprising considering the technological influence and time limits today (Aretz et al., 2017). In many ways, online dating can facilitate meeting a potential partner especially for people who might struggle to find a partner offline. Reasons for this tendency to meet more potential partners online might be the advantages of using online dating apps. For instance, the higher number of potential partners one can speak to at the same time. Also, the relationship status of other users is mostly clear which can be helpful in case one is too afraid to ask (Fullwood et al., 2019). Other users appreciate that online dating can soften the feeling of rejection since one does not need to face the other user (Blackhart et al., 2014). Also, writing a message instead of facing someone face to face can make the first step, meaning initiating a conversation much easier. Nevertheless, dating online is not for everyone, considering the following negative aspects in comparison to offline dating.

Mental wellbeing

Dating online also brings certain risks factors to mental wellbeing for its users such as a negative body image, objectification and abruptly ended conversations and misunderstandings (Breslow et al., 2019; Fullwood et al., 2019; Thompson, 2018). It is important to note that mental wellbeing can be defined as "not merely the absence of mental illness, but the presence of positive feelings (emotional well-being), positive functioning in individual life (psychological well-being) and community life (social well-being)" (Lamers et al., 2011). Firstly, reason for a more negative body image tends to be based on the fact that online dating users can evaluate a potential partner on visual bases mostly (profile picture), for instance, by swiping to the right or the left (Ward, 2017). The swiping motion will create a match or rejects a recommended potential partner (Ward, 2017). Thus, one specific factor influencing

the mental wellbeing of the online dating app user is the appearance pressure exerted by using the apps (Thompson, 2018). Secondly, reason for objectification tendencies seems to be the fact that users can swipe through their (sexual) partner options like a mail-order catalogue for humans (Kühn & Späth, 2019). Besides, many online dating users feel very uncomfortable exposing themselves to many people simultaneously, considering that one third would agree that users of online dating apps can be seen as "desperate" (Nam, 2017). Also, the search of a partner is not always successful, only one third achieve to progress to offline dates (Smith et al., 2016 as cited in Fullwood et al., 2019). Also, support for a negative significant correlation between swipe-based dating applications usage and mental wellbeing was found by Holtzhausen et al. (2020) indicating that increased dating app use tends to lead to psychological distress, depression and anxiety. Reason for such negative consequences seemed to be motivations to engage in online dating. Also, frequency of online dating and the duration of online dating were found to be significantly associated with problematic online dating app usage (Holtzhausen et al., 2020).

Thus, a relationship between the frequency of online dating and mental wellbeing seems to be given. However, most research is focusing on body image and objectification leaving a lack of studies regarding general mental wellbeing.

Potential positive and negative influences of online dating on self-esteem

The factor that seemed to reinforce the influence of the frequency of online dating on lower mental wellbeing the most seems to be validation seeking motivation to use online dating apps (Holtzhausen et al., 2020). Orosz et al. (2018) found that self-esteem enhancement motivation is evoked in cases of relatedness need frustration, following from a lack of love and affection. The term self-esteem can be defined as the "overall affective evaluation of one's own worth, value or importance" (Blascovich & Tomaka, 1991). This self-esteem enhancement motivation tends to be the strongest predictor for problematic online dating app use (Orosz et al., 2018). Thus, it will be examined whether people who use online dating more frequently display significantly different levels of self-esteem.

Research by De Vries (2016) suggests a positive correlation for a relationship between self-esteem and online dating app use in comparison to face-to-face meetings. This can be explained by a feeling of safety that is created by providing the opportunity to control all the impressions that we have on potential partners (De Vries, 2016). Being able to control for all impressions since non-verbal cues are not given can be especially helpful for people with lower self-esteem (De Vries, 2016).

Lastly, Rönnestad (2018) found some support for the case that no significant relationship between self-esteem levels and frequency of use of online dating exists. This would support the impression that self-esteem neither increases nor decreases when using online dating apps. Given such contradictory results, it is important to get more insight into the factors that may moderate the relationship between frequent online dating and self-esteem. One of these factors may be gender according to the following studies.

Gender differences in mental wellbeing and self-esteem correlated with online dating

Research up until now suggests that men and women tend to experience online dating quite differently. Strubel and Petrie's (2017) found that men's self-worth seems to suffer more from online dating than women's self-worth. This difference could be explained by the fact that men feel like they get more rejections than women since society still expects men to make the "first step" which was perceived as a "negative impact on self" and frustrating (Fullwood et al., 2019). Even though online dating opportunities increase, rejections increase accordingly–especially for male users (Tyson et al., 2016). Also, from an evolutionary perspective, women tend to be more selective than men because they have greater parental investment and because they expect more matches since men are less selective due to the evolutionary drive to mate (Neyt et al., 2019). However, the unusual heightened attention that women might get when dating online could also lead to exaggerated self-esteem (Kreager et al., 2014). Men, on the other hand, may also face the feeling of exploitation because they have to pay for specific online dating services more often than women (Fullwood et al., 2019). These disadvantages could lower males' self-esteem. Nevertheless, even though women might get increased attention, it often tends to show in the form of online harassment and misogyny (Thompson, 2018). Since women tend to be more selective than men (Neyt et al., 2019), more rejections follow (real or thought up), however, not all can handle such feedback since many men feel threatened in their masculinity (Thompson, 2018). Thus, some rejected men tend to send messages trying to impact women's feelings negatively as a consequence. This course of action should position the woman in a submissive role (Thompson, 2018).

Research question and hypotheses

Based on previous research the relationship between the frequency of online dating and self-esteem is not clear yet because of contradictory results, the relationship still needs to be examined further. Therefore, more research is necessary to investigate the variables that may moderate this relationship. In this study, we are especially interested in the role of gender,

since studies suggest that there may be differences in experiences of men and women when it comes to the relationship between the frequency of online dating and self-esteem. Also, a gender difference for mental wellbeing is assumed since women tend to suffer from online harassment and misogyny.

1) How and to what extent is the frequency of online dating associated with mental wellbeing and self-esteem?

H1: Users who engage in online dating more frequently will report lower levels of mental wellbeing and self-esteem.

2) Are the associations between the frequency of online dating and self-esteem or mental wellbeing moderated by gender?

H2: For females, we expect a stronger correlation between the frequency of online dating and mental wellbeing (in line with research by Thompson 2018).

H3: For males, we expect a stronger correlation between the frequency of online dating and self-esteem than for women (in line with Strubel and Petrie 2017).
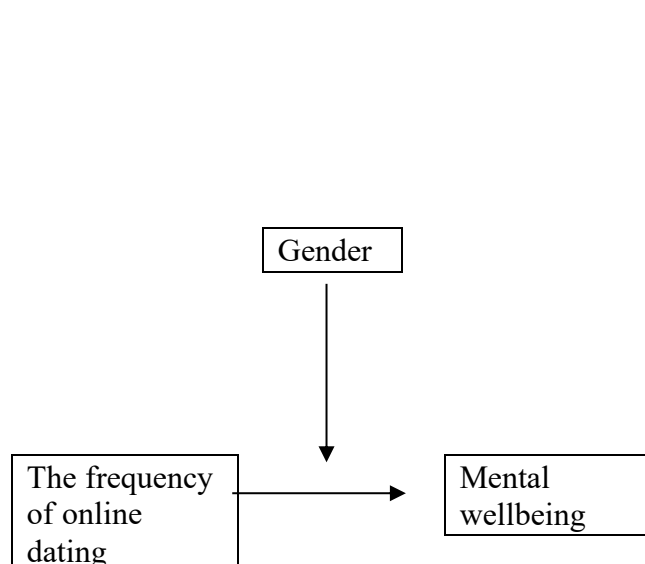
Figure 1. conceptual model of the relation between the frequency of online dating and mental wellbeing, which is moderated by gender (H2)
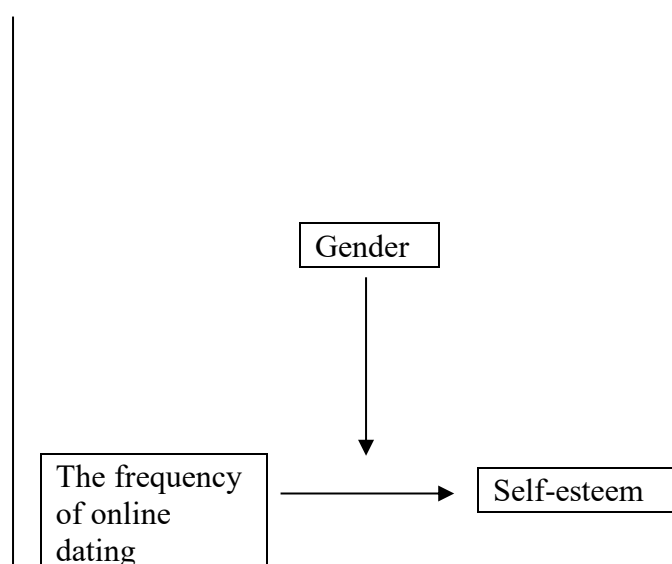
Figure 2. conceptual model of the relation between the frequency of online dating and self-esteem, which is moderated by gender (H3)

Methods

Design

The between-subject study derived its data from a questionnaire survey design. This questionnaire measured the independent variable frequency of use of online dating apps, as well as the moderating variable self-esteem level and the outcome variable mental wellbeing.

Participants and Procedure

The convenience sample was mostly recruited with the Sona System of the University of Twente (2002) which provides a reward in the form of credits. Besides, WhatsApp and Facebook were used to provide potential participants with an anonymous link to the questionnaire. The sample consisted of 260 adults, 61.9% identified as female, 33.5% as male and 4.6% of the participants preferred not to answer. The age ranged between 18 and 55 years (Mage=22,78; SDage=4,40). Moreover, participants of various nationalities answered the questionnaire of which 69.2% were German, 8.1% were Dutch and 18.1% participants answered that they have another nationality and 4.6% decided not to specify their nationality. Inclusion criteria involved being between 18 and 44 years old since this age group uses online dating the most. Also, agreeing to the informed consent and displaying a 100% response rate was required. In total, 111 participants had to be excluded because they did not meet the inclusion criteria.

After getting ethical approval from the Behavioral, Management and Social Sciences (BMS) Ethics Committee of the University of Twente, participants volunteered in the study "Mental wellbeing in an era of online dating". The cross-sectional questionnaire was sent with an anonymous link to the participants. After that, participants were asked to fill in the questionnaire. All data was collected in April 2020. Before participants started to answer any questions, they were provided with the informed consent which had to be accepted to start. In that consent, participants were informed about the confidentiality of their data and the purpose to detect potential relationships between online dating and different facets of mental wellbeing. The questionnaire took approximately 20 to 30 minutes. In case participants noticed that their mental wellbeing is exceptionally low because of self-reflective thoughts, contact data for a psychologist and a hotline were provided. At the end of the questionnaire, participants were thanked that they took the time to answer the questionnaire.

Materials

To measure the self-esteem scores, mental wellbeing and the frequency of use of online dating apps, a questionnaire was created. The questionnaire for this paper was generated using the Qualtrics software version of April 2020 (Qualtrics, Provo, UT). This questionnaire included one item to assess the frequency of online dating which was retrieved from the study of Strubel and Petrie (2017). When answering "How often do you make use of online dating apps/websites? "or „How often have you made use of online dating apps/websites in the past?" the participant could choose the following response options "once a month, 2–3 times a month, once a week, 2–3 times per week, 4–5 times per week, daily". If the participant chose daily, another four response options appeared to differentiate more precisely "2–3 times per day, 4–6 times per day, once an hour, 2 or more times per hour ". The items "How often do/did you make use of online dating apps/websites? and "How often do/did you make use of online dating apps/websites per day?" were recoded into a different variable called "frequency".

After that, the level of self-esteem was measured with the Rosenberg Self-Esteem Scale (RSE) which is a questionnaire consisting of 10 items, one of which is "On the whole, I am satisfied with myself." This study shows a Cronbach's alpha of 0.56 and low to moderate construct validity (Rosenberg, 1965; Greenberger et al., 2003). A 4-point Likert scale with answers ranging from "strongly agree" to "strongly disagree" is provided. Then all items were added to get the total self-esteem score. Total scores for the RSE were calculated by recoding the items one, two, three, four, six and seven to "strongly agree" = 3, "agree" =2, "disagree" = 1 and "strongly disagree" = 0. Item three, five, eight, nine and ten were recoded to "strongly agree" = 0, "agree" = 1, "disagree" = 2 and "strongly disagree" = 3.

Then, the level of mental wellbeing was assessed by filling in the Mental Health Continuum-Short Form (MHC-SF) which is a questionnaire consisting of 14 items one of which is "During the past month, how often did you feel happy?". The scale has a 6-point Likert scale, providing the participant with the following response options: "never", "once or twice", "about once a week", "about 2 or 3 times a week", "almost every day" and "every day". Also, total scores for MHC-SF were calculated by adding all items together and dividing them by 14. In this study, the questionnaire shows high reliability with a Cronbach's alpha of 0.89 and low to moderate correlations between items and other established mental wellbeing concepts (Lamers et al., 2011). After finalizing the data collection, Hayes PROCESS macro was used to analyze the moderation effect of self-esteem between the frequency of online dating and mental wellbeing. In order to test for possible differences

among online dating apps and gender, data was selected before doing additional moderation analyses.

Data Analysis

The data were analyzed with IBM SPSS Statistics (Version 24) and the additional tool Hayes PROCESS macro (Version 3.4). Firstly, descriptive statistics of the independent variable frequency of online dating was assessed to be able to interpret Pearson correlations and moderation analysis more precisely. After that, Bivariate Pearson correlation analysis was used to confirm whether the frequency of online dating is associated with mental wellbeing or self-esteem levels. Afterwards, the PROCESS Hayes analysis was conducted to test whether the relation between frequency of online dating and mental well-being is moderated by gender. A second PROCESS Hayes analysis was performed to test if the relation between frequency of online dating and self-esteem is moderated by gender. Finally, descriptive statistics were used to compare the mean of the dependent variables mental wellbeing and self-esteem of the current sample with the Dutch population mean of mental wellbeing and self-esteem.

Results

Descriptive statistics of the frequency of online dating

Most participants confirmed that they used an online dating app in the past (63.8%) while 36.2% are currently using one (or more). The analysis showed that the sample was mostly using online dating apps 2-3 times per week (Table 1). The majority of participants who used online dating apps daily checked it 2-3 times a day (54,5%).

Table 1

The frequency of online dating

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once a month	19	12,8	12,8	12,8
	2-3 times a month	17	11,4	11,4	24,2
	Once a week	24	16,1	16,1	40,3
	2-3 times per week	41	27,5	27,5	67,8
	4-5 times per week	15	10,1	10,1	77,9
	Daily	33	22,1	22,1	100,0
	Total	149	100,0	100,0	

Note. This Table demonstrates the distribution across the independent variable frequency of online dating.

Correlational Analysis

In order to answer how and to what extent the frequency of online dating is associated with mental well-being and self-esteem, Pearson correlation coefficients were assessed to test the hypotheses that the frequency of online dating is negatively associated with mental wellbeing and self-esteem (Table 2).

Table 2

Pearson Correlation between the frequency of online dating (IV) and mental wellbeing (DV) and self-esteem (DV)

		frequency	mental_ health_ total	self_esteem _ total
frequency	Pearson Correlation	1	-,189[*]	-,054
	Sig. (2-tailed)		,021	,516
	N	149	149	149
mental_health_total	Pearson Correlation	-,189[*]	1	-,299[**]
	Sig. (2-tailed)	,021		,000
	N	149	149	149
self_esteem_total	Pearson Correlation	-,054	-,299[**]	1
	Sig. (2-tailed)	,516	,000	
	N	149	149	149

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Gender as a moderator between the frequency of online dating and self-esteem

After the Pearson correlation showed a significant relationship between frequency of online dating and self-esteem, the second research question needs to be answered by assessing whether the association between the frequency of online dating and self-esteem is moderated by gender. Therefore, a PROCESS Hayes analysis was conducted (Table 3). The moderation analysis resulted in a negative non-significant model R^2 =0.065, $F=_{(3.145)}$= 3.396, p=.157, b=0.247.

Table 3

Moderation effect of gender between the independent variable frequency of online dating and the dependent variable self-esteem

Variables	B	S.E.	t	Sig	95% Confidence Interval	
					Lower bound	Upper bound
Constant	9,34	0,19	48,44	0,000	8,96	9,73
Frequency	,00	0,08	0,245	0,980	-0,17	0.177
Gender	1,07	0,39	2,74	0,006	3,00	1,85
Int_1	0,24	0,17	1,41	0,157	-0,09	0,59

Note. Moderation Model Summary $R^2 = 0.065.$, $F(3,145) = 3.396$, $p=0.019$

B = unstandardized coefficient, S.E. = Standard Error, RS = relationship status, DIU = daily Instagram use.

Gender as a moderator between the frequency of online dating and mental wellbeing

Although the Pearson correlation did not reveal a significant relationship between the frequency of online dating and mental wellbeing, a moderation analysis was conducted to account for impacts of the moderator gender. This moderation model, resulted in findings indicating no evidence for a moderation effect $R^2 =0.044$, $F=_{(3,145)}=2.436$, $p=.085$, $b=0.247$.

Discussion and Conclusion

How and to what extent is the frequency of online dating associated with mental well-being and self-esteem?

The purpose of this study was to answer whether and how the frequency of online dating is associated with mental well-being and self-esteem. This study did not found a significant effect of frequency of online dating on self-esteem but a negative significant impact on mental wellbeing. These results support the findings of Holtzhausen et al. (2020) who found that frequent online dating can lead to lower mental wellbeing (increased psychological distress, depression and anxiety). Besides, Nam (2017) found support that dating online feels "desperate" for many users which can also support the results of this study. However, no significant relationship between frequent online dating and self-esteem was found. These findings disagree with the study of Strubel and Petrie (2017) who found that the frequency of online dating is associated negatively with self-esteem levels. This discrepancy could be resulting from the fact that frequency of online dating differed from normal levels due to the corona pandemic which will be elaborated on later more extensively. Also, no support for research of De Vries (2016) could be found who reported that people perceive a higher self-esteem when thinking of online dating in comparison to face-to-face dates. This difference could be explained by the fact that people were not asked to compare their self-esteem levels to offline-dating situations. These findings suggest that future studies should focus on factors influencing the relationship between the frequency of online dating and lower mental wellbeing, being personality traits or motivations for instance. This is of crucial importance considering online dating apps increasing popularity (Rosenfeld et al., 2019; Shashkevich, 2019).

Are these associations moderated by gender?

Furthermore, the study aimed to answer the research question whether the association between the frequency of online dating and self-esteem as well as mental wellbeing is moderated by gender. This study did not detect a moderation effect of gender between the frequency of online dating and self-esteem or mental wellbeing. These findings disagree with the study of Strubel and Petrie (2017) who found that especially men who use online dating frequently tend to display lower self-esteem than women. This difference could also be resulting from a small sample in which only 61 men were tested. However, results of the

current study still suggest a negative significant correlation between gender and self-esteem levels, indicating that women display a higher self-esteem level than men who date online. This is partly in line with Breslows et al. (2019) research since he also found support for lower self-esteem in men who date online, however, especially in sexual minority men. This distinction might be caused by the fact that participants were not mostly part of a sexual minority. Lastly, the results of this study agree with Fullwoods et al. (2019) research which implicates that men tend to feel more often rejected and frustrated when dating online. This tendency is further supported by Neyt et al., 2019 who found that females are more selective. This tendency might increase online since more potential partners are available at the same time. Taking results of this study into account, males' lower self-esteem might result from increased dating rejections (Tyson et al., 2016). Moreover, this study indicated a significant negative correlation between frequent online dating usage and mental wellbeing levels but no moderation effect of gender. This finding agrees with Holtzhausen et al. (2020) who found an association between lower mental wellbeing and frequent online dating for both genders. In contrast, this study disagrees with Thompson's research (2018) who found that especially women who use online dating suffer from many hateful and objectifying messages from rejected men. This discrepancy might be due to the sample that showed lower levels of self-esteem for men since self-esteem was found to be significantly correlated with mental health, thus, men might have a lower mental wellbeing as a consequence (Moksnes & Reidunsdatter, 2019).

Strengths and Limitations

Despite distributing the questionnaire among social platforms and the Sona system of the University of Twente (2002), the dataset showed little variety in sexuality and apps. Also, despite having various nationalities within the sample, most of the participants were German (71,1%). The majority of participants was heterosexual (85,9%) and used Tinder (121). This led to the inability to compare groups based on nationality, sexuality and app.

Another limitation could have been the current corona pandemic. The virus could have led to many unexpected changes for the participants and potentially affected measured variables. The frequency of use of online dating apps could have been affected since offline dating was limited due to contact restrictions ("Corona-Kontaktbeschränkungen gelten bis 19. April. ", 2020). German, as well as Dutch inhabitants, were advised to try avoiding any social contact ("Frequently asked questions about coronavirus and health", n.d.). Besides, Dutch singles were suggested to restrict sexual partners to one to minimize the risk of infections

("Coronavirus: Dutch singletons advised to seek 'sex buddy'", 2020). Thus, more participants might have preferred online dating instead. Moreover, mental wellbeing levels might have been affected since research has shown that pandemics can lead to intense feelings of stress, anxiety or depression due to financial or physical health worries for example (Uhlman, 2020). However, this seems to be unlikely considering that the sample had a comparatively high mental wellbeing level since the mean scores for a Dutch population is much lower (3,98). These exceptionally high mental wellbeing levels also could have influenced the results (Lamers et al., 2011). Also, self-esteem levels of this sample do not seem to be affected since the Dutch population mean is similar to the mean of the participants (Abraham, 2010).

Furthermore, to assess to what extent lower mental wellbeing is caused by increased usage of online dating apps, pre and post-test should be carried out in future studies. Also, some participants had to fill in the questionnaire on the basis of past experiences with online dating which could have influenced memory and thus results.

Despite these limitations, this study managed to target exactly the population that uses online dating the most, thus, results can be interpreted as quite representative. This study has achieved to update effects of online dating usage on mental wellbeing. Also, it can provide more clearness to the effects of gender on self-esteem levels.

Recommendation for future studies

Future research could focus on excluding other factors as possible negative influence like other social media which might have been used simultaneously. Also, pre-online dating and post-online dating research should be conducted to see whether or not people with low mental wellbeing tend to use online dating more than people with high mental wellbeing levels.

Conclusion

The results showed a non-significant correlation between the frequency of online dating and self-esteem. Also, gender did not moderate the relationship between the frequency of online dating and self-esteem. Having said this it is also true that the frequency of online dating could be associated with lower mental wellbeing, independent of gender. According to the findings, it is advised that people who perceive that they have a lower mental wellbeing reduce their frequency of online dating usage. This study accomplished to target the population that uses online dating the most, thus, results can be interpreted as quite representative.

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