REJECTION IN ONLINE DATING, MENTAL WELLBEING AND SELF-COMPASSION

"Does online dating harm your mental wellbeing?" – The relationship between online dating rejection and mental wellbeing and the moderating role of self-compassion

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Abstract

Background: Rejection in online dating is a common experience for many people. Rejection was previously associated with decreased mental wellbeing. Former studies suggest that self-compassion might protect mental wellbeing from harm through online dating rejection.

Aim: The aims were to get further insight into experienced rejection in online dating, the mental wellbeing of online dating users, the potential relationship between experienced rejection in online dating and mental wellbeing, and the role of self-compassion in this.

Methods: An online survey was conducted, which was completed by 140 participants. Participants reported their demographics, online dating behavior, experiences with online dating rejection, mental wellbeing, and self-compassion. A frequency table was created to find out how often rejection is experienced. Spearman correlations were used to investigate possible associations between rejection in online dating and mental wellbeing, rejection and age, and between rejection and online dating frequency. To determine possible group differences, one-way ANOVA were conducted with gender, nationality, sexual orientation, and time of online dating use. A moderator analysis was conducted to examine whether rejection and mental wellbeing have a relationship moderated by self-compassion,

Results: The majority of the respondents experienced rejection in online dating. Gender and time of online dating use showed significant effects on rejection frequency. Online dating frequency and present online dating use, total self-compassion ($r_s = -.23$, p < .01) and negative self-compassion ($r_s = -.26$, p < .01) were associated with rejection frequency. Self-compassion was associated with mental wellbeing (total self-compassion $r_s = .35$, p < .01). Experienced rejection frequency did not show a significant association with mental wellbeing ($r_s = -.14$, p > .05) and self-compassion was no moderator of a relationship between experienced rejection and mental wellbeing.

Conclusion: Most participants experienced rejection in online dating but not often. Being male, frequent and present online dating use increased the frequency to experience rejection. Online dating users with frequent rejection experience had lower self-compassion. Mental wellbeing was associated with self-compassion but experiencing rejection was not. Self-compassion had no moderating influence. The results suggest that people with low mental wellbeing and/or frequent rejection experience would profit from self-compassion training.

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Introduction

The current study aims to examine the potential influence of rejection in online dating on mental wellbeing and whether the self-compassion level moderates that relationship. In today's society, online dating is an often-used tool to meet potential partners (Smith, 2016). According to Smith (2016), 80% of American survey respondents agree that online dating is a good way to meet people. The platform Tinder states on its website that it is highly popular, was downloaded more than 340 million times, is available in 190 countries, and in more than 40 languages (About Tinder, n.d.).

Online dating changed how people approach each other by offering the opportunity to meet and interact with strangers via the internet (Finkel et al., 2012; Rosenfeld & Thomas, 2012; & Smith, 2016). Before online dating came up, couples met mainly by introducing themselves or being introduced to each other by family or friends (Rosenfeld & Thomas, 2012). Due to online dating, it became much easier to get in contact with others who are also trying to meet new people. Online dating widens the pool to meet others that are not directly in the daily environment of searching individuals (Pronk & Denissen, 2019). As online dating increases the number of partner options, it increases the number of possible rejections as well. Romantic rejection has been shown to harm mental wellbeing (Andrighetto, Riva, & Gabbiadini, 2019). It is desirable to get a better insight into the rejection in online dating in the hope to reduce negative effects on mental wellbeing.

Online dating differs from offline dating in multiple ways. The main differences concern access, communication, and matching (Finkel et al., 2012). *Access* refers to the before-mentioned characteristic that users get in contact with the profiles of people that are normally not in their usual environment. *Communication* means how users interact with each other, e.g. over chats instead of talking in person with each other. Finally, *matching* refers to a site's use of a mathematical algorithm to select potential partners for users. In online dating, the user picks a fitting app or website, creates a profile of him- or herself and his or her expectations towards a partner within a certain geographic radius (Grabianowski, 2005).

Even though online dating has been shown to have several benefits, research showed disadvantages as well, such as an increased risk of rejection. As in real life, rejection exists in online dating as well. When people can meet potential partners easier, they get in contact with more people, which causes a higher probability to experience rejection than in offline dating (de Wiele & Campbell, 2019). Prior research has investigated the effect of the increased options that occur in online dating. Pronk and Denissen (2019) investigated the so-called

rejection mindset, i.e. the phenomenon that people reject more potential partners in an online dating situation if they are presented with more options. This behavior was more apparent in women. A likely consequence of this is that people experience more rejection in online dating than they experience in real life. De Wiele and Campbell (2019) found that most online daters reported experiencing rejection sometimes or half of the time and even consider rejection as 'common' and 'expected'. The researchers concluded that their findings show that online daters are highly familiar with online dating.

As online daters interact differently than offline daters, rejection occurs in online dating in other ways than in offline dating. The study by de Wiele and Campbell (2019) found that types of online dating rejection are ghosting, ignoring, rejecting messages, blocking, unmatching, and swiping. Ghosting was described as 'People just stop replying to messages', ignoring as 'matching with someone, sending a message and never getting a reply', and rejection message as 'stating they're not interested; Tell them it's not going to work out'. Swiping is a feature in some online dating platforms to indicate interest in the other and was described as 'left swipe (i.e. we don't match)'. Unmatching is also not possible in all platforms and was described as a way to terminate the conversation since often, only matched users can communicate, and blocking as the most restrictive way to reject as one cannot view the other's profile, contact the other or find them on the platform anymore.

Rejection can have strong negative effects on the mental wellbeing of people. Research showed that rejection triggers different negative emotional reactions. In 2006, Leary, Twenge, and Quinlivan stated that perceived rejection often causes high levels of aggression and anger and may cause refusal to help others. In 2009, an extensive metaanalysis by Blackhart, Nelson, Knowles, and Baumeister found that rejected people feel worse than accepted ones or neutral ones (people who were neither accepted nor rejected), concerning their emotions and affect. Leary (2015) states several emotional responses to rejection (real, anticipated, experienced, remembered, or imagined): hurt feelings, jealousy, loneliness, shame, guilt, social anxiety, and embarrassment, potentially accompanied by anger and sadness. Lastly, Andrighetto et al. (2019) showed in an experimental online dating condition that romantic rejection causes strong emotional reactions like reduced happiness, more anger (especially in men), hurt feelings, anxiety, and sadness. In brief, research agrees that rejection has serious consequences on mental wellbeing.

Several reasons indicate why rejection may be harmful to wellbeing. Rejection is described as "a state of low relational evaluation in which a person does not regard his or her relationship with another individual as particularly valuable or important" (Leary et al., 2006,

p.112) or as "refusal of social connection" (Blackhart et al., 2009, p. 270). People perceive rejection if they try to bond with someone but the other person refuses to (Blackhart et al., 2009) or if they believe that their relational evaluation by the other is lower than they desire, even though this is not always the case from an objective point of view (Leary et al., 2006). An especially hurtful variation seems to be if the individual perceives that their relational value has declined over time, called relational devaluation. When people feel rejected, they believe that they are less accepted and less valuable to someone else. This is something that people try to avoid and in danger of arising rejection, people tend to do their best to increase their relational value again. Rejection has been associated with frustration because people believe that they are not accepted sufficiently. Moreover, rejection was also associated as a potential risk to self-esteem. Humans have the need to belong somewhere and to have social connections (Blackhart et al., 2009). It was argued that rejection and social exclusion are a threat to our biological needs of survival and reproduction and that this is the reason why people want to feel accepted. In the past, little research on protective forces against the consequences of rejection was conducted.

A variable that might reduce the negative effect of rejection on mental wellbeing is self-compassion. Self-compassion is a concept that relates to having a positive and healthy attitude towards oneself. Its effect was described by Neff (2003) as follows: "self-compassion entails forgiving one's failings and foibles, respecting oneself as a fully human – and therefore limited and imperfect – being" (p. 87). It is constructed out of three dimensions: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus overidentification. Self-kindness is defined as "extending kindness and understanding to oneself rather than harsh judgment and self-criticism", common humanity as "seeing one's experiences as part of the larger human experience rather than seeing them as separating and isolating" and mindfulness as "holding one's painful thoughts and feelings in balanced awareness rather than overidentifying with them" (p. 89). The influence of self-compassion on dating and romantic relationships is not known well. Although self-compassion was already related to improved mental wellbeing (Poots & Cassidy, 2020; Zessin, Dickhäuser, & Garbade, 2015) and even showed to work as a shield against negative emotions following ambivalent feedback (Leary, Tate, Adams, Allen, & Hancock, 2007), it has not been studied yet in relation to (resilience to) rejection in online dating.

However, research has shown that the consequences of rejection are less severe for people with high self-compassion. Koch (2020) found that people with high self-compassion and low level of belongingness have fewer depressive symptoms than people with less self-

compassion. In an online diary study, he also found support for the notion that people with higher self-compassion are less negatively affected by daily fluctuations in perceived acceptance/rejection. Lastly, Koch (2020) showed that people react better to interpersonal rejection if they were put into a self-compassionate mindset before. These findings indicate that there is a possibility that self-compassion might reduce the negative consequences of rejection in online dating on mental wellbeing.

To summarize, previous research on rejection has shown that people are vulnerable to negative consequences of rejection on their mental wellbeing. Research showed that many online dating users experience rejection. Despite much research on negative consequences on rejection and positive effects of self-compassion on mental wellbeing, it was not yet tested whether self-compassion might influence the negative consequences of online dating rejection on mental wellbeing. The current study aims to close this research gap. It is important to find out more about rejection in online dating because it showed to have important consequences on mental wellbeing and is a prevalent part of today's society.

In this study, the frequency of rejection in online dating and the effect of experienced rejection in online dating on mental wellbeing were investigated. Since the influence of self-compassion on dating and romantic relationships is not well-known, its role in this matter is taken into consideration as well. More specifically, the users' self-compassion level is measured to find out whether self-compassion moderates the potential relationship of rejection on mental wellbeing. If self-compassion turns out to be a moderator, this might show the importance of interventions to improve self-compassion to protect the mental wellbeing of individuals who are searching for a partner online. Prior research has supported the belief that self-compassion can be increased through writing interventions (Dreisoerner, Junker, & van Dick, 2020). Moreover, interventions to increase or manipulate self-compassion have been shown to improve mental wellbeing (Zessin, Dickhäuser, & Garbade, 2015).

The first research question is "To what extent is rejection experienced in online dating?". The second research question is "Are demographics, self-compassion, and online dating behavior associated with experienced rejection frequency in online dating?". The third research question is "To what extent is experienced rejection in online dating associated with the mental wellbeing of users?". The fourth research question is "Is the relationship between experienced rejection in online dating and mental wellbeing moderated by the self-compassion level of the user?".

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Methods

Design

To investigate the research questions, an online cross-sectional survey was conducted. The questionnaire was entirely in English and was published on the website *Qualtrics*. This study was part of a larger research in which multiple studies were conducted with one combined questionnaire to facilitate data collection. The whole combined questionnaire consisted of 63 questions and *Qualtrics* predicted the response time to be 21 minutes.

Participants and Procedure

The study *Mental well-being in an era of online dating* received Ethical approval by the BMS Ethics Committee of the University of Twente, The Netherlands. The inclusion criteria of the participants were: aged above 18, having proficient English abilities to understand the questionnaire sufficiently to fill it out, being able and willing to self-reflect on constructs of mental wellbeing, as well as being willing to report their personal evaluations about constructs of mental wellbeing. The participants were recruited with availability sampling. They were informed about this study online, through personal recruiting and over *Sona*, the BMS faculty's Test Subject Pool system (utwente.nl, n.d.). This system rewards research participants with credit points that are required to pass their studies. Additionally, participants were personally asked to fill out the questionnaire.

Every participant had to sign an informed consent form digitally at the beginning of the questionnaire (see Appendix A). This form contained information about the purpose of the study, the background of the researchers including contact information of three representative researchers, and the information that the data would be treated anonymized and confidentially. After the participants declared their consent, they were directed to the questionnaire.

The questionnaire was started by 264 participants. People who never used online dating and people who missed at least one question measuring self-compassion or mental wellbeing were deleted from the dataset. Further, it became obvious that two participants reported contradicting information concerning two questions; therefore, they were also excluded from the analysis, which left 140 participants with online dating experience for analysis.

Instruments

The following groups of variables were measured: demographic data, online dating behavior, mental wellbeing, experiences with rejection in online dating, and self-compassion. Below we describe how each variable was measured.

First, the participants were asked to answer demographic questions. The first question was "What is your age?". The second question was "What is your gender?". The response options were "male', "female", "other, namely" and "prefer not to say". The third question was "What is your nationality?". Possible response options were "Dutch", "German" and "Other, namely". The last demographic question was "What is your sexual orientation?" and had the response options "heterosexual", "Gay/Lesbian", "Bi-sexual", "other, namely" and "prefer not to say".

Next, the participants were asked about their online dating behavior. The first question was "Do you use online dating or mobile dating apps?" with the response options "Yes, I use it currently", "Yes, I used it in the past" and "No, I never used it". The next question was "Which site or app do/did you use?" with the response options "Tinder", "Lovoo", "Bumble", "Badoo" and "other, namely". For this question, it was possible to choose multiple response options. The last online dating related question was "How often do you make use of online dating apps/websites? / How often have you made use of online dating apps/websites in the past?" and had the response options "Once a month", "2-3 times a month", "once a week", "2-3 times per week", "4-5 times per week" and "daily".

Mental wellbeing was measured with the Mental Health Continuum – Short Form (MHC-SF). The MHC-SF contains 14 items that measure three subscales of wellbeing with a 6-point-Likert scale (never =1 to every day=6) (Keyes, 2009). In the current study, the scale showed an internal reliability of α = .90. The subscales are emotional wellbeing (α = .86) with three items (e.g. "During the past month, how often did you feel happy?"), social wellbeing (α = .80) with five items (e.g. "During the past month, how often did you feel that you had something important to contribute to society?") and lastly, psychological wellbeing (α = .77) with six items (e.g. "During the past month, how often did you feel that you liked most parts of your personality?"). All of the internal reliabilities were considered as satisfying. To evaluate mental wellbeing, the mental wellbeing score was created by averaging the items. (ranging from 0 to 5). The same was done with the subscales of mental wellbeing with the according items.

Rejection in online dating was investigated using different questions. These questions were formulated for this study according to the results of the study by de Wiele and Campbell

(2019). At first, the participants were asked what rejection means to them in the context of online dating with the response options 'getting blocked', 'getting ignored', 'getting ghosted on (sudden quit of conversation, relationship)', 'getting a rejecting message' and 'all of the above mentioned options' and the respondents were able to choose multiple answers in this particular question. The second question was whether the participants have ever experienced rejection in any kind of the abovementioned options, with the response options 'Yes' and 'No'. The third question was "How frequently do you experience rejection through online dating?" with the response options "always", "most of the time", "about half of the time", "sometimes" and "never". Perhaps, the operationalization of this question was not optimal because it did not clearly state how rejection is defined, which led to the expectation that respondents included other types of rejection than the ones stated in the second question. To avoid that, it was decided to code every respondent who answered "no" in question 2 automatically as "never" in question 3. Hence, anyone who was rejected by another type of rejection than "getting blocked", "getting ignored", "getting ghosted on (sudden quit of conversation, relationship)", "getting a rejecting message" and "all of the above mentioned options" but still stated in question 3 to have experienced rejection was counted as "never". Following, only people who were rejected by any type of the given options were rejected from the perspective of this research. For the analysis of both research questions, rejection was treated as an ordinal variable according to the frequency of their rejection experience. The answer options were scored in ascending order, meaning "never" received the score 0 and "always" the score of 4.

Self-compassion was measured with the self-compassion scale short form (SCS-SF) (Raes, Pommier, Neff, & Van Gucht, 2011). The SCS-SF contains 12 items that measure self-compassion with six subscales; three of them are positive and three of them are negative (each measured with two items): On the positive side, there are self-kindness (e.g. "I try to be understanding and patient towards those aspects of my personality I don't like"), common humanity (e.g. "I try to see my failings as part of the human condition") and mindfulness (e.g. "When something upsets me I try to keep my emotions in balance"). On the negative side, there are self-judgment (e.g. "I'm intolerant and impatient towards those aspects of my personality I don't like"), isolation (e.g. "When I fail at something that's important to me, I tend to feel alone in my failure") and overidentification (e.g. "When I'm feeling down I tend to obsess and fixate on everything that's wrong"). The items are measured with a 5-point-Likert scale from 1 (Almost never) to 5 (Almost always).

In the past, there has been disagreement on the best way to use the SCS-SF as several voices have questioned the integration of negative self-compassion items in the scale. It was argued that negative self-compassion was another construct (self-criticism) and should therefore not be combined with positive self-compassion (López, Sanderman, Smink, Zhan, van Sonderen, Ranchor, & Schroevers, 2015; Muris, Otgaar, & Petrocchi, 2016; Muris, van den Broek, Otgaar, Oudenhoven, & Lennartz, 2018). Because of this criticism, in this analysis three scores were construed. These scores were created by averaging the relevant item scores. More specifically, a positive self-compassion score was created with the positive items, a negative self-compassion score with the negative items, and a total self-compassion score with all items. The items of the negative subscales were recoded.

Due to unfortunate circumstances, one item of the negative scale over-identification ("When I fail at something important to me I become consumed by feelings of inadequacy.") was deleted during the data collection, but the negative self-compassion scale still showed an internal reliability of $\alpha = .79$ and therefore, was not excluded from the analysis. The positive self-compassion scale showed an $\alpha = .73$ and the total self-compassion scale had an $\alpha = .79$. All of the internal reliabilities were considered as satisfying.

Data Analysis

The data analysis was conducted with IBM SPSS Statistics 25. Descriptive statistics (frequencies, means, and standard deviations) were used to explore the demographics and the variables of interest. To be able to evaluate whether the average self-compassion and mental wellbeing are considered normal, one-sample t-tests were conducted with norm data.

To examine the extent to which rejection is experienced in online dating, a frequency table was created describing the rejection frequencies.

To receive insight into the potential associations between demographics, selfcompassion, online dating behavior characteristics with rejection frequency in online dating, two-tailed Spearman correlation analyses were conducted between rejection frequency and self-compassion, age, and online dating frequency. To examine possible differences in experienced rejection frequency per gender, nationality, sexual orientation, and past or present use of online dating, one-way Analyses of Variance (ANOVA) were conducted.

To examine the extent to which experienced rejection in online dating is associated with the mental wellbeing of users, a two-tailed Spearman correlation analysis was conducted. The non-parametric Spearman correlation analysis was used because neither the general mental wellbeing nor the subscales of the MHC-SF were normally distributed according to the Kolmogorov-Smirnov-test and the Shapiro-Wilk-test. To gain closer insight, the Spearman correlation analysis was also conducted with the subscales of mental wellbeing, namely, emotional, psychological, and social wellbeing.

To examine whether the relationship between experienced rejection in online dating and mental wellbeing is moderated by the self-compassion level of the user, a multiple regression analysis was conducted with the PROCESS v3.5 by Andrew F. Hayes tool (Hayes, 2020). The moderation analysis was conducted three times with each type of self-compassion (positive, negative, total), respectively, once as a moderator variable, and with experienced rejection served as the independent variable, and mental wellbeing as the dependent variable. The moderator variable (self-compassion) and the predictor variable (experienced rejection frequency) were mean-centered before the analysis.

Results

Description of the study group

All of the participants (N=140) were (current and past) online dating users aged between 18 and 55 years with an average age of 23.4 (SD: 5.2), which is very young considering the large age range. The majority of the participants were German, heterosexual females who have used online dating in the past (see Table 1).

Table 1

]	Demographics	Frequency	%
Nationality			
	Dutch	14	10.0
	German	101	72.1
	Other	25	17.9
Gender			
	Male	59	42.1
	Female	81	57.9
Sexual			
orientation	Heterosexual	121	86.4
	Gay/Lesbian	4	2.9
	Bisexual	12	8.6
	Other	2	1.4
	Prefer not to say	1	0.7

Demographics of the study group (N=140)

Online dating behavior

The majority of the participants used online dating in the past (Table 2). The most common frequencies of use were either 2-3 times a week or daily. Tinder was by far the most popular platform.

Variable		Frequency	%
Use of online dating			
	Current users	51	36.4
	Past users	89	63.6
Frequency of use			
	Once a month	18	12.9
	2-3 times a month	17	12.1
	Once a week	22	15.7
	2-3 times a week	39	27.9
	4-5 times a week	12	8.6
	Daily	32	22.9
Used platforms _a			
	Tinder	114	81.4
	Lovoo	50	35.7
	Bumble	12	8.6
	Badoo	13	9.3
	Other, namely	15	10.7

Online dating behavior of the study group (N=140)

amultiple response options possible.

Description of the main variables

Experienced rejection in online dating.

Out of 140 participants, around three-quarters have experienced rejection in online dating by getting ignored, getting ghosted, getting blocked, getting a rejecting message, or by all of those kinds (see Table 3). This shows that rejection in online dating happens to the majority of online dating users. Nearly half of the participants reported that they experience rejection sometimes and also nearly half of the respondents agreed that ignoring, blocking, ghosting, and rejecting messages are all forms of rejection.

Variable		Frequencies	%
What does rejection in the context of			
online dating mean to you?a			
	Getting ghosted on (sudden quit of		
	conversation, relationship)	55	39.3
	Getting ignored	56	40.0
	Getting blocked	38	27.1
	Getting a rejecting message	45	32.1
	All of the above mentioned options	66	47.1
Experienced rejection in online dating	,		
(any of the beforementioned kind)			
	Yes	107	76.4
	No	33	23.6
Frequency of experienced rejection in			
online dating			
	Always	2	1.4
	Most of the time	16	11.4
	About half of the time	20	14.3
	Sometimes	69	49.3
	Never	33	23.6

Description of the variable experienced rej	<i>ejection in online dating (N=140)</i>
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amultiple response options possible.

Mental wellbeing.

The participants in this study reported no significant difference in general mental wellbeing or in the subscales psychological and social wellbeing compared to a Dutch population aged 18 to 29 (N=381) (Lamers, Westerhof, Bohlmeijer, ten Klooster & Keyes, 2010) (see Table 4). The emotional wellbeing showed a significant difference and was slightly lower in comparison.

Total, positive and negative self-compassion.

The participants in this study reported a significantly higher level of positive and total selfcompassion and a lower level of negative self-compassion compared to a sample of American students with an average age of 20.6 years (Raes et al., 2011) (see Table 4).

Variable		M (SD)	Comparison value	Pa	
Mental wellbeing	ental wellbeing				
	Psychological wellbeing	4.1 (.9)	4.2ь	.086	
	Emotional wellbeing	4.3 (1.0)	4.7ь	.000	
	Social wellbeing	3.4 (1.0)	3.3ь	.232	
	Mental wellbeing	3.9 (0.8)	4.0 _b	.124	
self-compassion					
	Positive self-compassion	3.3 (.7)	3.1c	.001	
	Negative self-compassion	2.9 (.8)	3.1c	.006	
	Total self-compassion	3.1 (.6)	3.0c	.026	

Mean and Standard deviations of the MHC-SF (score range from 1 to 6) and SCS-SF (score range from 1 to 5) (N=140) and comparisons with norm data

a scores form current sample were tested against norm scores with one-sample-t-tests. b Lamers et al., 2010. c Raes et al., 2011.

Research Question 1: *To what extent is rejection experienced in online dating?* Rejection in online dating through the types getting blocked, ignored, ghosted on, and receiving a rejecting message has been experienced by 76.4% of the respondents (see Table 3). The most experienced rejection frequency was sometimes (49.3%), which is the second-lowest frequency on the given scale.

Research Question 2: *Are demographics, self-compassion, and online dating behavior associated with experienced rejection frequency in online dating?*

Rejection frequency showed a statistically significant, positive and weak association to online dating frequency ($r_s = .21, p < .05$). Rejection frequency was not significantly associated with age ($r_s = .115, p > .05$). The ANOVA showed a significant difference between groups of gender ($F(1,138) = 11.43, p \le .001$). The mean scores (see Table 5) show that men reported statistically significant higher values on rejection frequency, indicating that men experience rejection more often than women. The ANOVA also showed a significant between-group difference for time of online dating use (F(1,138) = 8.76, p < .01). Present online dating use was statistically significantly associated with higher rejection frequency than past online dating use (see Table 5), indicating that during the data collection in April 2020 online dating users received more rejection than during previous times. The mean scores for rejection frequency per nationality and sexual orientation did not show significant differences between the groups.

Rejection frequency showed to be statistically significantly associated with total and negative self-compassion but not with positive self-compassion (see Table 6). The association with negative self-compassion was a little bit stronger than the association with total self-compassion, but both associations were weak and negative.

Table 5

Means and standard deviations on experienced rejection frequency in online dating (ranging from 0 to 4) by demographics and online dating behavior (N=140)

Variables of interest		Rejection Frequency		
	-	Ma	SD_{a}	
Nationality				
	Dutch	1.2	0.9	
	German	1.1	0.9	
	Other	1.4	1.1	
Gender				
	Male	1.5	1.1	
	Female	1.0	0.8	
Sexual orientation				
	Heterosexual	1.2	1.0	
	Homosexual	2.0	0.8	
	Bisexual	0.9	1.2	
	Other	2.5	0.7	
	Prefer not to answer	1.0		
Time of online dating use				
	Present	1.5	1.0	
	Past	1.0	0.9	

aobtained through one-way ANOVA

Correlation matrix with bivariate Spearman correlations between rejection frequency in
online dating, mental wellbeing and wellbeing subscales, and self-compassion ($N=140$)

	Rejection	Total SC	Pos SC	Neg SC	Mental	Emo.	Soc.	Psy.
	frequency				wellb.	wellb.	wellb.	wellb.
Rejection	1	23**	11	26**	14	11	09	13
frequency								
Tot. SC	23**	1	.82***	.81***	.35***	.40***	.20*	.38***
Pos. SC	11	.82***	1	.37***	.31***	.30***	.19*	.34***
Neg. SC	26**	.81***	.37***	1	.29***	.35***	.14	.34***
Mental wellb.	14	.35***	.31***	.29***	1	.83***	.88***	.89***
Emo. wellb.	11	.40***	.30***	.35***	.83***	1	.64***	.69***
Soc. wellb.	09	.20*	.19*	.14	.88***	.64***	1	.60***
Psy. wellb.	13	.38***	.34***	.34***	.89***	.69***	.60***	1

*=correlation significant at the .05 level (2-tailed), ** correlation significant at the 0.01 level (2-tailed), *** correlation significant at the .001 level (2-tailed)

Research Question 3: *To what extent is experienced rejection in online dating associated with the mental wellbeing of users?*

Experienced rejection frequency showed no statistically significant associations either with the reported general mental wellbeing or with the mental wellbeing subscales emotional, social, or psychological wellbeing (see Table 6). In Table 6, one can also see that mental wellbeing showed significant, positive, and weak to moderate associations with total, positive, and negative self-compassion.

Research Question 4: *Is the relationship between experienced rejection in online dating and mental wellbeing moderated by the self-compassion level of the user?* The results showed no significant interaction effect between the predictors *experienced rejection* and *total, positive or negative self-compassion* (see Table 7). Therefore, a moderator effect of any type of self-compassion on the relationship between rejection in online dating and mental wellbeing can be rejected, which is not surprising considering that experienced rejection showed no relationship to mental wellbeing.

Moderator analysis including model summary for the relationship between rejection in online dating and mental wellbeing by self-compassion (N=140)

Self-compassion type	Predictors	Coefficient	SE	t	р
Total self-compassion					
	Constant	3.89	.07	56.35	.000
	Experienced rejection	05	.07	68	.498
	Total self-compassion	.44	.11	4.02	.000
	Interaction (experienced rejection x				
	total self-compassion)	02	.11	19	.852
	$F(3,136) = 6.22, R = .35, R_2 = .12, p < 0.000$	< .001			
Positive self-compassion					
	Constant	3.89	.07	56.68	.00
	Experienced rejection	08	.07	-1.16	.24
	Positive self-compassion	.35	.10	3.43	.00
	Interaction (experienced rejection x	.00	.09	.01	.994
	positive self-compassion)				
	$F(3,136) = 4.87, R = .31, R_2 = .10, p =$	= .003			
Negative self-compassion					
	Constant	3.87	.07	54.84	.00
	Experienced rejection	07	.07	92	.36
	Negative self-compassion	.26	.09	3.07	.00
	Interaction (experienced rejection x	11	.08	1.34	.184
	negative self-compassion)				
	$F(3,136) = 4.38, R = .30, R_2 = .09, p =$	= .006			

Discussion

Findings

This study added to past research new insight into the potential relationship between experienced rejection in online dating and mental wellbeing of online dating users, and the role of self-compassion in this. No support was found for the expectation that rejection in online dating harms mental wellbeing and self-compassion was not a moderator.

The first research question was "*To what extent is rejection experienced in online dating?*". It was expected that rejection is experienced frequently in online dating. Indeed, the analysis showed that a three-quarter majority of online daters have experienced rejection in online dating, but the majority of respondents stated that they experience rejection only sometimes. This shows that even though most people do experience rejection in online dating during their use, they do not consider the frequency as high. This finding partially agrees with the finding of de Wiele and Campbell (2019), who found that all except one of their participants experienced rejection in online dating either 'sometimes' or 'half of the time or more' with nearly equal distributions on both categories. They also stated that these numbers show how familiar online daters are with rejection in online dating. The same study also found that respondents mentioned ghosting, ignoring, rejecting messages, and blocking as rejection methods as did this research. Further, they also declared unmatching and swiping as types of rejection, which was not adopted in this research.

The second research question was "*Are demographics, self-compassion, and online dating behavior associated with experienced rejection frequency in online dating?*". The analysis showed that men experience rejection more often than women. This is not much surprising considering the research of Pronk and Denissen (2019), who investigated the rejection mindset, which is that people tend to reject more potential partners if they are presented with more options. They found out that the rejection mindset is more prevalent in women than men. Since most participants in this study were heterosexual, it is not surprising to find men are more often rejected by women in this study. A further potential reason for the difference is that one gender could be overly represented on online dating platforms which could lead to more rejection of the overrepresented gender. Another possible explanation is that one gender simply targets more potential partners and then, the other gender has more options to reject if they are looking for monogamic relationships. This agrees with the finding that men tend to approach women more often and have been shown to act less selective than women in online dating (Hitsch, Hortaçsu, & Ariely, 2010). Hence, it is likely that women

contact fewer men. It would be interesting to investigate this closer in a study taking into account the average amount of people that each gender communicates with. The finding that people who often use online dating tend to experience rejection more often is not surprising either. People who spend more time with online dating are more likely to get in contact with more people and more people are more possible rejectors.

Another result of the present study was that present online dating users reported experiencing rejection more frequently than people who used online dating in the past. Perhaps, past online daters used online dating so long ago that they do not have a prevalent memory of how often they experienced rejection. Another reason could be that the data collection happened during the Corona pandemic and that people might not be have been as interested to get into contact with strangers compared to normal times. To test whether this hypothesis is true, one could repeat the study in the future, during a time where external conditions are considered normal.

An additional outcome of the current study is that people who experienced rejection a lot tend to have a lower total self-compassion level and a higher negative self-compassion level. This suggests that people who experience a lot of rejection need more self-compassion. It makes sense that people who were rejected (which one might see as personal failure) think more about those 'failures', the more frequently they experience rejection. However, the result disagrees with Koch (2020), according to whom self-compassion showed to decrease the negative consequences of rejection and who found support for the idea that training self-compassion helps people to deal better with rejection. Instead of helping people deal better with rejection by training their self-compassion (Koch, 2020), this study's finding suggests that it could be useful to advertise training self-compassion if one is confronted frequently with rejection.

The third research question was "*To what extent is experienced rejection in online dating associated with the mental wellbeing of users*?". It was expected that rejection does have a negative influence on mental wellbeing and its subscales. Surprisingly, the analysis did not show that rejection was associated with declined mental wellbeing nor that it influences emotional, psychological, or social wellbeing. This result partially contradicts previous research. De Wiele and Campbell (2019) found support for the notion that rejection in online dating causes less harm than in offline dating and is considered as 'common' and 'expected'. However, Andrighetto et al. (2019) simulated romantic rejection in a fictitious online dating community and found that romantic rejection caused hostility and aggression, especially in

men. Leary (2015) found that feeling as if one has a low relational value to others (as in interpersonal rejection) caused hurt feelings, jealousy, loneliness, shame, guilt, social anxiety, and embarrassment. The meta-analysis of Blackhart et al. (2009) found much support for the claim that rejection harms the mental wellbeing. According to their findings, rejected people feel worse considering emotions and affect than other people. Maybe the difference between harm in rejection online versus offline lays in the idea that it is expected and common to be rejected online. However, the difference might be due to the measurement of rejection in this study. In the present study (as in the study of de Wiele and Campbell, 2019), respondents were asked to report their experience with being rejected in online dating that they made in the past, and then their mental wellbeing was measured. There is an unknown delay between the event of rejection and the measurement of mental wellbeing. This issue will be further discussed in the section on the limitations below.

As expected, self-compassion was positively associated with mental wellbeing. These findings are in line with past research. Several studies have linked self-compassion with improved mental wellbeing (Poots & Cassidy, 2020; Zessin, Dickhäuser, & Garbade, 2015). Surprisingly, negative self-compassion (alias self-criticism) also showed a positive effect on mental wellbeing. In a future study, one could separately investigate the effect of self-criticism on mental wellbeing. Maybe the results of this study were falsified due to the one missing item measuring over-identification. Nevertheless, the study confirmed once more that positive and total self-compassion are good for mental wellbeing. This supports the idea that training self-compassion is valuable for improving mental wellbeing and that this should become a regular practice to help people with low mental wellbeing.

The fourth research question was "*Is the relationship between experienced rejection in online dating and mental wellbeing moderated by the self-compassion level of the user*?". In the past, it was not investigated whether self-compassion works as a protective shield for mental wellbeing against rejection in online dating. Due to research on rejection and mental wellbeing, self-compassion and rejection, and self-compassion and mental wellbeing and due to the research of Koch (2020) on self-compassion, rejection (not in online dating) and mental wellbeing, it was expected that self-compassion does moderate the relationship between experienced rejection in online dating and mental wellbeing. However, the analysis did not show a relationship between rejection and mental wellbeing (as described above) and self-compassion cannot moderate a non-existing relationship.

Strengths & Limitations

The present study had several strengths. First of all, all of the scales had satisfying internal reliabilities, ranging from α =.73 to α =.90. Further, the sample size of N=140 is adequate. Another strength of the present study is that the participants scored similarly to norm data on the MHC-SF and the SCS-SF. This suggests that the self-compassion and mental wellbeing of the respondents should be representative of similar samples.

The study also had a few limitations. First of all, the study was cross-sectional. Therefore, nothing can be said about the causality of any found relations or between-group differences and associations can work in two ways. Even if associations between two variables are found, no statements can be made about cause and effect. Another problem caused by the cross-sectional nature of this study is that it is impossible to speak about the changes in mental wellbeing over time in relation to rejection. In a different study one could target to investigate whether mental wellbeing heals after an online dating rejection and if it does, how much time that takes. Lastly, due to the cross-sectional nature, it is not known whether the data of the respondents is representative of other times.

Considering the timing of this study, especially in hindsight of representativeness, it is important to notice that the data collection was conducted during April 2020, the beginning of the Corona pandemic in Europe. At that time, people in many European countries such as Germany and the Netherlands (where most participants of this study originate from) were instructed to self-isolate. In such an extraordinary situation the online dating behavior of people is expected to be distorted because most people will not meet others in person and might be less inclined to get in contact with others that they may not be allowed or recommended to see for several weeks or even months. On the other side, it is imaginable that people might be more motivated to meet new people online, chat with strangers, and to increase one's social circle. Another issue that is important concerning the Corona pandemic situation is the influence on mental wellbeing. Self-isolation and a never known unique life situation seem likely to affect people's psyche. Compared to a norm group, the mental wellbeing of the participants in this study was within the normal range, but it is still a unique life situation and it might have influenced the data in other ways. Therefore, it is questionable whether the outcomes of this study are representative.

Another limitation is that the sample composition is not a good reflection of society and rather represents young adult heterosexual Germans that are most likely students, considering the young age and the recruiting through personal recruiting and over Sona, a test subject pool system used by the BMS faculty of the University of Twente. Recruiting the respondents through further channels could have broadened the sample composition.

Next, the concept of rejection was operationalized relatively narrow. The idea of rejection is that someone feels excluded, not wanted, and/or less appreciated by someone else. In this study, the following types of online dating rejection were measured: getting ignored, getting blocked, getting ghosted, and receiving a rejecting message. These were types of online dating rejection found by de Wiele and Campbell (2019) which were applicable to most online dating websites. Rejection through swiping left and unmatching were excluded because these types depend on features of the used online dating platforms. For future research, it is recommended to include more types of rejection or to use an open-question approach to measure the potential effect of rejection on mental wellbeing.

Another issue to take into account is that this study asked the respondents to report their experiences with rejection that they made in the past with online dating. It is not clear when this rejection occurred and how their mental wellbeing level was at that time. For what is known, people were rejected at least once in the past, but this study measured the wellbeing of the respondents while they participated in this research. Thus, in this study, there was an unknown delay for each participant between the rejection experience of the participants and the mental wellbeing measure. If a rejection happened a long time ago, the negative influence on mental wellbeing is likely to be less prevalent. An experimental study setting could give a clearer insight into the amount of effect of rejection on wellbeing and would be more reliable. In an experiment, one could confront the participants with rejection in online dating and one would be able to measure the mental wellbeing instantly without delay.

Conclusion

This study showed that rejection is experienced by many online dating users but not to a large extent. Being male, using online dating in the present, and using it frequently were predictors for experiencing rejection. Rejection was associated with low self-compassion and high self-criticism, but it was not associated with (declined) mental wellbeing. Self-compassion showed to have a positive effect on mental wellbeing. The results do not confirm the expectation that self-compassion might lead to less harm to mental wellbeing in case of rejection. For future research, it is recommended to conduct a study with the same variables in an experimental setting in which mental wellbeing is measured directly after the rejection experience. The results suggest that people with low mental wellbeing and/or experience rejection frequently would profit from self-compassion training.

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Appendices

Appendix A:

Consent form

Dear participant,

You are being invited to participate in a research study about "Mental wellbeing in an era of online dating". This study is being done by a group of third-year Psychology students from the University of Twente from the Faculty of Behavioural, Management, and Social Sciences at the University of Twente.

The purpose of this research is to investigate the relationship between online dating and different facets of mental wellbeing, and will take approximately 20-30 minutes to complete. The data collected in this online survey will be treated strictly confidential. As such, all analysis of the collected data occurs anonymously and only for the purpose of this study. If the data is published, measures will be taken to ensure that no data of any individual is recognizable as such.

Your participation in this study is entirely voluntary and you can withdraw at any time. There are no right or wrong answers to the questions. Try to go along with the first thoughts you have. We believe there are no known risks associated with this research study. We will minimize any risks by safely storing the data, and anonymize all of your answers. However, during the study you are asked to individually self-reflect upon different constructs of your current mental well-being level. If you have the feeling that your current level of mental well-being is at risk we kindly invite you (if you are a student of the University of Twente to contact the student psychologist (please contact the secretariat of SACC on office hours: +31 53 489 2035 or visit the desk in the Vrijhof, 3rd floor, room 311) or your study advisor) to get help by contacting self-help hotlines (https://www.nhs.uk/conditions/stress-anxiety-depression/mental-health-helplines/).

Study contact details for further information: Miriam Sanhaji, m.sanhaji@student.utwente.nl Charlie Chrie, c.s.chrie@student.utwente.nl Lea Faesing, l.m.faesing@student.utwente.nl Thank you for your participation.

In compliance with the EU General Data Protection Regulation GDPR for collection of new data active, informed consent is required.

I understand and consent that:

- 1. I am 18 years old or older.
- 2. The procedure will approximately take 20-30 minutes.
- 3. I understood the content and agreed to contribute my data for the use of this research.

4. I can withdraw from this research at any time by informing the researchers and all my data will be deleted.

- 5. My personal information will be anonymised to protect my privacy.
- 6. With my permission, I agree that all my data can be evaluated and used for the research.
- 7. I have been given the guarantee that this research project has been reviewed and

approved by the BMS Ethics Committee. For research problems or any other questions

regarding the research project, the Secretary of the Ethics Commission of the faculty

Behavioural, Management and Social Sciences at the University of Twente may

becontaced through ethicscommittee-bms@utwente.nl

In the case of questions or ambiguities, the researchers Miriam Sanhaji

REJECTION IN ONLINE DATING, MENTAL WELLBEING AND SELF-COMPASSION

(m.sanhaji@student.utwente.nl), Charlie Chrie (c.s.chrie@student.utwente.nl) , Lea Faesing (l.m.faesing@student.utwente.nl) will be available in order to help.

○ Yes, I do consent.

○ No, I do not consent.