Cancelled: Effect of Cyber-Ostracism on the Mental Condition of Instagram Users

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Abstract. This study aims to determine the effect of social media cancellation or cyber-ostracism on the mental condition of Instagram users based on the temporal need-threat model, as well as to assess the potential role of trait mindfulness in managing its negative effects. University student participants (M age = 21.248; SD = 1.21) were divided into cyber-ostracism scenario (n = 180) versus inclusion scenario (n = 179) groups and were required to complete the mood, four basic needs, and trait mindfulness scales. The results showed that cyber-ostracism had greater impact on the threat of the four basic needs compared to the mood of participants. Furthermore, trait mindfulness was found to predict lower threats to the needs of belonging, control, and meaningful existence, but not to self-esteem. The results also showed that the inclusion of trait mindfulness reduced the influence of cyber-ostracism on the fulfillment of control needs. These findings are expected to contribute to the understanding of the dynamics of cyber-ostracism and its emotional effects, as well as bridge the gap between the public phenomenon of cancel culture and ostracism literature.

Keywords: Instagram, basic needs, cyber-ostracism, mood, trait mindfulness

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Introduction

Cancel culture, also known as 'cancelled', is a phenomenon that has become increasingly prevalent on social media platforms. It refers to the act of ignoring or denying the existence of an individual who has performed an action that is considered problematic (Merriam-Webster Dictionary, 2016). The process is usually triggered by a celebrity or public figure who makes an offensive statement or engages in an inappropriate action, which elicits a negative response from the public. The backlash from the public is characterized by a movement to boycott the individual, leading to their removal from social circulation. Cancellation is not limited to a specific region or country, it is a global phenomenon that occurs across various cultures (Romano, 2020), including Indonesia (Devianti, 2022). The response from netizens takes on different forms, such as unfollowing the social media accounts and reluctance to press the 'love' and 'share' buttons. Although anyone can potentially become a target regardless of their social status, there are limited scientific studies on this phenomenon.

The initial exploration has uncovered similarities between the jargon of cancellation and a classic concept in Psychology literature known as "ostracism," which refers to social silence or being ignored in common parlance. Ostracism often occurs when an individual is overtly ignored by others, both in direct and digital interactions, as well as in various nonverbal cues (Williams, 2009). As social media becomes an increasingly dominant medium of interaction, the function of cancellation as a warning system for survival, which is embedded in the brain and is as old as humans, suddenly interacts with social media technology (Hassani et al., 2021; Korte, 2020). For ostracism targets, the absence of a response from the social environment leads to a condition where individuals cannot measure their attitudes and behaviors in the presence of others. The lack of interaction eliminates indicators or clues that can lead individuals to make future decisions (Buelow & Wirth, 2017; Güzel & Şahin, 2018). This situation is similar to walking without a map because the actions eventually taken in the future require social reactions as a

compass. Therefore, attitudes and behaviors are decided based on the decision of others.

Neuroscientific studies suggest that experiences isolating individuals from their social environment cause pain as intense as physical wounds, thirst, and hunger (Zhang et al., 2019). Even the mere thought of the consequences of personal failure can cause social pain (Hudd & Moscovitch, 2021). Williams (2009) proposed a temporal need-threat model that describes the observable response variants of individuals who attempt to understand and recover from the social wounds of ostracism. These responses can range from antisocial behaviors, such as aggression and destructiveness to prosocial behaviors, including conformity and compliance, as well as withdrawal attitudes. However, the failure of these repair efforts and the occurrence of ostracism for an extended period often cause a resignation response, leading to feelings of alienation, depression, helplessness, and uselessness (Jiang & Chen, 2019; Ren et al., 2021).

According to the temporal need-threat model, the response strategies chosen by ostracism targets occur during the reflexive phase. However, before this phase, these individuals go through a reflective stage, where the dorsal anterior cingulate cortex (dACC) of the brain spontaneously detects pain. Short periods of ostracism can also trigger negative affect (Legate et al., 2013), including threatening the fulfillment of four basic needs, namely belonging, self-esteem, control, and meaningful existence. Smith et al. (2017) found that Facebook users perceived cyber-ostracism as causing worse moods, with low positive and high negative affect, while also threatening these needs. The first focus of this current study is to investigate whether a similar pattern emerges when cyber-ostracism occurs on another social media platform, namely Instagram.

Several individual difference factors are believed to predict the response of ostracism targets response during the reflective (Williams, 2009) and reflexive phases (Hartgerink et al., 2015). Yusainy et al. (2019a) who performed a laboratory experiment in Indonesia using a popular paradigm of ostracism, Cyberball, found that differences in trait mindfulness can mitigate the negative effect causing aggressive reactions in the reflective phase. The second focus of this current study is to examine the role of trait mindfulness in the initial stage of ostracism, namely the reflexive phase. Mindfulness or "being fully present" (Silarus, 2015), which refers to the natural tendency to be attentive and fully aware of daily life experiences (Brown & Ryan, 2003), was found to have a neutralizing effect on unpleasant contextual conditions (Brown et al., 2022). Previous studies have also shown that it differs from self-focused attention, as it is not aimed at maintaining or changing any aspect of the self or the context of the condition. Therefore, when pain is detected during the reflective phase, ostracism targets with high trait mindfulness tend to face it openly without attaching an 'unpleasant' label. Based on the effects, trait mindfulness is expected to have a role in the mental condition of ostracism targets.

As of January 2022, there were over 99 million Instagram users in Indonesia, making it the 4th largest user base in the world (Statista Research Department, 2022). Among university students, this social platform is used for surveillance, followed by documentation, coolness, and creativity (Sheldon & Bryant, 2016). In Indonesia, students employ various self-presentation strategies to make positive impressions on other Instagram users (Hendraswara et al., 2020). By exploring the potential of mindfulness traits, the effect of cyber-ostracism in the context of interactions on Instagram on mental conditions can be mapped before it develops into maladaptive behavioral choices, such as antisocial and withdrawal behaviors.

This study aims to determine the effect of cyber-ostracism on the mood of Instagram users and the perceived threat to their basic needs, as well as to examine the potential of trait mindfulness in predicting the mood and basic need threat of ostracism targets. The study hypothesizes that: (i) participants with ostracism condition have different post-ostracism moods, namely positive and negative affect (Hypothesis 1a) and four basic needs threat (Hypothesis 1b) scores compared to participants in the inclusion condition, (ii) trait mindfulness has a role in predicting the mood (Hypothesis 2a) and four basic needs threat (Hypothesis 2b) of ostracism targets after experiencing cyber-ostracism.

Methods

Design and Procedure

This is a quantitative study with a randomized, controlled, between-subject experimental design (Yusainy, 2019a). This design was chosen to provide treatment in the form of cyber-ostracism scenarios on Instagram (ostracism versus inclusion conditions) to compare the effect on the mental condition (mood and threat to basic needs). Furthermore, this study was approved by the ethics committee of University B and permitted to recruit potential participants through social media in the online experiment titled "the experience of being ignored on Instagram". The participants recruited were Instagram users who were active undergraduate students, and the recruitment was carried out using the convenient sampling method was used for the recruitment process This method was chosen because exploring the dynamics of cyber-ostracism in a student population assumed to have homogeneous characteristics was important as an initial comparison (Yusainy, 2019a).

The experimental procedures involved in this study were presented via SurveyMonkey, as shown in Figure 1. The participants were required to read information about the experiment and they expressed willingness to participate, then filled out: (i) demographic data (gender, age), (ii) Instagram profile (number of accounts followed and followers of the participant, average hours of Instagram use per day in the past week, Instagram use intensity scale (Alhabash & Ma, 2017; Yusainy et al., 2017), (iii) trait mindfulness scale (Brown & Ryan, 2003), and (iv) first mood scale (Watson et al., 1988).

They were also asked to read scenarios about a condition that evoked cyber-ostracism (Smith et al., 2017) on Instagram. Furthermore, half of the participants randomly received the cyber-ostracism scenario (experimental condition), while the other half received the inclusion scenario (control condition) using the Random Assignment feature on SurveyMonkey. All the participants were then required to complete the two check items of the cyber-ostracism condition manipulation (Smith et al., 2017), the second mood scale (Watson et al., 1988), and the scale of basic needs (Williams, 2009). At the end of the experiment, they were asked to provide an optional email address for a debrief on the study hypotheses and a prize draw of IDR100,000 each for five participants.

Instrument
The cyber-ostracism scenario in this study is a modification of the scenario constructed by Smith et al. (2017) for the Facebook context. The scenario content was validated through the judgment of 2 experts with doctoral degrees in psychology and a pilot study with 5 samples. Furthermore, participants were asked to read a short story and imagine that they were the main character in the story (Instagram ID:_your_account). They were also required to pay close attention to the emotions experienced when presented with a condition that evoked ostracism or inclusion.

For the condition of ostracism, a story was given: "A while ago, you (_your_ account) started noticing that people were not commenting as much on your Instagram posts anymore. At first, you assumed that your friends were no longer using Instagram because they had disappeared from your follower list. However, then you realize one of your friends is commenting on other people's posts. Curious about this, you investigate and find three friends who have unfollowed you but are still active on Instagram. You try to post content more often with sentences that you find funny, but still no reaction from them. You also realize that your comments on other people's posts are ignored. [screenshot of an Instagram conversation]. You may feel paranoid. Therefore, you try not to miss out and realize that even though you post something daily, no one responds and or do they react to your comments on other people's posts. You try to do something about this by organizing an event and inviting all your friends, but still, none of your friends came. You tried to send a message to ask about it, and still, you didn't receive any reply."

For the inclusion condition, a story was given: "A while ago, you started to realize that you (your _account) have not been on Instagram as much as you used to and wondered what it was like now. You decided to participate more and post more often with sentences that you found funny. You find that people you are yet to communicate with said hello back. You also find that when you comment on other people's posts, you often receive replies and get 'love' for what you wrote. You remember how exciting it was to discuss things with friends online and find that the more messages you send, the more responses you get. You realize that friends you temporarily left out are willing to interact again and engage in fun discussions. [screenshot of the conversation on Instagram]."

Referring to Smith et al. (2017) study, after reading the cyber-ostracism scenario, the participants responded to two items "If I were [account name on Instagram], I would feel: (i) included, and (ii) ostracized" on a 5-point scale (1 = strongly disagree and 5 = strongly agree). The manipulation was considered successful when the scores of the participants in the ostracism condition differed significantly from those in the control condition.
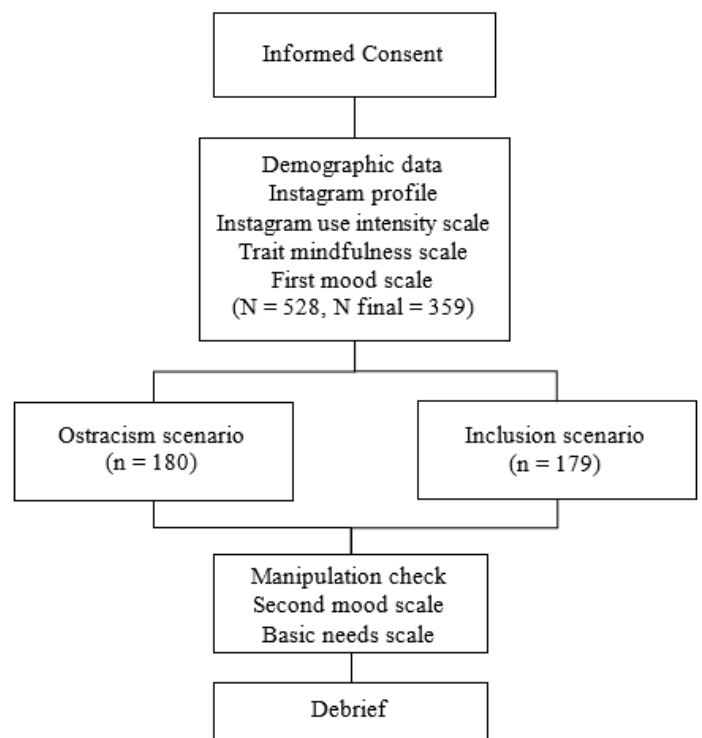

Figure 1: Flow of experimental participants

The mood scale was based on the Positive Affect Negative Affect Schedule (PANAS) two-factor structure model (Watson et al., 1988) consisting of two mood scales, namely positive and negative affect. The positive affect referred to the condition of enthusiasm, activity, and alertness (10 items, e.g., "excited"), while the negative affect referred to conditions that were subjectively perceived as depressing and unpleasant (10 items, e.g., "guilty"). Furthermore, participants rated their mood on a 5-point scale (1 = very little or not at all and 5 = extremely) twice, before and after treatment. The internal reliability of the PANAS scale in Yusainy et al.(2019b) with the Cyberball ostracism paradigm ranged from .84 to .87. In this study, Cronbach α reliability coefficients were obtained for PA1 = .87; and PA2 = .91 as well as NA1 = .90 and NA2 = .94.

The trait mindfulness scale, namely Mindfulness Attention Awareness Scale (MAAS) (Brown & Ryan, 2003) consisted of 15 items used to measure the absence of a single factor of attention and awareness of various conditions in daily life. Participants were asked to rate their experience on a 6-point Likert scale (1 = almost always and 6 = almost never). A question sample was: "When I experience certain emotions, I ignore them for some time". Furthermore, the internal reliability of the MAAS among Indonesian university students ranged from α =.76 (Yusainy et al., 2019a) to .81 (Yusainy et al., 2019b). In this study, the Cronbach Alpha coefficient obtained was .85.

The Need Threat Scale was constructed by Williams (in Gerber et al., 2017) based on the temporal need-threat model, which measured the threat to four basic needs due to ostracism, namely: belonging (5 items, example: "I feel that other Instagram users interact fully with me"), self-esteem (5 items, "I feel liked by other Instagram users"), control (5 items, "I feel important"), and meaningful existence (5 items, "I feel in control of the overall interaction on Instagram"). This study modified this scale for the context of cyber-ostracism on Instagram. Participants responded on a scale of 1 (strongly disagree) to 5 (strongly agree) on how they felt while reading the cyber-ostracism scenario. The higher the mean score of each subscale, the more the need was met and the lower the threat.

A similar modification used in the context of Facebook by Smith et al. (2017) found scale internal reliabilities of α = .95 (belonging), α = .88 (self-esteem), α = .80 (control), and α = .93 (meaningful existence) while this study obtained values of .76, .72, .63, and .80, respectively.

The intensity of Instagram use was measured with six items from Alhabash and Ma (2017) on a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree) regarding emotional attachment to Instagram (6 items, "Instagram is part of my daily life"). This scale was a modification of the Facebook Intensity Scale (Ellison et al., 2007), which had been adapted into Indonesian by Yusainy et al. (2017) to measure the intensity of selfie use among university students (Cronbach's α = .88), and this study obtained α = .87.

Data Analysis
Data analysis included: (i) checking the success of random assignment through equality of mood scores (positive affect, negative affect) of participants before being given the cyber-ostracism condition (ostracism/ experimental versus inclusion/ control) with an independent sample t-test, (ii) evaluating the success of the manipulation of the cyber-ostracism condition evoked through the cyber-ostracism scenario on Instagram with an independent sample t-test, and (iii) assessing the effect of the ostracism condition and the role of trait mindfulness on participants' mental condition (Hypothesis 1a-1b and Hypothesis 2a-2b) with hierarchical regression analysis techniques. All the data obtained were analyzed using IBM SPSS Statistics for Windows version 23 software.

Results and Discussion
The experiment was carried out over a period of seven days, and a total of 528 people accessed the experimental link. The demographic data presented in Table 1 showed that after eliminating incomplete data, the final number of participants was 359 (67.99%). The majority of the participants were female (66.85%). Furthermore, most of the participants followed more than 500 other Instagram accounts (following: 71.87%), were followed by more than 500 other accounts (followers = 76.88%), and used the platform for more than 4 hours per day (40.39%). The intensity of emotional attachment to Instagram was moderate, with female participants reporting higher attachment to the platform than males (t(357) = 2.403, p = .017).

Table 2 shows that before receiving the ostracism scenario, participants in both conditions (ostracism and inclusion) were comparable in terms of trait mindfulness, the intensity of emotional attachment to Instagram, and mood (positive affect and negative affect). This indicated that the random assignment was successful in creating two equal groups of variables that can influence the focus of the study.

Compared to the inclusion condition, participants who received the ostracism scenario reported significantly higher feelings of abandonment (M ostracism = 2.837; SD = 1.254 versus M inclusion = 1.949; SD = 1.131; t(353.028) = 6.955, p < .001) and ignored (M ostracism = 3.206; SD = 1.319 versus M inclusion = 2.039; SD = 1.200; t(356) = 8.749, p < .001). This indicated that the manipulation successfully evoked the ostracism condition in line with the

Table 1
Demographic Data of Participants

Data	Total ($N = 359$)
Age (years: M; SD)	21.248; 1.321
Gender:	
Female	240 (66.85%)
Male	119 (33.15%)
Number of Instagram accounts followed (n following)	
< 15	1 (.28%)
15 – 100	5 (1.39%)
101 – 150	9 (2.51%)
151 – 500	86 (23.95%)
> 500	258 (71.87%)
Number of Instagram accounts following (n followers)	
< 15	2 (.56%)
15 – 100	3 (.84%)
101 – 150	12 (3.34%)
151 – 500	66 (18.38%)
> 500	276 (76.88%)
Average Instagram usage per day in the last week (hours)	
< 1	27 (7.52%)
1 – 2	72 (20.06%)
2 – 3	69 (19.22%)
3 – 4	46 (12.81%)
4 – 5	61 (16.99%)
> 5	84 (23.40%)
Instagram intensity scale (range 1-5: M; SD)	3.012; 1.024
Female	3.116; .583
Male	2.842; 1.085

prediction. Differences in mean mood scores (positive affect and negative affect) and basic needs threats (belonging, self-esteem, control, and meaningful existence) between the treatment conditions (ostracism versus inclusion) are shown in Table 3.

To determine the effect of ostracism on mood and the threat of basic needs as well as to investigate the potential moderating impact of trait mindfulness, hierarchical regression analyses were conducted separately for each subscale. Demographic variables of gender and intensity of emotional attachment to Instagram were entered in STEP 1, followed by the condition of ostracism in STEP 2 (Hypotheses 1a and 1b) and trait mindfulness in STEP 3 (Hypotheses 2a and 2b). The results of the hierarchical regression are summarized in Table 4.

This study was carried out during the COVID-19 pandemic, which has created uncertainty in various aspects of life. Regarding social interactions, individuals understand that they were not solely responsible for the lack of socialization during the pandemic, but the pain of ostracism was still felt spontaneously (Hales et al., 2021). Furthermore, the effect of cyber-ostracism on Instagram users in this study was more evident in the threat to the four basic needs than in mood. According to Williams (2009), ostracism hindered the sense of belonging and ownership, as the victims were ignored, unseen, or unconsidered by others, causing a disconnection from the group or other individuals. Ostracism also posed a

threat to self-esteem, as it was associated with punishment. The ostracized victim often felt that something was wrong with their behavior but only received neglect in response. Due to the non-existent treatment, they become unable to influence the condition, leading to a reduction in their sense of control over the environment. People often convinced themselves that they are valuable and that their lives are meaningful to overcome the fear of death (Pyszczynski et al., 2015).

The significant effect of cyber-ostracism on four basic needs is in line with Firth et al. (2019; in Chan, 2022; Feher, 2019), that the human brain processed social networks formed in cyberspace to fulfill their social needs. Consequently, cyber-ostracism can affect the self-concept and self-esteem of social media users. Social failure can be measured rapidly through the absence of friends, followers, likes, love, or comments by the victims (Schneider et al., 2017).

Further studies are advised to investigate whether threats to the four basic needs of Instagram social media users caused prosocial, antisocial, or withdrawal behavior, such as disabling social media accounts. Aggression is a natural response when basic needs for control and meaningful existence are threatened, while prosocial reactions are often reported by participants who feel their needs and self-esteem are being threatened (Wesselmann et al., 2015). Although the four basic needs were simultaneously threatened by exile in this study, it did not preclude the possibility that

the ostracism targets were more focused on fulfilling certain needs over others. Furthermore, the results varied for users of other social media platforms (Jaidka, 2022).

After accounting for the effects of the virtual world, mindfulness traits were found to predict lower threats to the needs for belonging, control, and meaningful existence but not to self-esteem. This finding is inconsistent with Kong (2016), suggesting that although individuals with low self-esteem often perceived exclusion as a threat, this effect can be weakened by mindfulness. The discrepancies in findings could be attributed to the level of measurement in this study, which assessed self-esteem variables at

Table 2

Participants Equality Test before Treatment (Ostracism n = 180; Inclusion n = 179)

Scale	Mean ostracism (SD)	Mean inclusion (SD)	t-test
MAAS	4.295 (.796)	4.324 (.767)	$t(357) = -.359, p = .720$
Instagram Intensity	2.947 (1.003)	3.103 (1.043)	$t(357) = -1.445, p = .149$
PANAS PA1	2.985 (.860)	3.145 (.811)	$t(357) = -1.866, p = .063$
PANAS NA1	2.136 (.863)	2.152 (.903)	$t(357) = -.170, p = .865$

Notes. PA1 = Positive affect before treatment; NA1 = Negative affect before treatment

Table 3

Descriptive Statistics of Mood and Basic Needs Threats by Treatment Condition (Ostracism n = 180; Inclusion n = 179)

Scale/Subscale	Mean ostracism (SD)	Mean inclusion (SD)	t-test
PANAS			
PA2	2.603 (.958)	2.792 (.984)	$t(357) = -1.848, p = .065$
NA2	2.071 (1.013)	1.943 (.931)	$t(357) = 1.236, p = .217$
Need Threat Scale			
Belonging	2.948 (.757)	3.359 (.690)	$t(357) = -5.373, p < .001$
Self-esteem	2.883 (.848)	3.077 (.788)	$t(357) = -2.253, p = .025$
Control	2.808 (.739)	2.960 (.666)	$t(357) = -2.047, p = .041$
Meaningful existence	2.986 (.866)	3.405 (.732)	$t(347.960) = -4.933, p < .001$

Description: PA2 = Positive affect after treatment; NA2 = Negative affect after treatment

Table 4

Hierarchical Regression Analysis of Mood and Threat Basic Needs Based on Treatment Conditions

Scale/Subscale	Step	Predictor	ΔR^2	Total R^2	Final Beta (Unstandardized)
PANAS					
PA2	1	Gender	.057***	.057	-.307**
		Instagram intensity			.215***
	2	Condition	.007	.064	.160
	3	MAAS	.006	.070	.102
NA2	1	Gender	.040**	.040	.272**
		Instagram intensity			.041
	2	Condition	.006	.046	-.120
	3	MAAS	.139***	.185	-.485***
Need Threat Scale					
Belonging	1	Gender	.008	.008	.015
		Instagram intensity			.092*
	2	Condition	.072***	.080	.390***
	3	MAAS	.042***	.122	.206***
Self-esteem	1	Gender	.024*	.024	-.270**
		Instagram intensity			.063
	2	Condition	.013*	.038	.182*
	3	MAAS	.009	.046	.103
Control	1	Gender	.019*	.019	-.208**
		Instagram intensity			.054
	2	Condition	.011*	.030	.141
	3	MAAS	.016*	.046	.121*
Meaningful existence	1	Gender	.001	.001	-.035
		Instagram intensity			.008
	2	Condition	.065***	.066	.411***
	3	MAAS	.031**	.097	.195**

Description: Conditions: 1 = ostracism; 2 = inclusion. Gender: 1 = male; 2 = female. *p < .05, **p < .01, ***p < .001

the trait level, rather than the state level, due to the manipulation of exclusion conditions. Another explanation is rooted in the mindfulness concept, which emphasized the mental gap between awareness and self as an object of awareness, reflecting aspects of self (reflexive awareness), including self-esteem (Brown et al., 2022). From this perspective, it can be argued that an individual's degree of mindfulness was not necessarily related to the fulfillment or non-fulfillment of the need to feel valued by oneself or others.

The inclusion of mindfulness revealed that ostracism condition no longer threatened the fulfillment of the need to control the interactions and behavior of others. High levels of awareness posed a low threat to the need for control, regardless of whether the participants were ostracism targets. Brown and Ryan (2003) stated that mindful individuals realized that life was always changing and were not fixated on past thoughts to understand the current condition. By consciously choosing an appropriate response to the situation, individuals can gain a sense of control over reality, even in the context of social interactions. Fulfilling the need for control was associated with positive outcomes, such as enhanced immune system, cardiovascular function, physical strength, and life satisfaction, as well as decreased symptoms of anxiety and depression (Pagnini et al., 2016).

The insignificant effect of cyber-ostracism on the mood of Instagram users is inconsistent with the findings of Smith et al. (2017) using Facebook users. This difference could be attributed to the type of social media users utilized for the studies. Individuals often expected a positive response to their activities on social media due to feelings of insecurity. However, on platforms, such as Facebook, this expectation required a two-way connection

Compared to Facebook, a connection can be one-way on Instagram since the users being followed do not necessarily have to follow back (Ouwerkerk & Johnson, 2016). This indicated that the experience of exclusion on Instagram does not affect the mood of its users.

Another possible explanation for the insignificant effect was the ceiling effect regarding the participant's mood. According to a study conducted with national data in the United States, there was a 10% increase in individual psychological distress two years before the prevalence of COVID-19 compared to during the pandemic (McGinty et al., 2020). This suggested that participants could already be in a mood condition that was not optimal before receiving the ostracism treatment, rendering the situation ineffective. The third possibility was that some studies considered the relationship between effect and ostracism to be conclusive. For example, the numbness hypothesis posited that targets who were ignored felt emotionally "blunt." This indicated that emotions were not needed to produce behavioral effects (Baumeister & Robson, 2021). Further analysis is required to investigate these three possibilities, considering that managing mood, especially negative affect, was an effective strategy for controlling the effects of exclusion (Chester & DeWall, 2016). Instagram users with higher mindfulness traits reported lower negative affect but not positive affect, regardless of their state of exclusion. This finding is in line with the Cyberball experiment by Yusainy et al. (2019b), which concluded that mindfulness could be beneficial in changing negative affect after exclusion.

The main limitation of this study arises from the manipulation of the experiment, which involved asking participants to imagine themselves as the main character in a short story about cyber-ostracism. Although the modified scenario manipulation used by Smith et al. (2017) succeeded in evoking feelings of abandonment and ignored participants in conditions of exclusion, other measurement methods (Hatun & Demirci, 2020) and paradigms, such as Ostracism Online developed by Wolf et al. (2015, in Wang et al., 2022), can provide an alternative. This Ostracism Online paradigm has the potential to present an interaction condition similar to the established Cyberball paradigm. The participants were required to create a social media profile in real-time and then received like manipulation based on their profile and gave likes to other social media users. It is important to note that mindfulness in this study is limited to the trait level. Therefore, further experiments are needed to induce a state of mindfulness to summarize its benefits more comprehensively.

Conclusion

Continuing interaction through social media without physical presence can lead to problems, including cyber-ostracism threats. This study has shown that exclusion on Instagram threatened four basic needs, namely belonging, self-esteem, control, and meaningful existence, although it does not affect mood. However, regardless of virtual world experience, mindfulness traits predicted lower threats to these needs, as well as lower negative affect. For social media users and practical stakeholders, it is important to develop various trainings and interventions to increase these traits to minimize the effect of exclusion on the mental condition of social media users.

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