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Effect of need for approval on Instagram posting on mental health via body-image

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Abstract. *Objective:* Influence of social media use on desire for thinness and body image has garnered attention; however, no study has examined the relationship between need for approval and distortions in body image. Therefore, this study aimed to examine the relationship between the need for approval on Instagram posting, body image, and mental health. *Methods:* A Need for Approval Scale on Instagram Posting was developed. Subsequently, the questionnaire was administered to 154 female university students who had used Instagram. *Results:* Higher praise seeking on Instagram posts enhanced body image distortion and decreased mental health. When individuals wanted to present themselves as attractive on Instagram, they paid more attention to their dissatisfaction with their appearance. Additionally, owing to its characteristics, those with a high desire to avoid rejection might not use social networking service, such as Instagram. *Conclusion and Implication:* This study suggests the necessity of examining how the need for approval on Instagram affects body image and reduces mental health. Furthermore, how internalization of a thin ideal may lead to higher desires for thinness and body image distortion should also be investigated.

Keywords: Instagram, Body-image, Mental Health, Need for Approval.

Introduction

Eating disorders, disorders related to the inability to eat normally owing to abnormal desires for thinness or fear of obesity, result in physical and social problems. Various factors, such as biological vulnerability, personality traits, stressful environments, and family relationships, interact with social factors to cause their onset (Wiseman et al., 2000). The Diagnostic and Statistical Manual, Fifth Revision classifies eating disorders into anorexia nervosa and bulimia nervosa, with the reported 12-month prevalence rates being 0.4% and 1–1.5%, respectively, among young women (American Psychiatric Association, 201). Anorexia nervosa has a mortality rate of over 10%, which is higher than that of other mental disorders. Thus, early detection and intervention are crucial (Yokose, 2021). The age of onset often ranges from adolescence to young adulthood, with over 90% of cases occurring in female individuals. However, it is not a problem specific to adolescents, with increasing difficulty in treatment leading to chronicity and rising incidence among elementary school-aged children (Miyamoto, 2009; Takei, 2004).

Both anorexia and bulimia nervosa have been increasing in Japan since 2000, partly due to the desire for thinness among women who are already thin (Nakai, 2006). Baba and Sugawara (2000) defined the desire for thinness as “the desire to decrease one’s own body weight or slim down one’s body shape, motivating various thinning behaviors such as dietary restrictions, medication, exercise, and esthetic treatments.” Cases of anorexia nervosa date back to the 19th century; however, desire for thinness, now considered a central concept in eating disorders, has not been documented in these reports, which suggests that it is a fluid concept influenced by society and time (Nishizono, 2022). Furthermore, body image issues underlie one’s desire for thinness.

Shafran and Fairburn (2002) classified body image issues into two categories. One, the discrepancy between the objectively perceived and one’s own body type, which lead to overestimating one’s own body size. Uotani et al. (2020) demonstrated that women aged 20–40 years overestimated their body size compared with their actual body mass index (BMI). Furthermore, the distortion of body image tended to be greater among those with a lower BMI. Another issue was the bias toward thinness in the ideal body image compared with one’s own body image. Barnett et al. (2001) revealed that many women set their ideal body shape toward thinness, regardless of their actual body shape. Grabe et al.’s meta-analysis (2008) revealed that exposure to media images affected women’s body image concerns.

Desire for thinness and distortions in body image were also influenced by the contemporary trends of praising thinness. Sypeck et al. (2004) reported changes in the body types of models in American fashion magazines since the 1980s. The focus shifted toward slimmer models and increased body exposure, which lead to an increase in revealing clothing. Moreover, the introduction of mass media in developing countries, such as

Fiji and Malaysia, was associated with a significant increase in the number of patients with eating disorders (Becker et al., 2002; Swami, 2006). Such media influence was considered a factor that worsened the distortion of body image (Hogan & Strasburger, 2008). In response, Western countries have taken various measures, such as banning underweight models from fashion shows and conducting physical examinations for models under 25 years, with mandatory referrals to eating disorder associations or psychiatrists, if necessary (Nagata, 2019). In Japan, although the Japan Society for Eating Disorders established a “Too Thin Model Regulation Working Group” in 2016, specific measures have not been implemented. Furthermore, the awareness among media personnel and healthcare professionals is not particularly high (Yamada, 2019). Uragami et al. (2013) examined the social factors that influenced desire for thinness and highlighted the desire for approval from others as a factor, which revealed that desire for thinness arose from a desire to obtain praise from others. Similarly, Suzuki (2012) revealed that rejection avoidance (RA) regarding body shape influenced desire for thinness.

Influence of social media use on desire for thinness and body image, concerning the culture of praising thinness and desire for approval from others, has garnered attention. Cohen et al. (2017) demonstrated that using appearance-focused social networking service (SNS) was associated with thin-ideal internalization and body concerns. Additionally, posting self-portraits on platforms, such as Instagram, worsened mood and body image, even if one could retake and retouch their selfies (Mills et al., 2018). Among SNS platforms, those that allowed posting and viewing photos or seeking negative feedback, such as Instagram, were identified as more problematic (Holland & Tiggemann, 2016). Instagram requires one to attach images or videos when posting, and allows others’ posts to be viewed easily (Amagasa, 2015). According to a survey on the use of information communication media by the Japanese government (Ministry of internal affairs and communications, 2022), Instagram’s usage rate is particularly high among teenagers (69.0%), followed by those in their 20s (68.1%). This makes it the second most used SNS after LINE, with differences in usage rates by gender and age, although with high overall usage. While it allows easy access to information, viewing photos of celebrities and peers on Instagram has been associated with negative mood and body dissatisfaction (Brown & Tiggemann, 2016). Instagram has a “like” function for approval. Kanoh (2019) revealed that those with high approval needs often used SNSs with approval functions. Moreover, research on individuals aged 18–29 years demonstrated the moderating role of self-worth contingent on approval from others between the intensity of Instagram use and social comparison on Instagram (Stapleton et al., 2017). Another cross-sectional survey found that social comparison, social approval, and photo editing on Instagram predict image fixation, which refers to an obsessive focus on how one is perceived by others (Wagner, Wolkins & Herman, 2021). The use of

social media platforms, such as Instagram, is closely associated with concerns about how individuals are evaluated by others.

Hence, Instagram use in adolescents is closely related to self-assessment and may influence desire for thinness and body image through comparisons with others and seeking their approval. Studies have examined the association between distortions in body image and viewing posts by models or celebrities on Instagram, as well as posting one's own face photos (Cohen et al., 2017; Mills et al., 2018). However, no study has examined the relationship between desire for approval, the desire to be seen by others when posting photos on Instagram, and distortions in body image. This study aimed to investigate the effects of the desire for approval and avoidance of rejection observed in Instagram posting behaviors on distortions in body image and their impact on mental health via a covariance structure analysis.

Methods

All the study procedures were conducted in accordance with the Declaration of Helsinki (1975) and its future amendments (2013). In conducting the survey, it was explained both orally and in writing that participation was voluntary, that it would not affect any individual evaluations, that the data would be processed statistically, and personal information would remain confidential, and that the survey was anonymous. The survey was conducted only with those who gave their consent.

Participants and Procedures

Female Japanese university students were invited to participate in the survey conducted between April–June 2022. Responses to the questionnaire were obtained anonymously via the web-based questionnaire system “Questant.” They were explained that participation was voluntary, and there would be no disadvantage if they refused to respond or discontinued. This study included 154 participants (mean age 19.32 years, SD = 1.26 years).

Measurements

Need for Approval Scale on Instagram posting (NAS-I)

Items were obtained via semi-structured interviews and previous research. Interviews were conducted with seven university students (one male, six female), and participants were asked what they were concerned of when they posted on Instagram. A graduate student in psychology (RK) and a psychologist with a Ph.D. (KA) created 20 items based on the answers. We also added 15 items with reference to existing scales on need for approval (Kojima et al., 2003). Finally, 35 items were obtained for the NAS-I, as shown in Table 1. The question and instructions were, “When you engage in information dissemination on Instagram (such as posting photos or using the story function), how much do the following apply to you? Please choose the number which best describes you on the scale below.”

Responses were rated on a 5-point Likert scale ranging from 1 (disagree) to 5 (agree).

Table 1. Items of Need for Approval Scale on Instagram Posting.

No.	Item
1	I want to express my uniqueness and personal preferences through my posts.
2	Instagram is a platform where I can showcase my attractiveness.
3	I post what I like without worrying about trends or “Instagrammability.”
4	I do not care about who sees my posts.
5	The number of likes or viewers does not bother me.
6	I actively post to showcase my abilities and gain trust.
7	Through Instagram, I want to impress people I have never met before with my charm.
8	When posting, I am eager for others to recognize my strengths.
9	Posting is an opportunity for others to get to know me.
10	I prefer having more followers on Instagram.
11	I sometimes aspire to become a famous and loved figure through Instagram.
12	I strive to avoid making posts that others might ridicule.
13	I believe Instagram helps maintain friendships.
14	I am more concerned about how others perceive my posts than what I want to post.
15	I want to portray my trendy side through my posts.
16	I always pay attention to the number of likes and views when posting.
17	I constantly strive for an “Instagrammable” appearance in my posts.
18	It is embarrassing for others to see my face, body, or parts of my life in my posts.
19	I construct an ideal version of myself on Instagram.
20	Even amidst many posts, I think about how to make mine stand out.
21	I worry about receiving negative feedback on my posts.
22	I am concerned about how others might perceive me when I post.
23	I get flustered if my posts receive even a little criticism.

- 24 I want to effectively utilize posting as an opportunity to be noticed by others.
- 25 If others react negatively to my posts, I rush to appease them.
I worry about feeling isolated if everyone around me is getting attention on
- 26 Instagram.
- 27 I want to showcase my presence through my posts.
- 28 I want my posts to be seen not only by close friends but also by a large audience.
- 29 I feel satisfied when my posts receive many likes.
- 30 Instagram helps fulfill desires that are not satisfied in daily life.
- 31 I believe Instagram posts reflect the quality of life.
- 32 If my posts receive little attention, I want others to show interest in me.
- 33 I try to avoid making posts that might provoke hostility from others.
- 34 I am careful not to provoke negative reactions when commenting.
- 35 I try to avoid posts that might strain my relationships with others.

Body Shape Questionnaire Japanese Version (BSQ-J; Kobayashi et al., 2001)

The original version of the BSQ was developed to evaluate concerns regarding body shape (Cooper et al., 1987). The BSQ-J comprised 34 items with responses rated on a 6-point Likert scale ranging from 1 (never) to 6 (always). Higher total scores indicated stronger concerns regarding body shape and related thoughts.

6-item Kessler Psychological Distress Scale (K6; Furukawa et al., 2008)

The K6 was originally developed to screen for psychiatric disorders, such as depression and anxiety (Kessler et al., 2002). It comprised six items rated on a 5-point Likert scale that ranged from 0 (not at all) to 4 (always). Higher total scores indicated more severe mental health problems.

Results

To examine the factor structure of the NAS-I, an exploratory factor analysis (EFA; maximum likelihood method), with Promax rotation, was conducted. Based on the decay of eigenvalues, a 2-factor structure was revealed. Of the items, six were excluded owing to lower factor loadings (>.40). Table 2 presents the factor loadings of the NAS-I. The first factor with 18 items was named as Praise Seeking (PS), which reflected one's desire to be praised by others. The second factor with 11 items was named

as RA, which reflected one's desire to avoid negative evaluation by others. Their internal consistencies were $\alpha = 0.93$ and 0.88 , respectively.

Table 2. Factor Loadings on Need for Approval Scale on Instagram Posting.

Item	Factor 1	Factor 2	Communality
28	.845	-.186	.582
24	.824	-.065	.627
6	.795	-.133	.537
27	.780	-.058	.564
7	.767	-.120	.506
8	.694	.110	.574
11	.684	-.063	.427
32	.674	.107	.542
9	.662	.059	.482
20	.639	.056	.449
2	.633	-.184	.312
10	.585	-.046	.315
1	.563	.054	.351
29	.520	.182	.403
30	.518	.073	.314
19	.505	.202	.404
16	.477	.227	.393
15	.419	.297	.395
33	-.208	.851	.580
22	.055	.742	.597
12	.041	.690	.507
14	.101	.662	.519
21	.171	.646	.564

35	-.172	.621	.303
23	.079	.608	.426
25	.101	.606	.442
34	-.121	.593	.291
3	.053	-.485	.211
4	.045	-.478	.208
Cumulative contribution			
ratio (%)	32.02	56.83	

Table 3 presents the descriptive statistics, α of all the variables, and correlations. PS was significantly correlated with RA ($r=.52, p < .01$) and the BSQ-J ($r=.28, p < .01$). Furthermore, the BSQ-J was correlated with the K6 ($r=.43, p < .01$).

Table 3. Correlations Between the Variables.

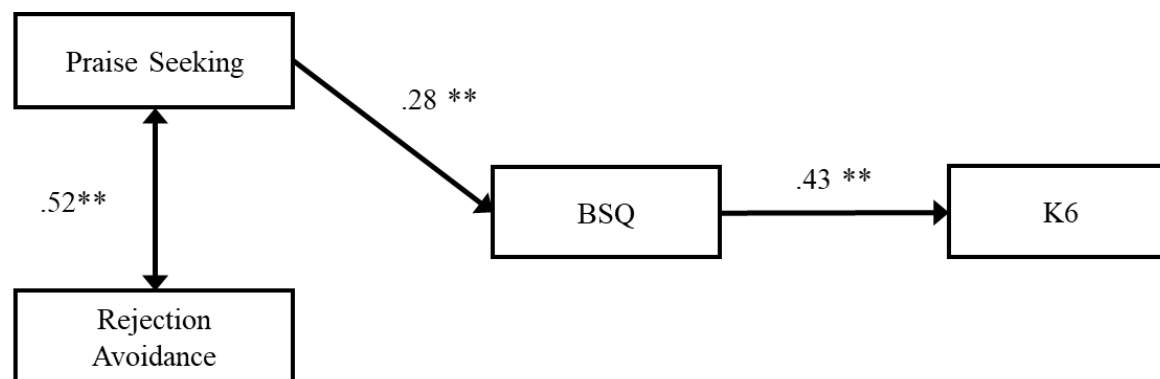
					Correlation			
					①	②	③	④
①	Praise Seeking	40.39	15.29	18–79	-			
②	Rejection Avoidance	41.83	8.88	21–57	.52**	-		
③	BSQ	107.85	35.45	42–195	.28**	.15	-	
④	K6	13.96	5.73	0–24	.14	.09	.43**	-

Note: ** $p < .01$, * $p < .05$

To investigate the mediating effect of body image (BSQ-J) on the relationship between need for approval of Instagram posts (NAS-I) and mental health (K6), a path analysis was conducted via maximum likelihood estimation. In the hypothetical model, we assumed there would be a correlation between PS and RA and direct effects from PS and RA to K6. Additionally, we assumed that indirect effects would be mediated by body image from PS and RA to K6. Subsequently, we removed the non-significant paths and reanalyzed the model. Results indicated adequate goodness of fit indicators ($\chi^2 = .112, df = 3, GFI = 1.00, AGFI = .99, CFI = 1.00, AIC = 14.11, RMSEA = .00$; Figure 1). Parameter estimates revealed

that PS had a positive effect on the BSQ-J score ($\beta = .28, p < .01$). Furthermore, body image had a positive effect on the K6 score ($\beta = .43, p < .01$). However, RA did not significantly affect body image.

Figure 1. The result of path analysis



Discussion

This study examined the mediating effect of the need for approval of Instagram posting on the relationship between body image and mental health among university students. The EFA indicated that the need for approval on Instagram posting comprised PS and RA, which was consistent with a structure observed in previous research (Kojima et al., 2003). Although no studies explored the need for approval in Instagram posting behavior, this study revealed that the need for approval could emerge in Instagram posting, as shown within the usual interpersonal relationships or SNS, such as X (formerly Twitter) (Murata et al., 2022). How to be perceived is an important concern in eating disorders, with social anxiety being the most frequent comorbidity (Kaye et al., 2004). Understanding these concerns from praise-seeking and rejection-avoidance perspectives is beneficial, as patients with eating disorders also have difficulty disengaging their attention away from rejecting faces and tend to sustain their attention on accepting faces (Cardi et al., 2013). Instagram posts have two aspects: the desire for praise and avoidance of rejection. These might form the basis for the diverse behaviors observed in individuals with eating disorders.

Subsequently, we used the NAS-I developed in this study and examined the hypothesis that PS and avoidance of rejection would predict mental health via the mediation of body image. Path analysis indicated that PS in Instagram posting behavior increased body image concerns and decreased mental health. However, RA did not influence body image concerns. This finding aligned with those of previous research that suggested a relationship between the need for approval and desire for thinness (Uragami et al., 2013).

Additionally, Mills et al. (2018) demonstrated that women who had the opportunity to edit their selfies before posting experienced a decline in

mood and increased anxiety, similar to those who could not edit. The NAS-I included items on how individuals wanted to present themselves in photos or videos, which could lead to increased attention to their dissatisfaction with their appearance and ultimately result in increased anxiety and depression. Although studies demonstrated a relationship between RA and negative evaluations of one's body shape (Suzuki, 2014), RA on Instagram posts showed no significant path to body image concerns. This could be related to the fact that the NAS-I did not contain any items that referred to body shape. Furthermore, those with higher RA may not use SNSs, such as Instagram, as they will not face any rejection if they do not post.

Furthermore, this study found no relationship between RA on Instagram posting and body image, considering Instagram's propensity to elicit feelings of being "accepted" by others through various features, such as likes and followers (Masaki, 2020). Future research on the need for approval on Instagram should further focus on PS than RA. Related to PS in eating disorders, Uragami et al. (2013) suggested that factors that influenced desire for thinness could be more strongly related to the internalization of thinness ideals. Therefore, future studies should examine the potential interaction between PS on Instagram posts and internalization of thin ideals and how this may enhance the desire for thinness and body image concerns.

Our findings are beneficial for discussing the relationships between Instagram posts, body image, and mental health. However, this study has some limitations. First, the NAS-I only underwent an EFA and internal consistency evaluation. Therefore, confirmatory factor analysis (CFA) should be performed in future studies to verify the factor structure. Additionally, its reliability and validity should be verified before further investigation. Second, as our participants were limited to female university students in Japan, the results should be verified with a larger sample, such as adolescent girls in junior high and high school, young women outside university, and men with varied cultural or national backgrounds. Third, our study used a cross-sectional design; therefore, longitudinal surveys should clarify causal relationships via longitudinal or experimental designs.

Implications

This study suggests that PS on Instagram posts influences body image and worsens mental health. Furthermore, the internalization of thin ideals leads to a stronger desire for thinness and body image distortion. When considering the impact of SNS usage on individuals with eating disorders or subclinical groups, the presence of PS desire should be considered to optimize psychosocial support.

Informed Consent

All procedures followed were in accordance with Helsinki Declaration of 1975, as revised in 2000 (5). In conducting the survey, it was explained both orally and in writing that participation was voluntary, that it would not affect any individual evaluations, that the data would be processed statistically and personal information would remain confidential, and that the survey was anonymous. The survey was conducted only with those who gave their consent.

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Conflict of Interest

The authors declare no conflict of interest.

Author Contribution Statements

RK & KA conceptualized and managed the data collection. RK conducted data analysis and wrote the first draft of this paper. KA revised the manuscript for the final submission.

Ethics Approval

This study was conducted as an anonymous and non-invasive survey. In accordance with the internal regulations of the Department of Psychological Counseling at Mejiro University, it was exempt from review by the Research Ethics Committee.

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