The Roles of Self-Compassion and Self-Esteem in the Relationship between the Usage of Dating Apps and Body Satisfaction

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Abstract. This study examines the influence of dating app usage on body satisfaction and self-esteem and explores whether self-compassion can moderate the effect of dating app use on body satisfaction and self-esteem. The study collected 133 samples of Chinese young adult dating app users in Hong Kong (mean age = 21.7; 50 males and 83 females). The short form of the Self-compassion scale (SCS-SF), the Rosenberg self-esteem scale (RSE), the Adolescent Body Image Satisfaction Scale (ABISS) and the time of using online dating apps were employed in this study. The results showed that the frequency of using dating apps is not related to self-esteem (t=-1.31, p=.19), while self-compassion is significantly related to it (t=6.90, p<.001). The interaction between the usage of dating apps and self-compassion also does not have a significant effect on self-esteem (t=1.51, p=.13). Meanwhile, the usage of dating apps, self-esteem and self-compassion are all significantly related to body dissatisfaction (t=2.26, p=.03; t=-2.57, p=.01; t=-5.03, p<.001). Using dating apps is positively associated with body dissatisfaction, while self-esteem and self-compassion are negatively related to body dissatisfaction. However, the interaction between the usage of dating apps and self-compassion does not significantly affect body dissatisfaction (t=-1.10, p=.27). An additional test was conducted to examine whether self-esteem can be a buffer to the negative effects of using dating apps on body dissatisfaction. The results showed that the interaction between the usage of online dating apps and self-esteem has a significant effect on body dissatisfaction (t=-2.33, p=.02). The usage of online dating apps enhances the

body dissatisfaction of participants with low levels of self-esteem (t=2.47, p=.02) while it does not affect the dissatisfaction of participants with high and moderate levels of self-esteem (t=-0.26, p=.79; t=0.74, p=.46). These results suggest that self-esteem intervention can be delivered to frequent users of online dating apps to mitigate the negative effects of using online dating apps on their body dissatisfaction.

Keywords: Dating App Usage, Self-Compassion, Body Satisfaction, Self-Esteem, Young Adult**.**

1   Introduction

With the rapid development of technology, the Internet is more attainable to people than before. Youths have become more active in using dating apps to look for friends, sexual partners, or romantic partners than other age groups across the globe, which may develop different dating patterns and behaviours among users. Various overseas studies have reported an increasing number of youths, regardless of gender and sexual orientation, using dating apps actively. For example, according to a study in the United States, 39.5% of heterosexual undergraduates reported using the dating app (Sawyer et al., 2018). A Hong Kong study also found a high percentage of dating app users among College Students in 2015 (Choi et al., 2016).

Compared with other traditional online dating platforms such as websites or chat rooms, dating apps with global positional systems (GPS) help people to meet friends, sexual partners, or romantic partners more conveniently and accessible. However, the immediate and image-focused function of dating apps fosters users to evaluate other users based on the impression of the brief self-introduction and physical appearance. In addition, receiving real-time user feedback through likes, matches, or other interactive functions may enhance an individual's pressure on appearance (Portingale et al., 2022). Therefore, high intensity dating app usage may bring a range of potential risks to

individual well-being (Arzeen & Arzeen, 2021; Neff & Faso, 2015).

Sociocultural perspectives explain that an individual's body image is affected by their surroundings as well as social and cultural factors. The body ideas are propagated through different socialising agents, including peers, partners, parents, and the media (Tylka, 2011). Internalising the concept of cultural standards of body image may lead to pressure to achieve the standard. The visually oriented functions of dating apps transmit the concept of ideal body image, which may increase users' stress in pursuing the media's standard. Current studies also support that excessive usage of social apps may negatively affect users' body satisfaction and self-esteem (Chen et al., 2019; Tran et al., 2019). The present study aims to examine the influence of dating app usage on body satisfaction and self-esteem and explores whether self-compassion can moderate the effect of dating app use on body satisfaction and self-esteem.

1.1   Dating app usage and body satisfaction

The relationship between dating app usage and body satisfaction was confirmed by overseas research. Body satisfaction is a subjective view of the body which is a multidimensional concept that includes cognitive, emotional, and behaviour toward oneself physical body image, such as the size, shape, and aesthetics of the body (Cash et al., 1997). Body satisfaction may be influenced by external factors, such as social relationships and culture (Thompson & Hirschman, 1995). Current studies suggest that dating app usage is associated with dissatisfaction with body image regardless of gender and sexual orientation (Tran et al., 2019). Since the continual availability and evaluative functions among dating apps foster users to evaluate each other based on the impression of the brief self-introduction and physical appearance, it becomes a mechanism of socialization that transmit social pressure and the message about appearances (Portingale et al., 2022). As a result, internalizing the concept of ideal body image causes dating app users' dissatisfaction with their bodies. According to previous research, dating app users reported significantly greater body dissatisfaction, body shame, frequent physical appearance comparison, body surveillance, and

internalization of social norms about appearance than nonusers (Holland & Tiggemann, 2016; Strübel & Petrie, 2017). Research not only demonstrated the negative effects of dating apps on overall body image dissatisfaction but also on greater levels of unhealthy weight control behaviors (Fong et al., 2021). The above studies show that dating app usage is negatively related to body image.

Dating app usage also has an indirect effect on body satisfaction via self-esteem. Several studies indicated that dating apps are negatively related to self-esteem (Breslow et al., 2019; Chen et al., 2019). Since dating app usage is positively related to online objectification and internalisation, appearance comparison may be higher among dating app users, which may lead to a decrease in self-esteem (Breslow et al., 2019). Online dating app users are easily rejected in approaching strangers online which affects their self-esteem (Bryant & Sheldon, 2017). Previous research shows that there is a relationship between self-esteem and body satisfaction (Fortes et al., 2014; van den Berg et al., 2010). People with higher self-esteem tend to evaluate their body image positively and reduce body dissatisfaction (van den Berg et al., 2010; Wasylkiw et al., 2012). However, lower self-esteem can predict body dissatisfaction and negative consequences of body concern (Paxton et al., 2006). Another study also supports that self-esteem is a mediator between internalization of the thinness ideal and body dissatisfaction (Flament et al., 2011). Therefore, it is anticipated that individuals with higher usage of dating apps have lower levels of self-esteem, which then lead to lower levels of body satisfaction.

1.2 The role of self-compassion

Self-compassion refers to the extended compassion and understanding of oneself when experiencing difficulties, such as situations of perceived inadequacy, failure, or distress (Neff, 2003). The relationship between self-compassion and well-being has been confirmed by previous studies (Abbasi & Zubair, 2015; Neff & Faso, 2015) Self-compassion helps people to create a positive mindset and recollect positive memories

rather than view mistakes and failures with harsh and negative emotional thoughts, which could reduce the effects of adverse experiences and will influence the development of well-being (Zessin et al., 2015). Therefore, a higher level of self-compassion may result in increased psychological well-being (Neff & Faso, 2015). Various studies support that self-compassion is positively associated with happiness, positive feelings, and affect, and a negative relationship with negative affectivity (Abbasi & Zubair, 2015; Neff et al., 2007). Therefore, a person with higher levels of self-compassion tends to have higher levels of happiness, greater life satisfaction, lower negative affect, and fewer symptoms of psychological distress (Homan, 2016).

Several research suggested that self-compassion is positively associated with body satisfaction (Abbasi & Zubair, 2015; Stauber & Stutts, 2021; Wasylkiw et al., 2012). An individual who holds a compassionate view and a positive attitude on evaluation of their appearance, would have a positive outcome (Wasylkiw et al., 2012). Self-compassion helps people to treat themselves with greater kindness, care, and compassion while facing criticism from the external view of the individual body image. Therefore, it helps an individual receive favourable attitudes towards their body and reject unrealistic ideals of body image promoted by the media (Abbasi & Zubair, 2015). As a result, self-compassion can reduce the internalization of the ideal body image fostered by dating apps. However, previous studies have yet to examine how self-compassion moderates the effect of dating app usage on body satisfaction.

There is also a relationship between self-compassion and self-esteem. Studies showed that people with a high level of self-compassion would experience a high level of self-esteem (Souza & Hutz, 2016). Self-compassion could serve as a buffer against the negative effect of low self-esteem by reducing shame and self-criticism (Holas et al., 2021; Marshall et al., 2015). Self-compassion can mediate self-worth on appearance (Stephenson et al., 2018). Although the above research did not examine the moderating effect on the relationship between dating app usage and self-esteem, it shows that self-compassion may moderate the negative effect on self-esteem. Based on the results of

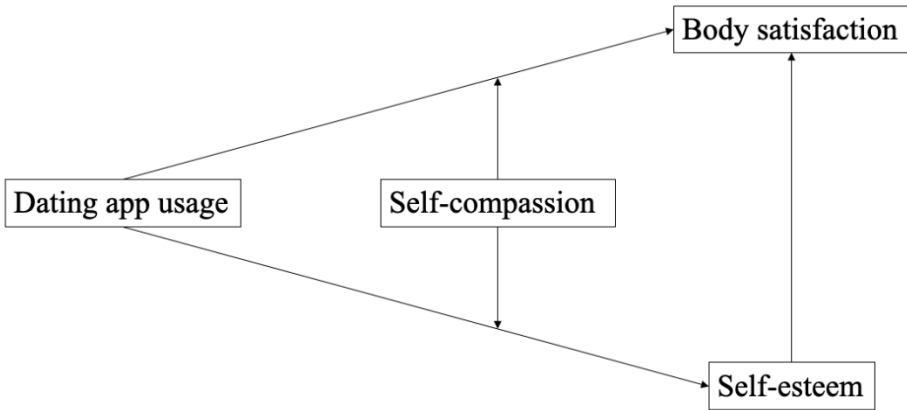the above studies, a framework is developed for the present study as follows:

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                                                    ┌────────────────────┐
                                                →→→→│ Body satisfaction  │
                                        ↑           └────────────────────┘
                                        │                      ↑
┌──────────────────┐    ┌─────────────────────┐                │
│ Dating app usage │    │  Self-compassion    │                │
└──────────────────┘    └─────────────────────┘                │
                                        │                      │
                                        ↓           ┌────────────────┐
                                        →→→→→→→→→→→→→│  Self-esteem   │
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Figure 1. Conceptual framework

1.3   Hypotheses

1. Those youth with higher levels of dating app usage have lower levels of body satisfaction.
2. Those youth with higher levels of dating app usage have lower levels of self-esteem.
3. Those youth with higher levels of self-esteem have higher levels of body satisfaction.
4. Self-compassion is a moderator of the relationship between dating app usage and self-esteem.
5. Self-compassion is a moderator of the relationship between dating app usage and body satisfaction.

2   Methods

A quantitative research design was adopted in this study. The deductive and objective

approach can effectively examine the relationship between the usage of dating apps, body satisfaction, self-esteem, and self-compression. An online questionnaire was developed from the "Google Forms" platform to collect data via convenience sampling between 23rd January to 14th March 2023. A total of 135 samples were collected by distributing the link and QR code via social media, such as WhatsApp and Instagram, to friends and schoolmates of the student assistant. Participants voluntarily participated in the study by filling in the consent form, scales and background information in the questionnaire.

2.1   Measurement

Online Dating App Usage. The mean of the frequency of using dating apps per week was used to reflect the online dating app usage.

Self-esteem. The 10-item Chinese Rosenberg self-esteem scale (RSES) was used to measure positive and negative feelings about the self (Yeung, 1998). RSE is a 4-point scale including 4 represents strongly agree, 3 represents agree, 2 represents disagree and 1 represents strongly disagree. Questions 2,5,6,8 and 9 are negatively phrased, and the scores are reversed. After generating a total score, the minimum score is 10, and the maximum is 40. Respondents have a higher total score, representing higher self-esteem. The scale has high reliability, with a Cronbach's alpha of 0.854.

Self-compassion. The short form of the Self-compassion scale (SCS-SF) was used to examine the self-compassion capacity (Raes et al., 2011). SCS-SF has 12 questions in total which are taken from the full 26-item SCS, which reflects six areas, including self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. In SCS-SF, respondents can answer 1 point represents almost never to 5 points represent almost always. Questions 1,4,8,9,11, and 12 are negatively phrased, so their score should be reversed. After reversing the score of negative items, the mean of each item was used to compute a total mean. To identify an individual with high or

low self-compassion, scores of 1.0 to 2.49 can be considered as low self-compassion, scores of 1.0 to 2.49 to be moderate, and scores of 3.51 to 5.0 to be high. The scale has an acceptable level of reliability with a Cronbach's alpha of 0.713.

Body satisfaction. The 16-item Adolescent Body Image Satisfaction Scale (ABISS) was used to measure respondents' body image satisfaction (Leone et al., 2014). ABISS is a 4-point scale including 1 represents strongly disagree, 2 represents disagree, 3 represents agree, and 4 represents strongly agree. Questions 1,4,6,7, 9, 14 and 16 are negatively phrased, and the score should be reversed. The respondents who have a higher total score represent a stronger body dissatisfaction. In this study, the scale has a good level of reliability with a Cronbach's alpha of 0.796.

2.2   Characteristics of respondents

Youths aged 15 to 24 were invited to complete an online survey. The total number of valid samples for this study is 135, consisting of 51 males and 84 females. The distribution of male and female respondents was 37.8% and 62.2%. The participants' mean age was 21.7 with a standard deviation of 1.86. Approximately 5.2% of the samples had an upper secondary education level, 32.6% had a high diploma or associate degree level of education, 60.7% had a bachelor's degree, and 1.5% had a master's degree or above education level.
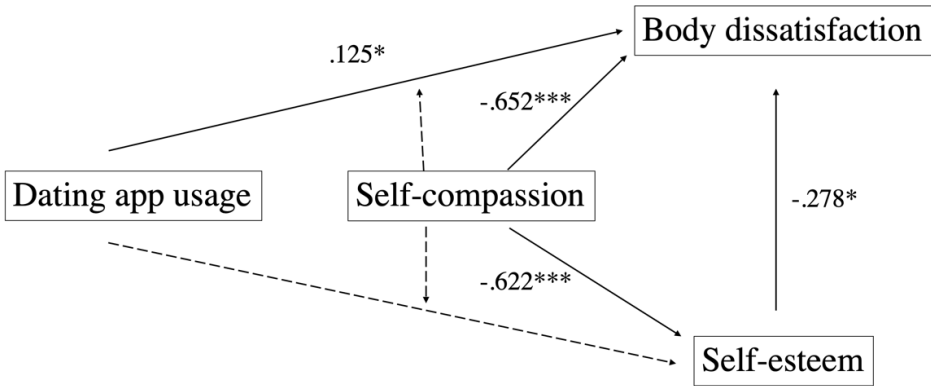
3   Results

Most participants spent 1 hour (24.4%) and 2 hours (15.6%) using dating apps per week. The average number of hours is 6.21, with a standard deviation of 7.55. The minimum total score of RSE of the participants is 16, and the maximum is 39. The mean score is 27.5 with a standard deviation of 4.52, which means participants have a moderate level of self-esteem. The total mean of SCS-SF of respondents is 2.54, with a standard deviation of 0.377. It represents that most of the participants have a moderate level of self-compassion. The minimum total score of ABISS of respondents is 22, and the

maximum is 53. The mean of the total score is 38.9, with a standard deviation of 5.85. Leone et al. (2014) does not define the mean score, but the high score indicated higher body image dissatisfaction, which means lower body satisfaction. The result shows that participants' mean body dissatisfaction score is higher than the midpoint of the total score, indicating that participants have moderate to low levels of body satisfaction.

The hypothesised moderated mediation model of this study was examined by the macro "PROCESS" for SPSS. Self-compassion was added as a moderator of the model that affects the relationship between the usage of dating apps and body satisfaction, as well as the relationship between the usage of dating apps and self-esteem. The results showed that the frequency of using dating apps is not related to self-esteem (t=-1.31, p=.19), while self-compassion is significantly related to it (t=6.90, p<.001). The interaction between the usage of dating apps and self-compassion also does not have a significant effect on self-esteem (t=1.51, p=.13). Meanwhile, the usage of dating apps, self-esteem and self-compassion are all significantly related to body dissatisfaction (t=2.26, p=.03; t=-2.57, p=.01; t=-5.03, p<.001). Using dating apps is positively associated with body dissatisfaction, while self-esteem and self-compassion are negatively related to body dissatisfaction. An hour of Dating app usage increase will lead to a .125 Body dissatisfaction score increase. Each score of self-compassion increase will lead to .652 body dissatisfaction score decrease. Moreover, each unit of self-esteem increase will lead to .278 body dissatisfaction score decrease.

However, the interaction between the usage of dating apps and self-compassion does not significantly affect body dissatisfaction (t=-1.10, p=.27). The interaction between self-compassion and dating app usage with self-esteem were also not significant. Self-compassion could not moderate the effect of dating app use on self-esteem (t=1.513, p=0.133). The above results imply that using more online dating apps will lead to more body dissatisfaction. In contrast, high self-esteem and high self-compassion can reduce body dissatisfaction. But self-compression fails to buffer the adverse effects of using dating apps on psychological outcomes (see Figure 2).

| | | Body dissatisfaction |

.125*

-.652***

Dating app usage   Self-compassion   -.278*

-.622***

Self-esteem

Notes:: * ：p<.05; ** : p<.01; ***: p<.001

Figure 2. Results of the moderated mediation model

Based on the above results, an additional test was conducted to examine whether self-esteem can be a buffer to the negative effects of using dating apps on body dissatisfaction. The results showed that the interaction between the usage of online dating apps and self-esteem has a significant effect on body dissatisfaction (t=-2.33, p=.02). The usage of online dating apps enhances the body dissatisfaction of participants with low levels of self-esteem (t=2.47, p=.02) while it does not affect the dissatisfaction of participants with high and moderate levels of self-esteem (t=-0.26, p=.79; t=0.74, p=.46). These results suggest that the self-esteem intervention can be delivered to frequent users of online dating apps to mitigate the negative effects of using online dating apps on their body dissatisfaction (see Figure 3).
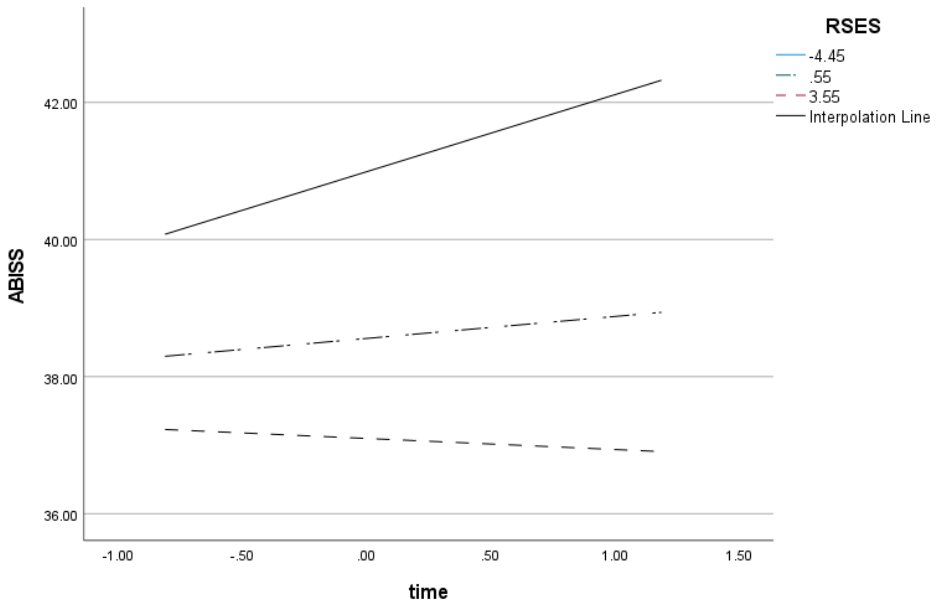
Figure 3. The moderation effect of self-esteem on the relationship dating app usage and body satisfaction. ABISS refers to the Adolescent Body Image Satisfaction Scale, RSES refers to the Rosenberg self-esteem scale, time refers to the frequency of using dating apps per week.

4   Discussion

The findings show that dating app usage has a significant negative relationship with satisfaction. It supports that the extended time using dating apps has negative effect on the youth's body satisfaction. This result is aligned with the previous research that dating app usage is associated with dissatisfaction with body image regardless of gender and sexual orientation (Tran et al., 2019). The effect of societal appearance ideals internalization and appearance comparison can explain this result. The function of dating apps fosters users to evaluate each other's body image, which may lead to social pressure in tracing the social beauty standard and result in body shame and body dissatisfaction (Holland & Tiggemann, 2016; Portingale et al., 2022; Strübel & Petrie, 2017).

The findings revealed an insignificant relationship between dating app usage and self-esteem. The results differ from previous research that states dating app usage and self-esteem have a negative relationship. The influence of dating app usage on self-esteem may take time to occur. Strübel and Petrie (2017) suggested that the negative effect on self-esteem might be seen more readily in long-term users or users that consistently experience rejection on using dating apps. However, the present study involved current active and inactive users who may not have used dating apps for a long time. Also, this study only focused on the frequency of spending hours using dating apps but not the satisfaction of dating app user experiences. Therefore, the data may not represent the quality of dating app usage experience. This may affect the relationship between dating app usage and self-esteem. Moreover, a study also revealed that the usage of dating app did not have any effect on self-esteem of female dating app users (Strübel & Petrie, 2017). This shows that male and female might have different experiences on using dating apps. Therefore, further study may also consider the difference between male and female between dating app usage and self-esteem.

Current research shows that self-esteem has positively affected body satisfaction. The findings support the previous research that people with higher self-esteem tend to evaluate body image positively and higher body dissatisfaction (van den Berg et al., 2010; Wasylkiw et al., 2012). Flament et al. (2011) explained that self-esteem is a mediator between the internalization of the thinness ideal and body dissatisfaction. When dating app users have higher self-esteem, their body satisfaction will not be affected after receiving or internalizing social body image standards.

In the current study, self-compassion does not moderate the relationship between dating app usage and self-esteem, as well as the relationship between dating app usage and body dissatisfaction. Self-compassion of Chinese youth may be different from the one conceptualized by Neff (2003) due to cultural differences (Zhao et al., 2021). Zhao et al. (2021) indicated that Chinese young adults emphasise the importance of self-reflection or benign self-criticism across three main self-compassion components

because of the influence of collectivist culture and Confucianism perspective. Chinese culture encourages individuals to engage in self-reflection and benign self-criticism, which is viewed as a virtue. Therefore, the different conceptions of self-compassion may reduce its moderating effect on the relationship between ideal body image or appearance comparison, body satisfaction and self-esteem. Further study may focus on the effects of other moderators in the relationship between these variables.

However, the current study results support the significant relationship between self-compassion, body satisfaction, and self-esteem. Self-compassion has a positive relationship with body satisfaction, as the previous study confirmed. Self-compassion helps people to treat themselves with greater kindness with their body image rather than criticism of themselves (Wasylkiw et al., 2012). In addition, the current study result is also consistent with some studies that self-compassion was positively related to self-esteem (Holas et al., 2021; Marshall et al., 2015). Higher levels of self-compassion led to higher levels of self-esteem because self-compassion delivers emotional resilience and stability over self-esteem (Neff, 2011). Meanwhile, the additional analysis confirmed the moderating role of self-esteem in the relationship between dating app usage and body satisfaction. Youth with high and moderate levels of self-esteem can mitigate the negative effects of dating app usage on body satisfaction.

5   Conclusion

Regarding the study result, recommendations for social service, education and social work practices in Hong Kong were suggested to prevent youth body dissatisfaction through creating a safe friendship app, improving dating and courtship education and enhancing self-compassion programs. Dating app usage had a negative significant relationship with body satisfaction; using dating apps more frequently, the levels of body dissatisfaction were higher. Also, the result reveal that Hong Kong youth have moderate to high levels of body dissatisfaction. The negative effect of dating apps should be addressed since most of the functions of current dating apps foster users to

evaluate appearances and body image rather than focusing on characteristics or personality. Therefore, it is recommended that NGOs design a friendship app for Hong Kong youth that is a secure platform for them to meet new people with an emphasis on the importance of inner beauty rather than an app that only has availability and evaluative functions. As a result, youth can meet new people safely and without the risk of leading to body shame or physical appearance comparison.

It is suggested that the Education Bureau and the Social Welfare Department set up a joint task force to plan and design teaching curricula, educational packages, and extra activities for secondary school students in Hong Kong. It should include class work and study projects to help students to have objective learning experiences about dating and courtship. In addition, it could also promote proper and healthy internet usage to meet friends and establish inmate relationships, especially aimed to establish students' proper attitudes and behaviours on using dating apps to prevent body dissatisfaction, shame, or unhealthy weight control behaviours. A spiral learning curriculum should be carried out in which fundamental concepts of friendship, dating, courtship and sex are presented repeatedly with deepening level and life situation application according to the age differences.

Since the study result shows that self-compassion has a positive significant relationship with self-esteem and body satisfaction. Therefore, it is recommended that the School and Integrated Children and Youth Service Centre (ICYSC) social workers conduct programs and projects to enhance youth's self-compassion. Furthermore, the three core elements, self-kindness, common humanity, and mindfulness, should be cultivated among Children and youth so that a more vital resilient ability can be developed to prevent the development of poor self-esteem and body satisfaction.

In response to the result about the moderating role of self-esteem, relevant intervention is suggested to enhance the self-esteem of young people. Self-esteem approach has been confirmed as effective prevention of eating problems to improve

body dissatisfaction (O'Dea, 2004). Enhancing self-esteem can promote self-acceptance, lower the importance of young people to place on their physical appearance, and reject cultural stereotypes and self-expectations of perfection. Another study also has shown that a school-based life-skills programme that teaches assertive coping skills was effective to enhance self-esteem and body satisfaction of young people (McVey et al., 2004). All these suggest that intervention with self-esteem enhancement can be used to protect the young people with high usage of dating app.

Various limitations were identified in the current study. Firstly, the current study adopted the convenience and snowball sampling method, which means that the respondents were not selected randomly within the target respondents. More female participants (62.2%) than male participants (37.8%) were recruited, and sampling bias may occur. Secondly, the valid sample size of the current quantitative study was 135, which is limited and could not represent a large population of Hong Kong youth. As a result, the results may be under or over-representation by some specific groups and lack the ability to generalise to the whole target population.

Regarding the limitations of this study, a representative sampling with a larger sample size should be employed in further study. A qualitative research method can also be recommended to provide an in-depth understanding of the phenomenon of dating app usage among Hong Kong youth. Moreover, this study focused on only four variables, including self-compassion, dating apps, body satisfaction and self-esteem, which may not cover the border dimension. In addition, the study shows that self-compassion could not moderate the effect of dating app usage on body dissatisfaction and self-esteem. Therefore, more variables can be involved in further study to measure the impact of dating app usage and the negative effects of other possible moderators.

Despite the limitations, this research contributes to revealing the roles of self-compression in the relationship between the usage of dating apps, body satisfaction and self-esteem. The result showed that two hypotheses in this study were confirmed,

including the relationship between dating app usage and body satisfaction, as well as the relationship between self-esteem and body satisfaction. Regarding the study results, the researcher proposed recommendations from different aspects, including social service, education, and social work practices.

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