



Self-Compassion Mediates the Impact of Family Support on Clinical and Personal Recovery Among People with Mental Illness

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Abstract

Objectives The present study aimed to investigate the impact of family support on the recovery of people with mental illness and to explore the potential mechanisms underlying this impact. Specifically, we examined whether family support would be associated with clinical recovery (as indicated by symptom severity, social functioning, and work functioning) and personal recovery (as indicated by recovery perceptions and life satisfaction) among people with mental illness. We also examined whether these associations would be mediated by self-compassion.

Method A total of 356 people with mental illness provided cross-sectional questionnaire data on family support, self-compassion, symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction.

Results Path analyses showed that family support was associated positively with self-compassion, which was, in turn, related to lower symptom severity, higher social functioning and work functioning, more positive perceptions of recovery, and greater life satisfaction. Sobel tests and bootstrap analyses further revealed that family support had indirect effects on symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction via self-compassion.

Conclusions Our findings indicate that people with mental illness who receive greater support from the family are better able to have self-caring attitudes. With higher levels of self-compassion, they may have less psychopathology and better functioning. They may also have more positive experiences and perceptions of recovery and attain greater levels of life satisfaction and enjoyment.

Preregistration This study is not preregistered.

Keywords Family support · Self-compassion · Clinical recovery · Personal recovery · Mental illness

The concept of psychiatric recovery has evolved in recent decades (Davidson et al., 2008; Silverstein & Bellack, 2008). Traditionally, the recovery of mental illness has been defined based on the biomedical model of health, which focuses on clinical recovery (Wunderink et al., 2009). Clinical recovery refers to the elimination or reduction of psychiatric symptoms and functional impairments (Slade et al., 2008). Specifically, clinical recovery involves the mitigation of the core signs and symptoms of mental illness (Andreasen et al., 2005). It also encompasses the re-establishment of the pre-morbid levels of social and work functioning (Andreasen

et al., 2005). People with clinical recovery are considered as being free from the symptomatology of mental illness (*symptomatic remission*; Chan et al., 2022a) and being able to have effective interpersonal communications and social relationships and engage in education or employment (*functional restoration*; Chan & Lam, 2018).

Recently, under the mental health consumer/survivor movement, personal recovery has evolved as an alternative notion for understanding the recovery of mental illness (Leonhardt et al., 2017). Personal recovery refers to living a personally meaningful and satisfying life, despite ongoing symptoms and limitations caused by mental illness (Anthony, 1993). Unlike clinical recovery, personal recovery does not focus on a cure of mental illness, or a return to a pre-existing state of mental health (Davidson & Roe, 2007). Instead, it involves positive changes in deeply subjective domains of illness experiences (Roe et al., 2011). Specifically, personal recovery entails the development of new

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meaning and purpose in one's life, as one copes with and grows beyond the challenges of mental illness (Andresen et al., 2003). It also involves redefining one's mental illness as only one part of an otherwise whole person. Furthermore, it comprises the processes of developing one's identity beyond patienthood and fostering a positive self-image (Lysaker et al., 2010). Notably, people in personal recovery are characterized by having a subjective sense of recovery (*recovery perceptions*; Mak et al., 2016) and having positive evaluations of their own lives (*life satisfaction*; Chan & Lam, 2018).

There is growing evidence that clinical and personal recovery are complementary, rather than incompatible (Van Eck et al., 2018). Moreover, the two forms of recovery are supportive of each other (Jørgensen et al., 2015; Rossi et al., 2018). Specifically, symptomatic remission and functional restoration have the values of enhancing a subjective sense of recovery and life satisfaction (Chan & Mak, 2014; Kukla et al., 2014; Law et al., 2016; Lim et al., 2019; Norman et al., 2013; Skar-Frøding et al., 2022). At the same time, a subjective experience of personal recovery, regardless of continuing symptoms and impairments, can contribute to a reduction in symptom-related distress as well as an improvement in everyday functioning (Davidson et al., 2006).

Given the salutary effects of both clinical and personal recovery, it is vitally important to identify the enabling factors of the two types of recovery among people with mental illness. According to family models of psychiatric recovery (Reupert et al., 2015), one potential enabling factor in the recovery of mental illness is family support. Family support is defined as a family's positive attitudes and behaviors in backing up its constituting members (House et al., 1985), which can take the form of emotional support (e.g., care and comfort), informational support (e.g., guidance and advice), or instrumental support (e.g., practical help and tangible aid).

Research shows that families can play a pivotal role in the recovery of people with mental illness (Aldersey & Whitley, 2015; Chronister et al., 2021). Specifically, if people receive emotional, informational, or instrumental support from their relatives, they may have greater faith, hope, and optimism to pursue recovery and live satisfying, fulfilling, and meaningful lives (Roe et al., 2011; Sánchez et al., 2019). On the contrary, if people receive critical, hostile, and prejudicial attitudes from their families, they may become stressed and distressed and feel incapable or unworthy to recover (Chan & Lam, 2018; Chien et al., 2015). Previous studies have supported these views by showing that family support is conducive to individual well-being and flourishing, whereas family rejection is linked to greater symptom severity and poorer functioning, as well as a lower sense of recovery and life satisfaction (Chan & Lam, 2018; Chien et al., 2015; Kamen et al., 2011; Roe et al., 2011; Sánchez et al., 2019).

While the impact of family support on psychiatric recovery is well documented, the mechanisms underlying the impact are still underexplored. One potential mechanism underlying the impact of family support on recovery is self-compassion (Maheux & Price, 2016; Wilson et al., 2020). Self-compassion is a self-caring attitude when facing adversity (Neff, 2003). It involves having more compassionate and fewer uncompassionate responses to personal suffering (Neff, 2016). In particular, it includes being tender and warm (*self-kindness*), rather than harsh and critical (*self-judgment*), toward the self in the face of suffering. It also entails bringing non-judgmental awareness to suffering (*mindfulness*), without suppressing or exaggerating the negative experience (*over-identification*). Furthermore, it encompasses understanding suffering as a shared human experience (*common humanity*), instead of an isolated experience happening only to oneself (*isolation*).

Family support may enable people with mental illness to develop greater self-compassion. According to the social mentality theory (Gilbert, 1989), receiving support and care from others may facilitate the development of self-soothing capacities, which can enable one to calm and comfort the self during moments of suffering. Specifically, when people with mental illness receive care, encouragement, and help from their family members in difficult times, they may perceive themselves to be contextualized in a supportive environment, where they can observe, learn, and model other people's compassionate intentions and expressions (Gilbert, 2009). By receiving and accepting compassion from others in a constant manner, they may gradually internalize, and increasingly apply, compassion toward themselves, becoming more self-compassionate (Kirby et al., 2019).

To date, no known study has investigated the potential contributory roles of family support in self-compassion among people with mental illness. However, a few studies have examined the impact of early family experiences on self-compassion in the general population, with findings suggesting that children raised in safe, secure, and supportive environments are better able to relate to themselves in a caring manner, whereas children raised in hostile, insecure, or stressful environments are more critical toward themselves (Neff & McGehee, 2010; Pepping et al., 2015). As the experience of receiving and accepting care from others may facilitate one to develop a compassionate mind (Chan et al., 2022b; Hermanto et al., 2016), family support may play a contributory role in enhancing self-compassion among people with mental illness.

Self-compassion may promote mental health and facilitate psychiatric recovery. Specifically, self-compassion may facilitate clinical recovery among people with mental illness. According to Neff's (2023) theories of self-compassion and psychopathology, self-compassion can reduce psychopathology by lessening negative thinking, decreasing entanglement

with negative emotions, and enhancing emotion regulation in times of stress. When things go wrong, people with self-compassion are less likely to criticize themselves or ruminate over their negative experiences (Krieger et al., 2013). Instead, they are more likely to observe their suffering mindfully and acknowledge it without aggravating it (Diedrich et al., 2017). As they have more objective and balanced views about themselves and their lives, they can better alleviate their negative affect and psychological distress (Inwood & Ferrari, 2018). They can also better regain positive mental health, namely having positive emotions and good functioning (Trompetter et al., 2017).

Self-compassion may facilitate not only clinical recovery but also personal recovery among people with mental illness. According to Sirois and Rowse's (2016) theories of self-compassion and illness coping, self-compassion may facilitate illness coping and promote subjective well-being by enhancing psychological resilience and increasing inner strength. As people with self-compassion are mindful of their mental health difficulties, and respond to themselves with compassion, kindness, and warmth during moments of suffering, they may be better able to live hopeful, satisfying, and meaningful lives, notwithstanding the limitations caused by their mental illness (Yang & Mak, 2017). Ultimately, such a positive adjustment to their mental illness may enable them to develop a positive identity beyond patienthood and reconstrue their recovery journeys as growth promoting (Bercovich et al., 2020; Waite et al., 2015). The potential psychological outcomes are higher levels of subjective happiness and life enjoyment (Chan et al., 2018).

Despite the potential facilitative effects of self-compassion on psychiatric recovery, there has been limited research on this topic conducted among people with mental illness (Kurebayashi & Sugimoto, 2022). Specifically, although existing studies have examined the link between self-compassion and clinical recovery (Savari et al., 2021; Schuling et al., 2020), only a few of them have investigated the relation of self-compassion with personal recovery (Donald et al., 2019; Mak et al., 2021). As there is some initial evidence that self-compassion may predict less psychopathology and better functioning as well as higher levels of subjective well-being and quality of life among people with mental illness (Chan et al., 2018; Diedrich et al., 2017; Krieger et al., 2013; Yang & Mak, 2017), it is plausible that self-compassion may facilitate both clinical and personal recovery in this population.

While self-compassion may play an important role in facilitating psychiatric recovery, people with mental illness may experience reduced self-compassion due to their constant experience of public stigma and external criticism (Waite et al., 2015). Specifically, given widespread stigma in the community, people with mental illness may increasingly endorse and internalize stigmatizing beliefs and feelings

toward themselves, leading to greater self-stigma and lower self-compassion (Chan & Fung, 2019; Chan & Mak, 2017). To date, studies have shown that people with mental illness, especially those with serious mental disorders, tend to have lower levels of self-compassion compared to healthy individuals (Costa et al., 2016; Døssing et al., 2015; Yang et al., 2020). Therefore, it is very important to identify the enabling factors of self-compassion in this population. Yet, despite this importance, research on the predictors of self-compassion has been rare among people with mental illness.

Research shows that family support may enable people with mental illness to attain the recovery of mental illness (Aldersey & Whitley, 2015; Chronister et al., 2021). However, the underlying processes are largely unknown. Indeed, it is particularly important to study such processes in Chinese societies, given that Chinese culture has been influenced by Confucianism to have a great emphasis on the family, and that family processes may be particularly influential in shaping individual adjustment and mental health in Chinese settings (Tse & Ng, 2014; Yu et al., 2021). Given this cultural context, the present study aimed to investigate the impact of family support on the recovery of people with mental illness and to explore the plausible mechanisms underlying this impact in a Chinese context. Specifically, we tested a conceptual model to examine whether family support would be associated with clinical recovery and personal recovery through self-compassion among Chinese people with mental illness. In this model, clinical recovery was indicated by symptom severity, social functioning, and work functioning, while personal recovery was indicated by recovery perceptions and life satisfaction. We hypothesized that family support would be associated with lower levels of symptom severity, higher levels of social functioning and work functioning, and greater levels of recovery perceptions and life satisfaction. We also hypothesized that these associations would be mediated by self-compassion.

Method

Participants

A convenience sample of 356 people with mental illness (111 men and 245 women) participated in this study. Their mean age was 42.81 years ($SD = 11.22$ years, range = 18–64 years). Most of them had attained secondary school education or above (89.9%). The majority of them were not in employment (67.1%) and were not married (68.0%). Their median monthly family income was between HK\$6001 and HK\$7000. Their primary diagnoses were psychotic (43.6%), depressive (42.7%), bipolar (8.4%), and anxiety (5.2%) disorders. Their mean duration of illness was 12.26 years ($SD = 10.03$ years).

Procedure

The participants were recruited from five non-governmental organizations (NGOs) in Hong Kong, China. These NGOs provided mental health rehabilitation services (e.g., residential care and vocational training) to people with mental illness living in the community. The NGOs promoted our study to their service users and introduced interested individuals to our research team. Our research assistants interviewed potential participants to screen them for eligibility. The inclusion criteria were (1) being diagnosed with at least one DSM-5 mental disorder by a psychiatrist; (2) being capable of reading and writing in Chinese; and (3) being aged 18 years or above. The exclusion criteria were (1) having received a DSM-5 diagnosis of neurocognitive disorder or intellectual disability from a psychiatrist and (2) being clinically unstable (i.e., being hospitalized in the past month). Eligible individuals were invited to provide written informed consent to join the study. The participants completed questionnaires at the NGO premises. Each participant was given a HK\$200 grocery voucher as an incentive.

Measures

The questionnaires were written in Chinese. All the measures in the questionnaires had been used in previous studies of Chinese people with mental illness.

Family Support

The 4-item family subscale of the Multidimensional Scale of Perceived Social Support was used to measure family support (Zimet et al., 1988). On a 7-point scale where 1 = *very strongly disagree* and 7 = *very strongly agree*, the participants rated the degree to which they received adequate support from their families. A sample item was “I get the emotional help and support I need from my family.” The item scores were averaged, so that higher scores were indicative of greater family support. Specifically, a score of 1.0–2.9 indicated low family support, 3.0–5.0 indicated moderate family support, and 5.1–7.0 indicated high family support (Zimet et al., 1988). This scale had good validity and reliability in past studies of people with mental illness (Fan et al., 2021). Its McDonald’s omega was 0.94 in this study.

Self-Compassion

The 12-item Self-Compassion Scale-Short Form was used to measure self-compassion (Raes et al., 2011). This scale contained six items measuring the three “compassionate” components of self-kindness, mindfulness, and common humanity (e.g., “I try to see my failings as part of the human condition”) and six items measuring the

three “uncompassionate” components of self-judgment, over-identification, and isolation (e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). The items were rated on a 5-point scale where 1 = *almost never* and 5 = *almost always*. To compute an overall score of self-compassion, we reversed the ratings on the “uncompassionate” items and averaged them with the ratings on the “compassionate items.” Higher scores indicated higher levels of self-compassion. Specifically, a score of 1.00–2.50 indicated low self-compassion, 2.51–3.50 indicated moderate self-compassion, and 3.51–5.00 indicated high self-compassion (Neff, 2003). This scale demonstrated good psychometric properties in previous studies of people with mental illness (Yang & Mak, 2017). Its McDonald’s omega was 0.85 in this study.

Symptom Severity

The 14-item Modified Colorado Symptom Index was used to measure symptom severity (Conrad et al., 2001). On a 5-point scale where 1 = *not at all* and 5 = *at least every day*, the participants rated their levels of symptom severity. A sample item was “In the past month, I have felt nervous, tense, worried, frustrated, or afraid.” The item scores were averaged, with higher scores indicating higher levels of symptom severity. This scale has been used to measure symptom severity among people with different psychiatric diagnoses, including psychotic, depressive, bipolar, and anxiety disorders (Chan et al., 2022a). Its validity was established by its significant correlations with theoretically relevant constructs, and its reliability was shown by its high internal consistency (Chan et al., 2022a). Its McDonald’s omega was 0.93 in this study.

Social Functioning and Work Functioning

The 7-item interpersonal relationships subscale and 6-item work skills subscale of the Specific Level of Functioning Scale were used to measure social functioning and work functioning, respectively (Schneider & Struening, 1983). On a 5-point scale where 1 = *poorest function* and 5 = *best function*, the participants rated their levels of social functioning and work functioning. Sample items were “I form and maintain friendships” and “I am able to sustain work efforts.” The item scores were averaged, with higher scores indicating higher levels of social functioning and work functioning. The validity and reliability of this scale were evident in prior studies of people with mental illness (Chan & Lam, 2018). Its McDonald’s omegas were 0.92 (social functioning) and 0.86 (work functioning) in this study.

Recovery Perceptions

The 24-item Recovery Assessment Scale was used to measure recovery perceptions (Corrigan et al., 2004). On a 5-point scale where 1 = *strongly disagree* and 5 = *strongly agree*, the participants rated the degree to which they had positive perceptions of recovery. A sample item was “I’m hopeful about my future.” The item scores were averaged, so that higher scores were indicative of more positive perceptions of recovery. In past studies of people with mental illness (Mak et al., 2016), this scale demonstrated good psychometric properties. Its McDonald’s omega was 0.88 in this study.

Life Satisfaction

The 5-item Satisfaction with Life Scale was used to measure life satisfaction (Diener et al., 1985). On a 7-point scale where 1 = *strongly disagree* and 7 = *strongly agree*, the participants rated the degree to which they were satisfied with their lives. A sample item was “I am satisfied with my life.” The item scores were averaged, so that higher scores were indicative of greater life satisfaction. In previous studies of people with mental illness (Yip et al., 2023), this scale had good validity and reliability. Its McDonald’s omega was 0.89 in this study.

Data Analyses

Descriptive statistics were computed to examine the mean, standard deviation, range, skewness, and kurtosis of all variables. Pearson’s correlation analyses were performed to assess the associations among the independent variable (i.e., family support), mediating variable (i.e., self-compassion), and dependent variables (i.e., symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction) of the hypotheses. After confirming the assumptions of normality, linearity, homoscedasticity, and absence of multicollinearity of the variables, path analyses were conducted to test the hypothesized conceptual model. In this model, major demographic variables (i.e., gender, age, education level, and duration of illness) were controlled. Missing data were handled using the full information maximum likelihood estimation method, which produced relatively unbiased estimates of parameters (Enders, 2010). The model goodness-of-fit was evaluated using Comparative Fit Index (CFI) and standardized root mean square residual (SRMR). $CFI > 0.95$ and $SRMR < 0.08$ indicated a good fit (Hu & Bentler, 1999). The indirect effects in the model were estimated using the Sobel tests (Sobel, 1982) and bias-corrected bootstrap analyses with 1000 resamples from the original data (Shrout & Bolger, 2002). The statistical significance of the Sobel test Z score and the absence of zero

from the 95% bootstrapped confidence interval indicated a significant mediation. The size of the mediation effect (a.k.a. mediation proportion) was calculated as the indirect effect divided by the total effect of the independent variable on the dependent variable. These analyses were completed using SPSS Version 28.0 and Mplus Version 7.4.

Results

Table 1 shows the results of the descriptive analyses. The participants varied in family support, with 18.3% having low family support, 36.5% having moderate family support, and 45.2% having high family support. The participants also varied in self-compassion, with 17.1% having low self-compassion, 58.2% having moderate self-compassion, and 24.7% having high self-compassion.

Table 2 shows the results of the Pearson correlation analyses. All the variables were significantly correlated with one another ($p < 0.001$). In particular, family support and self-compassion were correlated positively. They were correlated negatively with symptom severity and positively with social functioning and work functioning as well as recovery perceptions and life satisfaction. These correlations’ effect sizes ranged from small to large, according to Cohen’s (1988) effect size conventions (i.e., correlation coefficient: 0.10 is small; 0.30 is medium; 0.50 is large).

Table 3 shows the results of the path analyses. After controlling for the demographic variables (i.e., gender, age, education level, and duration of illness), family support had significant direct effects on self-compassion ($\beta = 0.37$; $p < 0.001$). Self-compassion had significant direct effects on symptom severity ($\beta = -0.49$; $p < 0.001$), social functioning ($\beta = 0.47$; $p < 0.001$), work functioning ($\beta = 0.37$; $p < 0.001$), recovery perceptions ($\beta = 0.46$; $p < 0.001$), and life satisfaction ($\beta = 0.50$; $p < 0.001$). With the effects of self-compassion controlled, family support had significant direct effects on symptom severity ($\beta = -0.17$; $p < 0.001$), social functioning ($\beta = 0.23$; $p < 0.001$), work functioning ($\beta = 0.15$; $p = 0.004$), recovery perceptions ($\beta = 0.29$; $p < 0.001$), and life satisfaction ($\beta = 0.28$; $p < 0.001$).

Table 1 Results of descriptive analyses ($n = 356$)

	<i>M</i>	<i>SD</i>	Range	Skewness	Kurtosis
Family support	4.65	1.68	1.00–7.00	−0.56	−0.61
Self-compassion	3.16	0.70	1.00–5.00	0.27	0.52
Symptom severity	2.17	0.85	1.00–4.71	0.54	−0.41
Social functioning	3.36	0.91	1.00–5.00	−0.05	−0.40
Work functioning	3.63	0.84	1.17–5.00	−0.13	−0.66
Recovery perceptions	3.54	0.63	1.17–5.00	−0.28	0.74
Life satisfaction	4.10	1.52	1.00–7.00	−0.10	−0.89

Table 2 Results of Pearson correlation analyses ($n = 356$)

	2	3	4	5	6	7
1. Family support	0.38***	−0.37***	0.39***	0.27***	0.45***	0.48***
2. Self-compassion		−0.60***	0.55***	0.43***	0.58***	0.65***
3. Symptom severity			−0.46***	−0.42***	−0.49***	−0.56***
4. Social functioning				0.66***	0.58***	0.51***
5. Work functioning					0.51***	0.38***
6. Recovery perceptions						0.58***
7. Life satisfaction						

*** $p < 0.001$

Table 3 Results of path analyses ($n = 356$)

	Standardized β
Family support → Self-compassion	0.37***
Family support → Symptom severity	−0.17***
Family support → Social functioning	0.23***
Family support → Work functioning	0.15**
Family support → Recovery perceptions	0.29***
Family support → Life satisfaction	0.28***
Self-compassion → Symptom severity	−0.49***
Self-compassion → Social functioning	0.47***
Self-compassion → Work functioning	0.37***
Self-compassion → Recovery perceptions	0.46***
Self-compassion → Life satisfaction	0.50***
Gender → Self-compassion	−0.11*
Gender → Symptom severity	0.10*
Gender → Social functioning	0.04
Gender → Work functioning	0.03
Gender → Recovery perceptions	0.02
Gender → Life satisfaction	−0.05
Age → Self-compassion	0.11
Age → Symptom severity	−0.06
Age → Social functioning	0.09
Age → Work functioning	0.13*
Age → Recovery perceptions	0.08
Age → Life satisfaction	−0.04
Education level → Self-compassion	0.17**
Education level → Symptom severity	−0.05
Education level → Social functioning	0.02
Education level → Work functioning	0.11*
Education level → Recovery perceptions	0.02
Education level → Life satisfaction	0.05
Duration of illness → Self-compassion	0.11
Duration of illness → Symptom severity	−0.04
Duration of illness → Social functioning	−0.06
Duration of illness → Work functioning	−0.10
Duration of illness → Recovery perceptions	−0.02
Duration of illness → Life satisfaction	0.21***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Figure 1 shows the path model. The path model had a good fit, with CFI = 0.99 and SRMR = 0.04. Overall, the demographic variables and family support explained 21.1% of the variance in self-compassion. Also, the demographic variables, family support, and self-compassion explained 39.0%, 35.2%, 22.5%, 40.3%, and 51.9% of the variances in symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction, respectively.

Table 4 shows the results of the Sobel tests and the bootstrap analyses. Both the Sobel tests and the bootstrap analyses showed that family support had significant indirect effects on symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction via self-compassion ($ps < 0.001$). Specifically, the effects of family support on symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction were partially mediated by self-compassion. The mediation proportions were 51.4%, 42.5%, 50.0%, 37.0%, and 38.3% for symptom severity, social functioning, work functioning, recovery perceptions, and life satisfaction, respectively.

Discussion

In accordance with our hypotheses, family support was associated positively with self-compassion, which was, in turn, related to lower symptom severity, higher social functioning and work functioning, and greater recovery perceptions and life satisfaction. These findings indicate that people with mental illness who receive greater support from the family are more likely to have self-caring attitudes. With higher levels of self-compassion, they may have less psychopathology and better functioning. They may also have more positive experiences and perceptions of recovery and attain greater levels of life satisfaction and enjoyment.

Previous studies have found that family criticism may represent a psychosocial stressor impairing the clinical stability of people with mental illness (Hooley, 2007; Ma et al., 2021). Expanding on these findings, our results showed that receiving support, instead of criticism, from the family was linked to lower symptom severity and higher functioning.

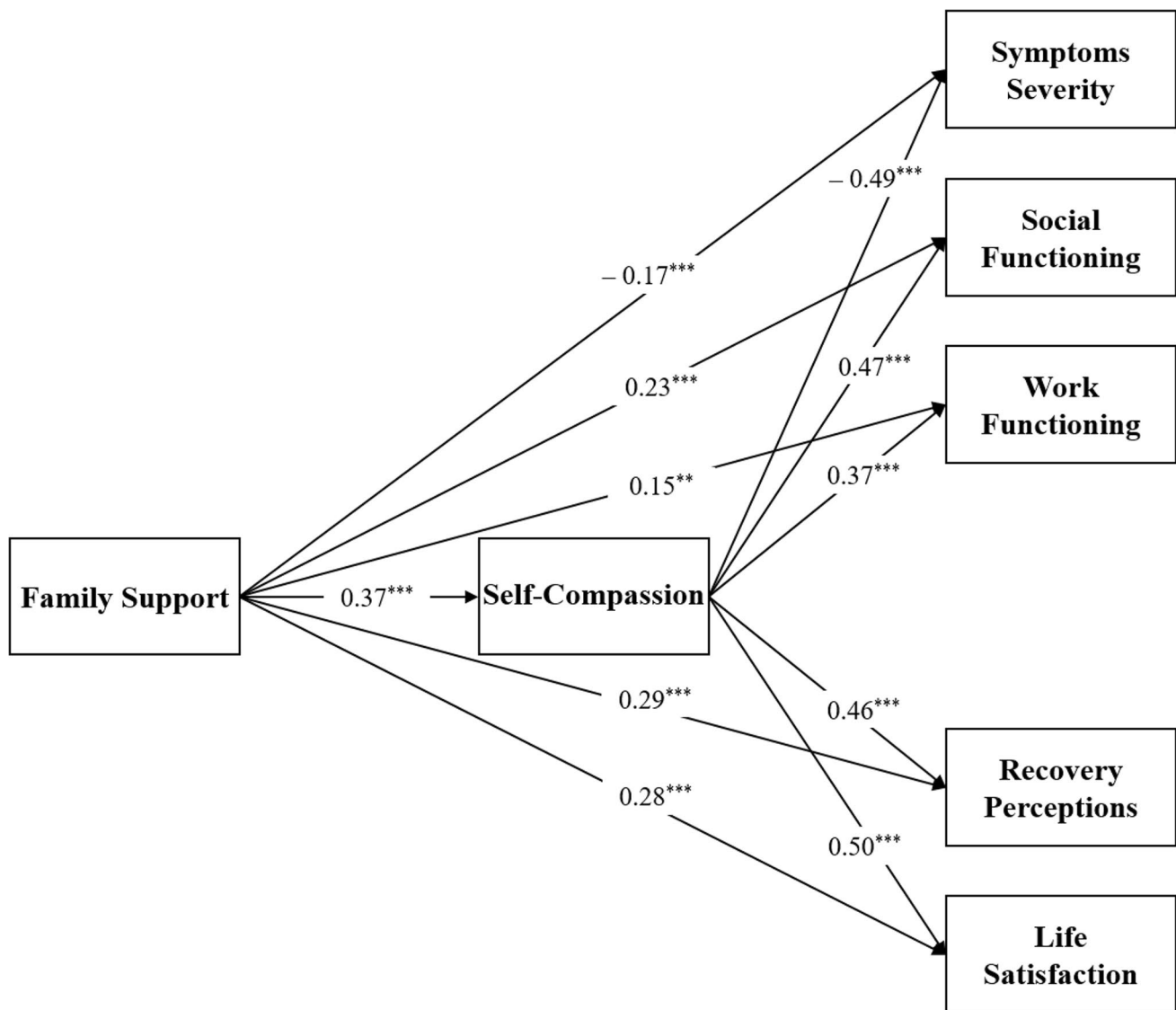


Fig. 1 Mediation model of family support, self-compassion, and recovery among people with mental illness. Gender, age, education level, and duration of illness were included as control variables.

Standardized beta coefficients are shown. For clarity, covariates and covariances are not shown. $**p < 0.01$; $***p < 0.001$

Table 4 Results of Sobel tests and bootstrap analyses ($n = 356$)

	Sobel tests Z score	Bootstrap analyses Standardized indirect effect (95% CI)	Standardized total effect (95% CI)	Mediation proportion
Family support → Self-compassion → Symptom severity	-6.20^{***}	-0.18^{***} ($-0.24, -0.12$)	-0.35^{***} ($-0.44, -0.26$)	51.4%
Family support → Self-compassion → Social functioning	5.99^{***}	0.17^{***} (0.12, 0.23)	0.40^{***} (0.30, 0.49)	42.5%
Family support → Self-compassion → Work functioning	5.16^{***}	0.14^{***} (0.08, 0.19)	0.28^{***} (0.18, 0.38)	50.0%
Family support → Self-compassion → Recovery perceptions	6.10^{***}	0.17^{***} (0.11, 0.23)	0.46^{***} (0.37, 0.54)	37.0%
Family support → Self-compassion → Life satisfaction	6.44^{***}	0.18^{***} (0.13, 0.24)	0.47^{***} (0.38, 0.56)	38.3%

$***p < 0.001$

Notably, our results suggest that family support is associated with better prognosis among people with mental illness. These results are consistent with those of prior studies showing that family support is predictive of better symptomatic remission and functional restoration, fewer relapses, and lower hospital readmission rates for people with mental illness (Chan & Lam, 2018; Chien et al., 2015; Kamen et al., 2011).

In keeping with earlier studies showing that family support may enhance recovery attitudes and promote subjective quality of life for people with mental illness (Chan & Lam, 2018; Roe et al., 2011; Sánchez et al., 2019), our study found that family support was linked to more positive perceptions of recovery and greater life satisfaction. These results suggest that people with mental illness who have family support may have greater courage and resilience to cope with their mental health challenges and live fulfilling and gratifying lives. Such positive associations of family support with personal recovery echo the results of previous studies showing that family support can empower people with mental illness to develop confidence, pursue aspirations, and increase happiness (Chan & Lam, 2018; Chien et al., 2015; Roe et al., 2011).

While previous studies have examined the associations between family support and psychiatric recovery (Aldersey & Whitley, 2015; Chronister et al., 2021), few studies have investigated why there are such associations. To advance the field and contribute to the literature, our study examined and revealed the mediating role of self-compassion in the positive associations of family support with the clinical and personal recovery of mental illness. Importantly, our results show that people with mental illness who receive greater support and care from their families may be better able to calm and comfort themselves in difficult times. With higher levels of self-soothing capacities, they may have better well-being and functioning and live more hopeful and satisfying lives despite the limitations caused by their mental illness.

Consistent with past studies in the general population (Maheux & Price, 2016; Wilson et al., 2020), there was a positive association between family support and self-compassion among people with mental illness. These results suggest that, when people with mental illness experience greater family support, they are more likely to possess more self-compassionate attitudes. The results are in line with those of previous studies linking family support to higher levels of self-acceptance and self-affirmation and lower levels of self-criticism and self-attack (Neff & McGehee, 2010; Pepping et al., 2015). In general, the results substantiate a social ecological approach to understanding the development of self-compassion (Chan et al., 2022b; Gilbert, 1989; Hermanto et al., 2016).

As indicated by the relation of self-compassion with lower symptom severity and higher functioning, self-compassion

is associated with better clinical recovery. One possible reason for this finding is that having a self-caring attitude may facilitate emotion regulation and stress management, enabling one to perform activities in everyday life more easily (Chio et al., 2021; Finlay-Jones, 2017; Neff, 2023). This finding echoes past studies showing that self-compassion is related positively to symptomatic remission and functional restoration and that people with self-compassion are likely to exhibit not only lower levels of psychological distress and psychiatric symptoms but also higher levels of social functioning and work functioning (Diedrich et al., 2017; Inwood & Ferrari, 2018; Krieger et al., 2013; Trompeter et al., 2017). Future research should examine whether emotion regulation and perceived stress may mediate the associations between self-compassion and clinical recovery.

The positive associations of self-compassion with recovery perceptions and life satisfaction indicate that self-compassion is linked to better personal recovery. One probable explanation of this finding is that people with self-compassion may be better able to have adaptive coping of their mental illness and develop a positive identity beyond patienthood, which may, in turn, enable them to play more meaningful roles and engage in more valued activities in daily life (Donald et al., 2019; Mak et al., 2021; Sirois & Rowse, 2016). Such positive associations of self-compassion with personal recovery resonate with the results of prior studies showing that self-compassion is related to higher levels of self-efficacy and self-empowerment, hope and optimism, and meaning and purpose in life (Bercovich et al., 2020; Chan et al., 2018; Waite et al., 2015; Yang & Mak, 2017). An important direction for future research is to test whether identity affirmation and valued living may mediate the associations between self-compassion and personal recovery.

Our study found that self-compassion was a significant correlate of clinical recovery and personal recovery. These results indicate that self-compassion is an important factor to consider when designing recovery-oriented interventions. In order to enable the recovery of people with mental illness, future practitioners should consider enhancing self-compassion in these people through systematic interventions, such as Compassion Focused Therapy (Gilbert, 2014), Compassion Cultivation Training (Jazaieri et al., 2013), Cognitively-Based Compassion Training (Pace et al., 2013), Mindfulness-Based Compassionate Living (Schuling et al., 2018), and Mindful Self-Compassion (Neff & Germer, 2013).

The present study is one of the first attempts to construct a conceptual model to elucidate the relations between family support and psychiatric recovery. Our model highlights the value and importance of family support in the recovery of people with mental illness. Given the pivotal role of family support in psychiatric recovery, mental health service institutions should place great emphasis on promoting family

support for their service users (Chan & Lam, 2018). Specifically, these institutions should design and provide effective interventions that help family members gain a better understanding of the care and support needs of people with mental illness (Waller et al., 2019; Ward et al., 2017).

In this study, we validated our conceptual model among people with mental illness from Hong Kong, China, where the concepts of family kinship are deeply ingrained due to Confucianism (Yu et al., 2021). It is important to note that family support may play a more influential role in the recovery of Chinese people with mental illness, as the family is considered in the Chinese culture as one of the core relational ties that shape individual adjustment and well-being (Tse & Ng, 2014). As past studies reported differences between the Chinese and Western cultures in the levels of familism (Tse & Ng, 2014), future studies should perform cross-cultural validations of our model on family support using samples with different cultural backgrounds, such as people with mental illness from both Chinese and Western societies.

Our model advances the literature by revealing the linkages of family support to self-compassion and psychiatric recovery. It is noteworthy, however, that, similar to other family models of psychological outcomes (e.g., Chan & Lam, 2018), our model accounted for only moderate amounts of variances in the outcome variables. This finding may not be surprising, given past research showing that various family and life experiences, including adverse childhood events and parental socialization styles, may affect the development of self-compassion (Lathren et al., 2020). Moreover, the family may affect the recovery of mental illness through different pathways and mechanisms, such as greater stigma resistance and lower internalized stigma (Chan & Lam, 2018). As there are still very few studies on the associations among family support, self-compassion, and psychiatric recovery, further research is needed to develop more comprehensive models unraveling their interrelations.

Limitations and Future Research

Our study had several limitations. First, our cross-sectional design did not allow us to examine the temporal precedence of the variables. Future research should use longitudinal design to verify the temporal order of the associations testified here. Second, our measures depended on the participants' self-reports, so our results might have been affected by common-method and single-reporter biases (Podsakoff et al., 2012). Future research should employ various ways to collect data from multiple informants to retest our hypotheses. Third, our sample included mainly people with psychotic and depressive disorders, which might have confined the generalizability of our findings to people with other mental disorders. Future studies should recruit samples that

are more diverse in terms of psychiatric diagnoses in order to test the applicability of our model to various diagnostic groups. Fourth, our model explained only moderate amounts of variances in the outcome variables. Future studies should formulate and validate more sophisticated conceptual models to elucidate how family support may enhance self-compassion and facilitate psychiatric recovery.

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Author Contribution KKSC developed the research question, designed the study, collected the data, interpreted the findings, and wrote and revised the manuscript. CCHY and JKCT collaborated in writing and revising the manuscript. All authors reviewed and approved the final version of the manuscript.

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Data Availability Data used in this study are available at the Open Science Framework (<https://osf.io/8vkd6/>).

Declarations

Ethics Approval This study was approved by the Human Research Ethics Committee of The Education University of Hong Kong.

Consent to Participate Written informed consent was obtained from all participants prior to participation.

Conflict of Interest The authors declare no competing interests.

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