Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/20031
DOI URL: http://dx.doi.org/10.21474/IJAR01/20031

RESEARCH ARTICLE

THE INFLUENCE OF PERFECTIONISM ON SUBJECTIVE WELL-BEING OF COLLEGE STUDENTS: THE MEDIATING EFFECT AND INTERVENTION OF SELF-COMPASSION

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Manuscript Info

Manuscript History
Received: 07 October 2024
Final Accepted: 09 November 2024
Published: December 2024

Key words:-
Self-Compassion, Perfectionism, Subjective Well-Being

Abstract

Background: In highly competitive environments, some individuals with perfectionistic tendencies derive a sense of fulfillment and satisfaction, while others experience persistent self-blame and distress. This study aims to explore the factors and mechanisms underlying different perceptions of happiness in these two groups, with a particular focus on examining the mediating role of self-compassion in the relationship between perfectionism and subjective well-being, and to design an online intervention program to explore its effectiveness.

Methods: This study is divided into two parts. Study 1 employed a longitudinal survey, selecting 160 college students as participants to test the mediating role of self-compassion in the relationship between perfectionism and subjective well-being. Study 2, based on the findings from Study 1, designed a 14-day online self-compassion intervention program and evaluated its effectiveness through a randomized controlled trial. A total of 78 university students with high levels of maladaptive perfectionism (≥45) and low self-compassion scores (≤77), who also reported mild to moderate levels of anxiety, depression, or stress, were selected and randomly assigned to either the intervention group (n=42) or the waiting group (n=36). The intervention group participated in a 14-day online self-compassion program, while the waiting group did not receive any intervention. Both groups completed measurements of perfectionism, self-compassion, and subjective well-being before and after the intervention.

Results: Longitudinal data from Study 1 showed that maladaptive perfectionism negatively predicted self-compassion and subjective well-being, while self-compassion positively predicted subjective well-being. Self-compassion partially mediated the relationship between maladaptive perfectionism and subjective well-being. In Study 2, the intervention group showed significant improvements in self-compassion and subjective well-being scores, and a significant reduction in maladaptive perfectionism. Specifically, the intervention group had significantly higher self-compassion ($M = 12.11$, $SE = 2.39$, $p < 0.001$), subjective well-being ($M = 1.21$, $SE = 0.32$, $p < 0.001$), and lower maladaptive perfectionism ($M = -10.40$, $SE = 1.74$, $p < 0.001$).

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Conclusion: The study confirmed the mediating role of self-compassion in the relationship between perfectionism and subjective well-being, and demonstrated the effectiveness of the 14-day online self-compassion intervention in improving self-compassion and subjective well-being, as well as reducing maladaptive perfectionism. These results provide empirical support for related theories and offer feasible intervention strategies for clinical practice.

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Introduction:-

In clinical practice, it is often observed that some students, despite being in highly competitive environments, achieving excellent academic results, and engaging in a wide range of social activities, experience varying levels of internal well-being. Some students feel fulfilled and satisfied in their pursuit of perfection, while others continuously struggle with self-blame, anxiety, and distress. This phenomenon raises questions about why individuals, in the same external environment, perceive their happiness so differently. Existing research has identified a complex relationship between perfectionism and an individual's subjective well-being, especially highlighting the different impacts of various types of perfectionism on well-being. Adaptive perfectionism is typically associated with positive emotions and high life satisfaction, while maladaptive perfectionism is often linked to negative emotions such as anxiety and depression, as well as lower life satisfaction (Frost et al., 1993; Moroz & Dunkley, 2019).

In addition, recent studies by Western scholars have suggested that self-compassion plays an important role in moderating the stress and negative emotions caused by perfectionism. Self-compassion, as a positive psychological attitude, helps individuals be more tolerant of their imperfections and failures, reducing anxiety and depression, and enhancing well-being (Neff, 2003; Zessin et al., 2015). Research has shown that perfectionists, especially those with maladaptive perfectionistic traits, tend to have lower levels of self-compassion (Mosewich et al., 2011). However, individuals with higher levels of self-compassion are better able to buffer the negative impact of perfectionism on their well-being (Ong et al., 2021).

Although many studies conducted in Western contexts have revealed the relationship between perfectionism, self-compassion, and subjective well-being, research on this topic in Eastern cultural settings, particularly among Chinese college students, is still limited. Most domestic studies focus on the relationship between perfectionism and negative emotions (Li, 2021), and few have explored the mediating role of self-compassion between perfectionism and well-being, with even fewer empirical studies focusing on interventions for this relationship. Existing intervention studies have mostly concentrated on improving individuals' self-criticism and procrastination behaviors (Jiang, 2021), but systematic verification of the effectiveness of self-compassion interventions is scarce.

Therefore, this study aims to explore the mediating role of self-compassion between perfectionism and subjective well-being in college students through longitudinal surveys and randomized controlled trials. Additionally, the study seeks to develop an online intervention program to enhance self-compassion, mitigate the negative effects of maladaptive perfectionism, and improve subjective well-being. This research not only aims to fill the gap in domestic literature but also provides theoretical and practical guidance for mental health professionals, helping perfectionists improve their mental health and enhance life satisfaction.

Study 1

Research Objectives and Hypotheses:-

The purpose of this study is to explore the relationships between adaptive perfectionism, maladaptive perfectionism, self-compassion, and subjective well-being in college students through a longitudinal survey. Additionally, the study aims to investigate whether self-compassion mediates the relationship between perfectionism and subjective well-being.

The hypotheses of this study are as follows:
Hypothesis 1.1: Self-compassion mediates the relationship between maladaptive perfectionism and subjective well-being.

Hypothesis 1.2: Self-compassion mediates the relationship between adaptive perfectionism and subjective well-being.

Figure 2.1:- Theoretical Model Diagram of Study 1.

Research Methods:-

Participants

The participants of this study were college students currently enrolled in universities in China. Participants were recruited via online platforms such as WeChat and campus forums, and questionnaires were distributed. After excluding responses that took less than 3 minutes to complete, those that failed one or more screening questions, and questionnaires with invalid matching information, a total of 479 valid participants were initially recruited. In the second round, 231 valid matched questionnaires (48%) were collected, and in the third round, 160 valid matched questionnaires (33%) were collected.

Table 2.1:- Basic Information of Participants.

Basic Information		Valid Participants (n=160)	Dropout Participants (n=319)
Gender	Male	60 (37.5%)	140（43.9%）
	Female	100 (62.5%)	179（56.1%）
Age Group	18-23	133 (88.8%)	272（85.2%）
	24-29	24 (9.3%)	46（14.4%）
	30-35	3 (1.9%)	1（0.4%）
Education Level	Associate Degree	5 (3.1%)	25（7.8%）
	Bachelor's Degree	123 (76.9%)	240（75.2%）
	Master's Degree	22 (13.8%)	35（11%）
	Doctoral Degree	10 (6.3%)	19（6%）
Major Type	Humanities and Social Sciences	56 (35%)	139（43.6%）
	Science and Engineering	92 (57.5%)	160（50.2%）
	Others	12 (7.5%)	20（6.2%）

Note: Data in the table are presented as N (%)

Questionnaire Measurement

(1) Demographic Information: The demographic information collected from participants included their age, gender, education level, and field of study.

(2) The Almost Perfect Scale – Revised Short Form (Chinese version): This scale measures participants' perfectionism traits and levels. The construct of "order" has been questioned in Chinese populations (Yang et al., 2007). Factor analysis confirmed that perfectionism can be divided into three second-order factors: adaptive perfectionism (high standards), maladaptive perfectionism (discrepancy), and orderliness (organization). The results support the validity of distinguishing between adaptive and maladaptive perfectionism (Suddarth & Slaney, 2001; Cai & Zhang, 2013). Therefore, this study focused only on the high standards and discrepancy dimensions. "Discrepancy" represents maladaptive perfectionism and is used to assess participants' views on whether they meet their personal standards. "High standards" represents adaptive perfectionism and assesses whether an individual sets high standards for their behavior. Consistent with previous research, this study operationally defined adaptive perfectionism as the score on the "high standards" subscale and maladaptive perfectionism as the score on the

"discrepancy" subscale (Stoeber et al., 2007; Wang, 2007; Barnett & Sharp, 2016). A 7-point Likert scale was used (1 = strongly disagree, 7 = strongly agree). In this study, the Cronbach's α coefficients for the subscales were: discrepancy (α = 0.922), high standards (α = 0.770).
(3) The Self-Compassion Scale (Chinese version): This scale was used to measure participants' level of self-compassion. The scale uses a 5-point Likert scale (1 = never, 5 = always) to indicate how often participants treat themselves in the manner described by the items when facing difficulties or setbacks. Higher total scores on the scale indicate higher levels of self-compassion. In this study, the Cronbach's α coefficient for the scale was 0.847.
(4) Index of Well-Being: This scale measures participants' subjective well-being. It uses a 7-point scoring system, where the total score is the sum of the average score of the general affective well-being scale and the life satisfaction questionnaire (with a weight of 1.1). A higher total score indicates greater subjective well-being. In this study, the Cronbach's α coefficient for the scale was 0.855.

Research Procedure:-

This study lasted for one and a half months and collected data at three time points, with a 14-day interval between each measurement.

At Time Point 1 (T1, February 14, 2023), participants were recruited online. Each participant first read an informed consent form, and upon agreeing, they completed the questionnaire. The informed consent provided a brief introduction to the researchers and the study, emphasized data usage and confidentiality, and explained that the survey would be conducted three times, with each measurement separated by two weeks. Data from non-university students, participants who failed to pass one or more attention check questions (including "I use WeChat for more than 24 hours a day,""Please choose neutral for this question," and "Please select 'Never' for this question"), and those who completed the questionnaire in less than 3 minutes were excluded. After completing the questionnaire, participants saw three WeChat group QR codes with instructions, and each participant was free to join any of the groups to participate in subsequent research. This measurement collected demographic data, variable information, and contact details.

At Time Point 2 (T2, March 1, 2023), the questionnaire was distributed in the participant groups, and participants who had not joined the groups but had met the criteria in the first survey were invited via personal message. Data from those who did not respond, failed one or more attention check questions, or completed the questionnaire in less than 3 minutes were excluded. This measurement again collected demographic data, variable information, and contact details.

At Time Point 3 (T3, March 15, 2023), the questionnaire was distributed in the participant groups, and participants who had not joined the groups but had met the criteria in the previous two surveys were invited via personal message. Data from those who did not respond, failed one or more attention check questions, or completed the questionnaire in less than 3 minutes were excluded. This measurement again collected demographic data, variable information, and contact details.

Questionnaire data were matched based on the contact information provided by participants (either phone number or WeChat ID).

Statistical Methods:-

Descriptive statistics and correlation analysis of the main variables were conducted using SPSS 22.0 software. The PROCESS macro in regression analysis was used to verify the mediating role of self-compassion.

Results and Analysis:-

Attrition Analysis

To examine whether attrition caused any systematic bias in the study results, a comparison was conducted between the 160 validly matched participants and the 319 participants who dropped out. The results from Time Point 1 were used to perform the analysis. First, chi-square tests were conducted for gender, education level, and field of study. The results showed no significant differences: gender ($\chi^2 = 1.178$, $p = 0.181$), education level ($\chi^2 = 4.522$, $p = 0.210$), and field of study ($\chi^2 = 3.258$, $p = 0.196$). Independent samples t-tests were then conducted for age, high standards, discrepancy, self-compassion, and subjective well-being, and no significant differences were found (Table 2.2). The

chi-square tests and t-tests indicated that there were no significant differences in demographic characteristics or main variables between the retained sample and the attrition sample.

Table 2.2:- Independent Samples t-test Between Follow-up and Dropout Samples.

Variable	t	p	Mean Difference	Cohen's d
Age	-0.8	0.426	-0.25	-0.08
High Standards	1.09	0.28	0.53	0.11
Discrepancy	1.66	0.099	2.32	0.16
Self-Compassion	-0.97	0.331	-1.64	-0.1
Subjective Well-Being	0.93	0.352	0.22	0.09

Descriptive Statistics and Correlation Analysis

The correlations between adaptive perfectionism (T1), maladaptive perfectionism (T1), self-compassion (T2), and subjective well-being (T3) are shown in Table 2.3. Maladaptive perfectionism was significantly negatively correlated with subjective well-being ($r = -0.477$, $p < 0.01$) and self-compassion ($r = -0.602$, $p < 0.01$). Self-compassion was significantly positively correlated with subjective well-being ($r = 0.629$, $p < 0.01$). Adaptive perfectionism was not significantly correlated with either self-compassion or subjective well-being.

Table 2.3:- Correlation analysis among major variables.

	variable name	M	SD	1	2	3	4
1	T1hst	32.16	5.08	1			
2	T1dis	46.94	14.59	.244**	1		
3	T2com	75.58	17.95	.060	-.602**	1	
4	T3hap	9.70	1.47	.413	-.477**	.629**	1

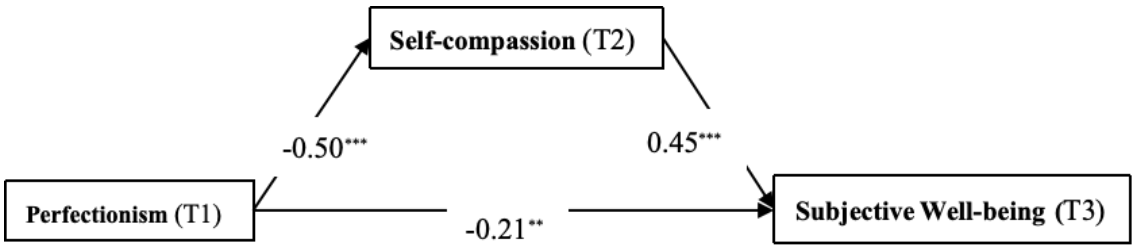
Note: * $p < 0.05$, ** $p < 0.01$; T1hst = T1 High Standards, T1dis = T1 Discrepancy, T2com = T2 Self-Compassion, T3hap = T3 Subjective Well-Being

Mediation Effect Test

Using the PROCESS macro in SPSS 22.0, Model 4 was selected, and 5000 bootstrap samples were generated to test the mediation effect of self-compassion (T2) between maladaptive perfectionism (T1), adaptive perfectionism (T1), and subjective well-being (T3). After controlling for gender, age, education level, and major type, the results indicated that self-compassion partially mediated the relationship between maladaptive perfectionism and subjective well-being, supporting Hypothesis 1.1 (Table 2.4). However, the mediation effect of self-compassion between adaptive perfectionism and subjective well-being was not significant, and Hypothesis 1.2 was not supported.

Table 2.4:- Mediation Analysis of the Effect of Self-Compassion on Maladaptive Perfectionism and Subjective Well-Being (n=160).

Effect Type	Effect Value	Standard Error	Boot 95% CI	Relative Mediation Effect
Total Effect	-0.4346	0.0704	[-0.5737,-0.2955]	
Direct Effect	-0.2073	0.0745	[-0.3544,-0.0602]	47.70%
Indirect Effect	-0.2273	0.0517	[-0.3527,-0.1407]	52.30%



Note: All values are standardized effects; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 2.2 Mediation Effect of Self-Compassion on Maladaptive Perfectionism and Subjective Well-Being

Research Conclusions:-

This study, through a longitudinal survey, examined the relationships between perfectionism, self-compassion, and subjective well-being, and explored the mediating role of self-compassion between perfectionism and subjective well-being.

The results showed that maladaptive perfectionism (T1) negatively predicted subjective well-being (T3), meaning that individuals who set excessively high and unrealistic standards for themselves and find it difficult to experience self-satisfaction tend to have lower levels of well-being. This finding is consistent with previous research (Frost et al., 1993; Neff, 2003). Additionally, maladaptive perfectionism (T1) also negatively predicted self-compassion (T2), indicating that individuals with stronger self-criticism are less likely to engage in self-soothing behaviors, which is consistent with the findings of Mehr and Adams (2016). On the other hand, self-compassion (T2) positively predicted subjective well-being (T3), suggesting that higher levels of self-compassion contribute to greater well-being, supporting previous studies (Allen & Leary, 2010).

Self-compassion partially mediated the relationship between maladaptive perfectionism and subjective well-being, indicating that self-compassion can buffer the negative impact of maladaptive perfectionism on well-being. However, the mediation effect of self-compassion between adaptive perfectionism and subjective well-being was not significant, suggesting that the pursuit of high standards does not necessarily affect well-being, but also does not significantly enhance it.

The findings further confirm the importance of examining perfectionism in its different dimensions and provide a basis for counselors to design interventions targeting maladaptive perfectionism, particularly through self-compassion training. Although the study had a high attrition rate (77%), the final sample size was still within an acceptable range, and the results are considered to be reasonably representative.

Study Two

Research Purpose and Hypotheses

Study One confirmed that self-compassion plays a partial mediating role in the relationship between maladaptive perfectionism and subjective well-being. This finding is significant for designing interventions aimed at enhancing the well-being of individuals with maladaptive perfectionism. However, it remains unclear how much perfectionism changes over time, while self-compassion has been proven to be malleable and can be improved through self-compassion training. Evidence suggests that even brief self-compassion interventions can have a significant positive impact on well-being (Adams & Leary, 2007).

In clinical practice, clinicians often attempt to directly change maladaptive perfectionistic cognitions in order to reduce their negative impact. However, indirect strategies, such as self-compassion interventions, may also be effective by altering the individual's relationship with difficult thoughts, thereby enhancing overall well-being.

Therefore, Study Two aims to design a 14-day online intervention program to increase self-compassion and subjective well-being, and reduce maladaptive perfectionism in individuals with high maladaptive perfectionism. The effectiveness of the intervention will be assessed by examining changes in self-compassion, subjective well-being, and maladaptive perfectionism scores.

Research hypotheses are as follows:

1. Hypothesis 2.1: The intervention will significantly increase individuals' self-compassion levels, with the intervention group showing a significant increase in self-compassion scores compared to the waitlist group.
2. Hypothesis 2.2: The intervention will significantly increase individuals' subjective well-being, with the intervention group showing a significant increase in subjective well-being scores compared to the waitlist group.
3. Hypothesis 2.3: The intervention will significantly reduce individuals' maladaptive perfectionism, with the intervention group showing a significant reduction in maladaptive perfectionism scores compared to the waitlist group.

Research Methods:-

Participants

Based on previous research (Nadeau et al., 2021), a power analysis using G*Power software was conducted, showing that with a medium effect size (0.25) and a significance level of 0.05, a total sample of 56 participants would be needed to achieve 80% statistical power. Considering participant attrition, assuming that only 70% of participants complete the study, the minimum required sample size is 80 participants.

Participants were recruited online from university students, with 230 participants passing attention checks and completing the initial screening questionnaires (demographic information, Self-Compassion Scale, Perfectionism Scale, and DASS-21). Participants were then selected based on inclusion and exclusion criteria.

Inclusion criteria:
(1) Aged 18-35 years;
(2) Maladaptive perfectionism score on the "Discrepancy" dimension ≥ 45;
(3) Self-compassion score ≤ 77 (median score);
(4) Mild to moderate levels of anxiety (8-14), depression (10-20), or stress (15-25) based on the DASS-21 scores.

Exclusion criteria:
(1) A history of psychiatric diagnoses or currently taking medication;
(2) Currently undergoing psychological counseling or any other mental health-related intervention or treatment.

In addition, after excluding participants without valid contact information (n=24), a total of 78 participants met the eligibility criteria and were included in the study. The participants were randomly assigned to the intervention group and the waiting group using an Excel random number table. To account for potential higher attrition in the intervention group, an unequal allocation was employed, with 42 participants in the intervention group and 36 participants in the waiting group. Participants were unaware of their group assignment.

Table 3.1:- Basic Information of Participants.

Basic Information	Intervention Group	Waiting Group
Gender	Male	16 (38.1%)
	Female	26 (61.9%)
Age Group	18-23	33 (78.6%)
	24-29	9 (21.4%)
	30-35	0 (0%)
Education Level	Associate Degree	1 (2.4%)
	Bachelor's Degree	29 (69%)
	Master's Degree	10 (23.8%)
	Doctoral Degree	2 (4.8%)
	Others	0 (0%)

Note: Data in the table are presented as N (%)

Questionnaire Measures

(1) Demographic Information: Data collected included participants' age, gender, education level, and screening questions.
(2) The Almost Perfect Scale – Revised Short Form (Chinese version): As used in Study 1. In Study 2, the Cronbach's α coefficients for the subscales of discrepancy were α = 0.916 (intervention group) and α = 0.878 (waiting group).
(3) The Self-Compassion Scale (Chinese version): As used in Study 1. In Study 2, the overall Cronbach's α coefficients for the scale were α = 0.809 (intervention group) and α = 0.765 (waiting group).
(4) Index of Well-Being: As used in Study 1. In Study 2, the Cronbach's α coefficient for the scale was α = 0.747 (intervention group) and α = 0.818 (waiting group).
(5) DASS-21 (Depression, Anxiety, and Stress Scale – 21 Items) Chinese version: Used to measure participants' levels of depression, anxiety, and stress. In this study, the Cronbach's α coefficients for the subscales were as follows: Anxiety α = 0.848 (intervention group) and α = 0.695 (waiting group), Stress α = 0.824 (intervention group) and α = 0.795 (waiting group), Depression α = 0.850 (intervention group) and α = 0.831 (waiting group).

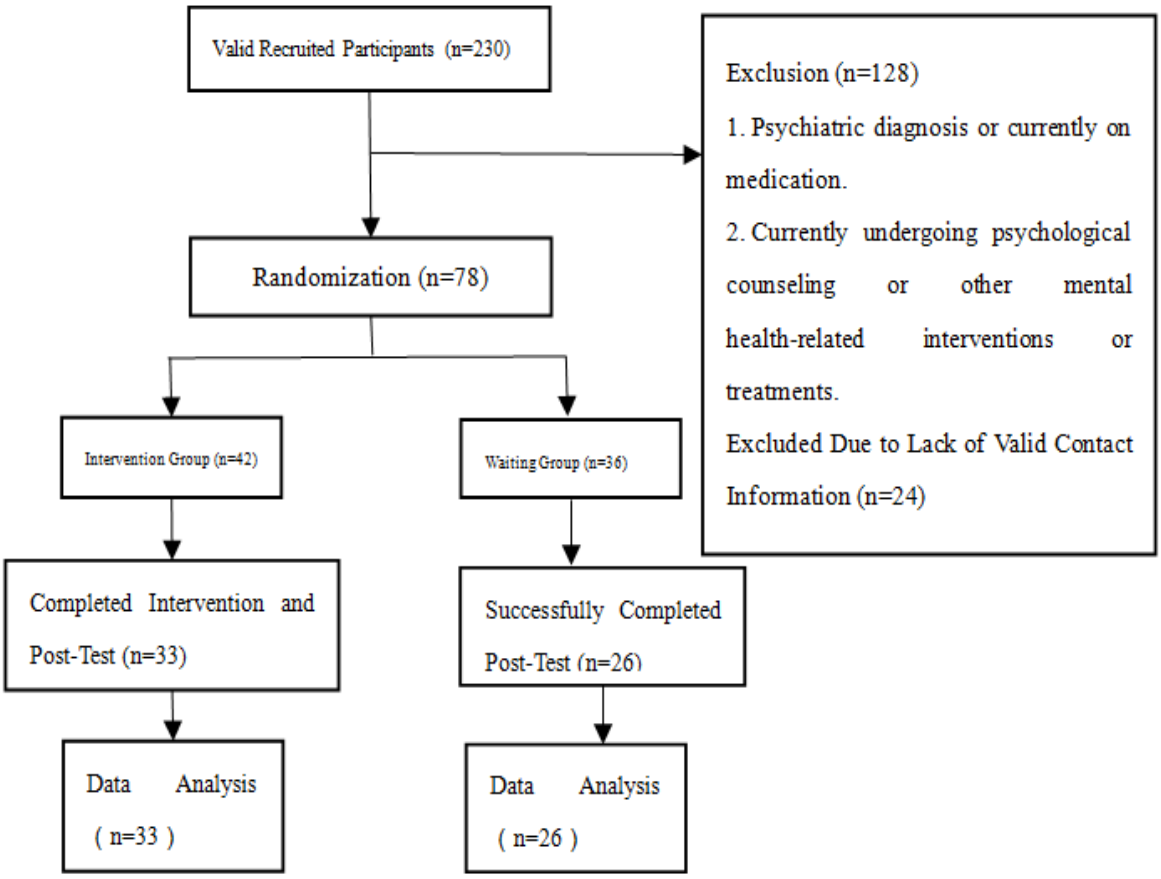


Figure 3.1:- Research Flowchart.

Study Procedure:-

Participants first read the informed consent form, which included information on the qualifications of the researchers, the main content, duration, rationale, and compensation for the study. Upon agreeing to participate, they completed an initial screening questionnaire.

Participants were screened based on demographic information and inclusion/exclusion criteria. Using Excel's random number generator, eligible participants were randomly assigned to either the intervention group or the waiting group. Two WeChat groups were established, corresponding to the intervention and waiting groups, and participants were invited to join their respective groups.

Daily course content was released via the "Qu Lianxi Pro" mini-program. From the first day of the program, content for the following day was updated at midnight, lasting for a total of fourteen days. Participants were required to complete the tasks for each day before midnight, recording their completion by checking in. The daily commitment for participants was approximately 10-20 minutes of learning and practice.

Once all participants had joined their respective groups, the intervention group began the course, while the waiting group started their course two weeks later, after the intervention group's course was completed.

Upon completion of the course, participants in the intervention group had two days to complete the post-test questionnaire, which covered similar content to the pre-test, with the addition of the question: "Have any significant life events occurred recently that have had a major impact on you?" and feedback on the course.

The waiting group also had two days to complete the post-test questionnaire, which included the same question regarding significant life events. The course schedule and procedures for the waiting group were identical to those of the intervention group.

This study was approved by the Ethics Review Committee of the School of Psychology and Cognitive Science, Peking University.

Intervention Design

Considering that a 7-day study might be insufficient to produce lasting and effective changes, and that a month or several months of intervention could be too long, with the risk that participants may struggle to adhere to an entirely online format, a 14-day online intervention was designed based on previous research (Kelman et al., 2018; Halamová et al., 2021; Wilson, 2019).

The text materials and content arrangement of the intervention primarily referenced books such as The Power of Self-Compassion, Mindful Self-Compassion: 51 Exercises to Courageously Love Yourself, Mindful Self-Compassion Professional Handbook, and Making Peace with Your True Self, with all copyrights held by the original authors. The mindfulness audio used in this study was created by the researchers based on the audio materials in Mindful Self-Compassion: 51 Exercises to Courageously Love Yourself.

The intervention was divided into five main sections:

1. Days 1–3: Introduction to the course, covering key concepts and core mindfulness practices.
2. Days 4–7: Focus on learning and practicing strategies for addressing self-criticism, negative beliefs, and the negative emotions commonly associated with maladaptive perfectionism.
3. Days 8–10: Further learning and practice of core self-compassion exercises aimed at enhancing self-compassion skills.
4. Days 11–13: Encouraging focus on positive and beautiful aspects of life, fostering balanced awareness.
5. Day 14: Summary and review of the course content.

The primary exercises included were self-compassion meditations, loving-kindness meditations, and writing letters to oneself, all of which have been proven effective in enhancing self-compassion (Gilbert, 2009; Arimitsu, 2016; Neff & Germer, 2013).

Table 3.2:- Intervention Protocol.

Date	Course Topic	Course Content and Goals
Day 1	Beginning the Journey of Self-Compassion	Introduction to the concept, mechanisms, and benefits of self-compassion; helping participants understand the principles of the course.
Day 2	Awareness of the Present Moment	Introduction to mindfulness as a core component of self-compassion; guiding participants to experience and practice mindfulness.
Day 3	Mindfulness and Self-Compassion	Continued mindfulness practice to enhance experience and skills; introduction to the core practice of "soothing touch" to help participants manage stress.
Day 4	The Power of Self-Criticism	Mindfulness practice; introduction to the concept and mechanisms of "self-criticism"; helping participants recognize and understand their patterns of self-talk, laying the foundation for future change.
Day 5	Letting Go of Resistance	Mindfulness practice; introduction to the core concepts of "acceptance" and the impact of "resistance"; helping participants recognize and understand their patterns of thoughts, emotions, and behaviors, laying the foundation for future change.
Day 6	Coping with Difficult Emotions	Introduction to the five stages of "coping with difficult emotions" and related practices, along with three strategies for managing difficult emotions; helping participants learn and practice more adaptive emotional coping methods.
Day 7	Finding Negative Core Beliefs	Mindfulness practice; introduction to the concept of "negative core beliefs" and exercises to identify one's core beliefs; helping participants recognize and understand the key beliefs underlying their emotional experiences and behaviors.
Day 8	Cultivating Loving-Kindness	Core practice: "Loving-Kindness Meditation"; guiding participants to explore their inner needs and practice "Loving-Kindness Meditation," sending blessings to themselves; cultivating the seed of self-compassion.
Day	Finding Your	Core practice: "Loving-Kindness Meditation" or "Soothing Touch"; experiencing the

9	Compassionate Voice	impact of different forms of self-talk; writing a self-compassionate letter to oneself to foster new, kinder, and more compassionate ways of self-dialogue.
Day 10	Daily Self-Compassion	"Self-Compassion Diary"; practicing and experiencing kinder and more compassionate self-talk, consolidating the content of Day 9; promoting greater changes in daily life.
Day 11	My Core Values	Exercise: "Exploring Core Values"; focusing on internal core values to help participants clarify their goals, enabling them to live closer to their core values, which is also a key goal of self-compassion.
Day 12	Embracing the Good	Key practices: "Savoring Food" and "Counting Blessings"; introducing the concept of negativity bias and ways to address it by focusing on positive experiences and happiness in life; helping participants have a richer, more balanced life experience.
Day 13	Self-Appreciation	Exercise: "Discovering Your Own Beauty"; helping participants recognize their negative bias towards themselves and continuing the exploration of the beauty in life from the previous day; enhancing awareness of their positive qualities and strengths, leading to a more balanced and comprehensive self-understanding.
Day 14	Moving Forward	Continued mindfulness practice; review of course experiences and achievements; helping participants apply self-compassion in their future lives.

Statistical Methods:-

The statistical analysis in this study was conducted using SPSS 22.0 software. Descriptive statistics were calculated, and repeated measures analysis of variance (ANOVA) was performed on the main outcome variables.

Study Results:-

Attrition Analysis

To assess whether data attrition caused any systematic bias, a comparison was made between the 9 participants who dropped out of the intervention group and the 33 participants who completed both the intervention and the pre- and post-tests, as well as between the 10 participants who dropped out of the waiting group and the 26 participants who completed the pre- and post-tests. The analysis was based on the pre-test results from Time 1. A chi-square test was conducted for gender and education level, while independent samples t-tests were performed for age, differences in self-compassion, and subjective well-being.

In the intervention group, no significant differences were found in terms of gender ($\chi^2 = 0.196$, $p = 0.658$), education level ($\chi^2 = 2.247$, $p = 0.523$), self-compassion, and subjective well-being (see Table 3.3). However, the attrition group had significantly lower difference scores compared to the retained participants (see Table 3.3), indicating that participant attrition may have introduced some systematic bias in the results.

In the waiting group, no significant differences were observed in terms of gender ($\chi^2 = 1.772$, $p = 0.621$), education level ($\chi^2 = 1.158$, $p = 0.282$), differences in self-compassion, and subjective well-being (see Table 3.4).

Table 3.3:- Independent Samples t-test between Retained and Attrited Participants in the Intervention Group.

Variable	t	p	Mean Difference	Cohen's d
Age	1.67	0.109	1.15	0.52
Discrepancy	2.23	0.032*	5.61	0.63
Self-Compassion	-0.44	0.666	-2.32	-0.18
Subjective Well-Being	-0.43	0.666	-0.35	-0.16

Note: * $p < 0.05$

Table 3.4:- Independent Samples t-test Between Follow-up and Dropout Samples in the Waiting Group.

Variable	t	p	Mean Difference	Cohen's d
Age	-0.9	0.388	-1.4	-0.39
Discrepancy	-1.34	0.19	-4.4	-0.5
Self-Compassion	-0.89	0.381	-3.42	-0.34
Subjective Well-Being	0	0.999	<0.01	0

Between-Group Comparison

To examine whether there were baseline differences between the two groups with valid follow-up data, a comparison was made between the 33 participants in the intervention group and the 26 participants in the waiting group based on their pre-test results at Time 1. Chi-square tests were performed for gender and education level, while independent samples t-tests were conducted for age, differences in self-compassion, and subjective well-being.

No significant differences were found between the two groups in terms of gender ($\chi^2 = 0.203$, $p = 0.652$), education level ($\chi^2 = 2.539$, $p = 0.468$), age, differences in self-compassion, or self-compassion levels. However, the intervention group exhibited significantly lower levels of subjective well-being compared to the waiting group, which could potentially introduce bias into the subsequent results (see Table 3.5).

Table 3.5:- Independent Samples t-test between the Intervention Group and the Waiting Group.

Variable	t	p	Mean Difference	Cohen's d
Age	0.55	0.584	0.32	0.15
Discrepancy	0.32	0.749	0.89	0.13
Self-Compassion	-1.36	0.181	-4.43	-0.34
Subjective Well-Being	-2.4	0.020*	-1.25	-0.69

Note：* $p < 0.05$

Intervention Effectiveness Test

A 2 (Group: Intervention Group/Waiting Group) × 2 (Time: Pre-test/Post-test) repeated measures analysis of variance (ANOVA) was conducted, with self-compassion, subjective well-being, and discrepancy as dependent variables. Age, gender, education level, and life events were included as control variables.

Table 3.6:- Repeated Measures ANOVA for Main Variables (±s).

Subscale	Main Effect of Time			Main Effect of Group			Interaction Effect		
	FValue	P Value	Partial η^2	FValue	PValue	Partial η^2	FValue	P Value	Partial η^2
SCS	2.30	0.135	0.042	0.06	0.804	0.001	7.03	0.011	0.117
SWB	1.23	0.272	0.023	1.20	0.279	0.022	8.40	0.005	0.110
Discrepancy	1.85	0.180	0.034	0.767	0.385	0.014	8.43	0.005	0.137

Note: SCS = Self-Compassion Scale; SWB = Subjective Well-Being Index

The results of the repeated measures analysis of variance (ANOVA) for self-compassion scores indicated that neither the main effect of time nor the main effect of group was statistically significant (see Table 3.6). However, the interaction between time and group was statistically significant ($p = 0.011$). Further simple effects analysis revealed that the intervention group had significantly higher self-compassion scores post-intervention compared to baseline ($M = 12.11$, $SE = 2.39$, $p < 0.001$), whereas the waiting group showed no significant difference between post-test and baseline scores ($M = 2.49$, $SE = 2.70$, $p = 0.370$).

For subjective well-being scores, the repeated measures ANOVA results showed no significant main effects of time or group (see Table 3.6), but the interaction between time and group was statistically significant ($p = 0.005$). Further simple effects analysis indicated that the intervention group had significantly higher subjective well-being scores post-intervention compared to baseline ($M = 1.21$, $SE = 0.32$, $p < 0.001$), while the waiting group showed no significant difference between post-test and baseline scores ($M = -0.21$, $SE = 0.37$, $p = 0.555$).

For discrepancy scores, the repeated measures ANOVA results showed no significant main effects of time or group (see Table 3.6), but the interaction between time and group was statistically significant ($p = 0.005$). Further simple effects analysis found that the intervention group had significantly lower discrepancy scores post-intervention

compared to baseline (M = -10.40, SE = 1.74, p < 0.001), while the waiting group showed no significant difference between post-test and baseline scores (M = -2.69, SE = 1.97, p = 0.177).

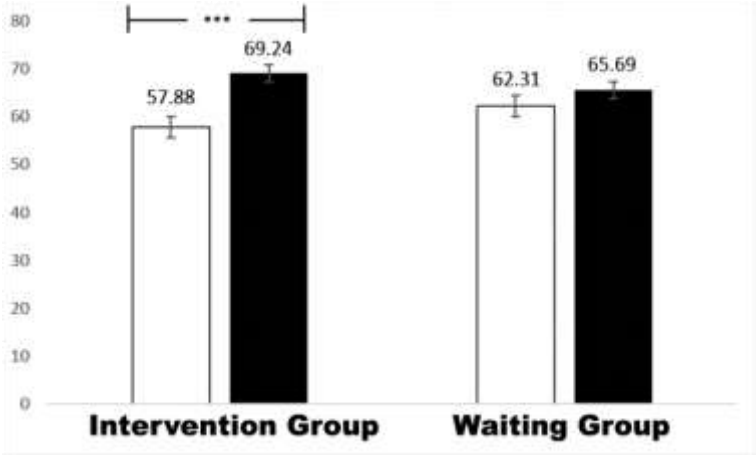


Figure 3.3:- Simple Main Effect of Subjective Well-Being.

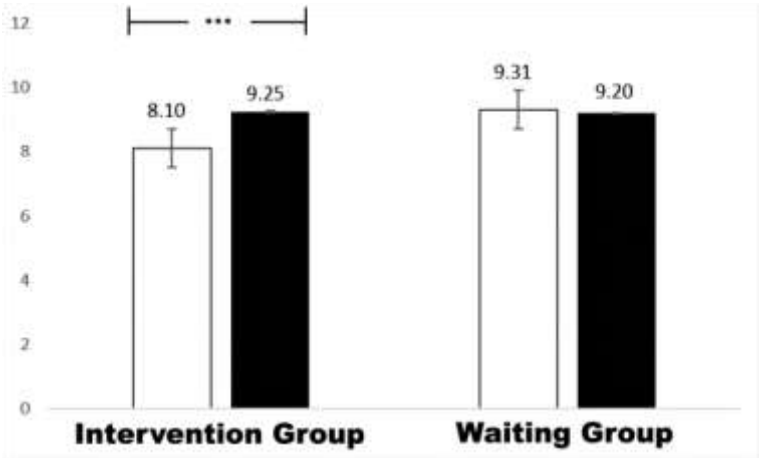


Figure 3.2:- Simple Main Effect of Self-Compassion.

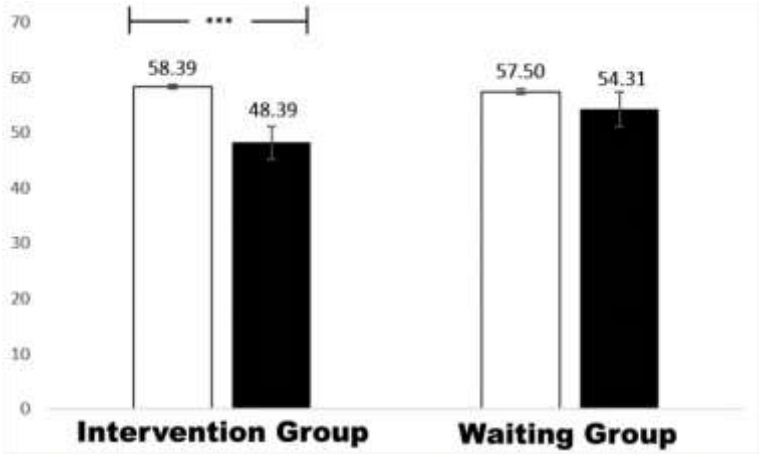


Figure 3.4:- Simple Main Effect of Maladaptive Perfectionism.

Study Conclusions:-

After a 14-day online self-compassion intervention, the intervention group showed significant improvements in self-compassion and subjective well-being scores compared to the waiting group, confirming Hypotheses 2.1, 2.2, and

2.3. This suggests that the online intervention program effectively enhances self-compassion and subjective well-being in individuals with maladaptive perfectionism. The principles and practices of self-compassion help reduce self-criticism, foster positive psychological strategies, and, in turn, enhance well-being. These findings are consistent with previous research (Leary, 2007; Odou, 2014).

Additionally, the intervention group exhibited a significant decrease in maladaptive perfectionism levels, which aligns with the positive effects of mindfulness interventions on perfectionism observed in Woodfin et al. (2021). The attrition analysis revealed that participants with lower levels of maladaptive perfectionism were less likely to complete the intervention, possibly due to their lower needs and motivation. In contrast, participants with higher levels of maladaptive perfectionism, who also exhibited lower subjective well-being, may have placed more value on the course and, therefore, were more likely to complete the intervention. This finding is consistent with the between-group comparison, where participants with lower levels of well-being were more likely to complete the intervention.

Discussion:-

This study, through two independent studies, thoroughly explored the mediating role of self-compassion between maladaptive perfectionism and subjective well-being, while also verifying the effectiveness of an online self-compassion intervention. The results further support the role of self-compassion as an important psychological regulator, providing a new intervention pathway for individuals with perfectionism. The main discussions of the study are as follows:

First, the results of Study 1 indicate that maladaptive perfectionism is closely associated with lower self-compassion and subjective well-being. Individuals with maladaptive perfectionism are more prone to self-criticism and negative emotions, making it difficult for them to experience happiness. Self-compassion, as a buffering mechanism, helps mitigate this negative impact. This finding is consistent with previous research, suggesting that self-compassion plays a generalizable role in moderating the relationship between perfectionism and well-being (Barnett & Sharp, 2016). In highly competitive academic and life environments, self-compassion provides important protective effects on individuals' mental health and emotional regulation.

Second, the intervention trial in Study 2 further validated the feasibility and effectiveness of the online self-compassion intervention. The 14-day online self-compassion practice significantly improved participants' self-compassion levels and subjective well-being, while reducing maladaptive perfectionism. This indicates that even short-term interventions can have a positive impact on individuals' psychological states. These findings support previous research on the positive effects of self-compassion interventions on mental health (Ferrari et al., 2019). Additionally, the low cost and high accessibility of online interventions make them a flexible and convenient form of mental health support, well-suited to the needs of university students.

The study also highlights that self-compassion interventions are beneficial not only for individuals with high levels of maladaptive perfectionism but also for those struggling with self-criticism and high levels of stress. The successful implementation of this intervention provides empirical evidence for the development of future online psychological intervention programs. Given the academic pressures and mental health challenges faced by university students, the intervention design in this study contributes to expanding the reach of psychological services, particularly in environments with limited mental health resources.

However, this study has several limitations. First, the sample included a higher proportion of female participants, and future studies should aim for more diverse samples to enhance the generalizability of the findings. Second, the long-term maintenance of the intervention effects has not been verified, and future research could explore the lasting effects of the intervention through follow-up assessments. Furthermore, the lack of a positive control group in the intervention design means that comparisons with other intervention methods were not made. Future research could introduce various control groups to further validate the relative effectiveness of the intervention.

In summary, this study makes significant theoretical and practical contributions, revealing the important moderating role of self-compassion in individuals with maladaptive perfectionism and developing a convenient and effective online intervention program. Future research could further explore the differences in effectiveness between different intervention models and optimize self-compassion interventions to better assist individuals with psychological distress in improving their well-being and alleviating psychological stress.

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