

The mediating role of self-compassion between proactive coping and perceived stress among students

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Abstract

Proactive coping has been documented as a significant predictor of perceived stress. When facing stressful events, the more individuals use proactive coping strategies, the lower their stress level will be. However, there is still little research of possible latent factors participating in this relationship to explain how proactive coping can reduce of perceived stress, directly and indirectly. This study aimed to examine whether self-compassion can mediate the relationship between proactive coping and perceived stress among students. In a cross-sectional study carried out in 2019, we invited 384 undergraduate students in Hanoi (Vietnam) to voluntarily complete a self-report questionnaire that measured proactive coping, self-compassion and perceived stress scale. Results showed that proactive coping was positively related to level of self-compassion, and both proactive coping and self-compassion were negatively related to stress scores. The effect of proactive coping on stress was eliminated when self-compassion was controlled, showing the mediating role of self-compassion in the relationship between proactive coping and perceived stress score. Furthermore, among six factors contributing to the concept of self-compassion, data documented mediating role of “self-kindness,” “self-judgment,” and “mindfulness” while no mediating role of “common humanity,” “isolation,” and “over-identification” was observed. Among three mediating factors, mindfulness appeared to be the most important factor explaining the relationship between proactive coping and perceived stress. These results consolidate existing literature of the

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protective role of self-compassion on psychological health, and hence provide more support for the application of self-compassion, especially of mindfulness, in working with people with stress.

Keywords

Self-compassion, proactive coping, stress, students, Vietnam

Introduction

Mental health has become an increasingly critical issue among children and youth in Vietnam, as reported by ODI and UNICEF.¹ This report also points out that high expectations and pressures from family, school and society in general into youth's private life such as study, marriage and career orientation alongside with the weakening of protective factors as family bond and healthy friendship have resulted in the increasing risk of such threats as anxiety, depression, social isolation, and suicidal intention. Vietnamese youth is, of course, not alone in the realm of stress. Several studies in various contexts show that stress has become "a modern complaint", as called by Jackson,² among this population.

There is a well-established literature on stress and related factors such as coping strategies among youth in general and students in particular in both Western and East countries (e.g.^{3–5}), and also in Vietnam.⁶ International investigations show that when facing stressful events, the more individuals use proactive coping strategies (such as reflective coping, strategic planning, preventive coping, instrumental support seeking, and emotional support seeking), the lower their stress level will be.^{7,8} Proactive coping has been documented as a significant predictor of perceived stress.^{9,10} However, there is still little research of possible latent factors participating in this relationship, so more insight into how proactive coping can explain the decrease of perceived stress, directly and indirectly, is still in need.

This study, applying Cohen et al.¹¹ perspective that stress is a subjective state in that the impact of stressful events on individuals is determined by their own perception, attempts to explain the mechanism in which a specific population of Vietnamese youth—college students—perceive stress in their daily life. We selected college students as study sample instead of youth in general in order to reduce the intervention of other demographic factors such as age and educational level on the relationships between explaining and outcome variables. Continuing a powerful theoretical framework in recent studies on perceived stress, we examine the interactions between students' perceived stress and their proactive coping, applying the multidimensional approach developed by Greenglass, Schwarzer,¹² which integrates processes of personal life management and self-regulatory goal attainment into an instrument to investigate the way individuals cope with threats. At the same time, advised by recent studies on the role of self-compassion (e.g.^{13,14}), this study tests whether or not self-compassion can mediate the relationship between proactive coping and student's perceived stress.

Self-compassion is a concept originated from Buddhism¹⁵ and developed into empirical research first by Neff¹⁶ and then several health researchers to describe the ability of individuals in treating themselves with kindness, concern and

mindfulness in face of stressful events. According to Kristin Neff,¹⁶ self-compassion—which “involves being touched by and open to one’s own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one’s suffering and to heal oneself with kindness....” also involves offering nonjudgmental understanding to one’s pain, inadequacies and failures, so that one’s experience is seen as part of the larger human experience—is consisted of three components, each of them has a positive and a negative aspect that represents compassionate versus uncompassionate behavior: self-kindness versus self-judgment (i.e. being sympathetic, understanding, and gentle to oneself when facing painful conditions instead of criticizing or getting angry with oneself), a sense of common humanity versus isolation (i.e. recognizing that painful conditions such as failure or lost are common experiences that everyone has to undergo some times in their life instead of seeing as if only “me” undergo these pains), and mindfulness versus over-identification (accepting challenges and all negative feelings raised by them as they are instead of suppressing or exaggerating them).

The idea underlying self-compassion is that a healthy attitude toward oneself partly stems from “de-emphasizing the separate self, rather than by building up and solidifying one’s unique identity.”¹⁶ By doing so, one can see the difficult situation which they are being stuck in and the negative feelings which they are experiencing as common and inevitable issues that all humans have to undergo in their life, hence they can hold a more open and acceptive attitude toward the difficult conditions they are undergoing and a more sympathetic and loving attitude toward themselves. This attitude, we hypothesize that, not only reduce the perceived stress caused by the conditions, but also motivate proactive behaviors to overcome difficulties and boost their wellbeing. On the contrary, persons with low level of self-compassion tend to over-identify themselves with egocentric perspective such as “only *me* has to undergo these pains” and/or a hard attitude toward themselves such as “I am a loser and deserve all these lost and pain”...); and the burden of this over-identification lessens their proactivity and increase their perceived stress.

Based on this conceptual framework of self-compassion, this study hypothesizes that self-compassion mediates the relationship between proactive coping and perceived stress. By examining the relationship between these factors, we hope to contribute an evidence of the mechanism explaining perceived stress from Vietnamese sample in general and the role of self-compassion and proactive coping in particular to the existing literature, and accordingly develop some practical implications for future research and practice.

Methods

Study design

This was a cross-sectional study.

Study participants

This study was conducted on 384 undergraduate students of Vietnam National University in Ha Noi, including 161 male (42%) and 223 female (58%). Participants' average age was 19.5 ± 1.41 ; ranging from 17 to 26 years. A total of 142 students were freshmen (37%), 91 on their second year (23.7%), 86 on third year (22.4%), and the remaining 59 were fourth year students (15.4%). A total of 84 students majored in social sciences and humanities (21.9%), 73 in natural sciences (19%), 68 in economics (17.7%), 65 in foreign languages (16.9%), 48 in pedagogy (12.5%), and 46 in pharmacy (12%). Questionnaire administration was conducted from 15th October to 30th November, 2019.

Study setting

The study was conducted in six universities belonging to Vietnam National University of Hanoi (University of Social Sciences and Humanities, Hanoi University of Science, University of Engineering & Technology, University of Languages and International Studies, and University of Economic and Business). In 2019, Vietnam National University of Hanoi was classified as a 124th in Quacquarelli Symonds (QS) Regional University Rankings for Asia.

Measurements

Dependent variable. This study used the *10-item perceived stress scale* developed by Cohen and Williamson¹⁷ to assess how often undergraduate students perceive their life as stressful during the past month before the survey (e.g. "In the last month, how often have you been upset because of something that happened unexpectedly?"). Participants were asked to rate the frequency of their feelings and thoughts in the month prior to the survey on a 5-point scale ranging from 0 (never) to 4 (very often). Six items were negative (1, 2, 3, 6, 9, and 10) and four positive (4, 5, 7, and 8). To calculate the total score, the four positive items were reversely scored, and then all the items were summed, with scores ranging from 0 to 40. Higher score indicates greater perceived stress. Internal consistency of the scale in the current study is 0.75.

Independent variables. Socio-demographic variables examined in this study includes sex, age, year of schooling, and students' major. Two explaining variables are proactive coping and self-compassion.

Students' proactive coping strategies are measured using *The Proactive Coping Inventory* developed by Greenglass et al.¹² This scale includes 55 items rating on a 4-point Likert scale (1 = not at all true to 4 = completely true), measuring reactions of participants to various situations (e.g. "I try to let things work out on their own"). The scores range from 55 to 220. The higher the score is, the more participants are proactive in coping with difficult situations. Internal consistency for the proactive coping scale in this study is 0.91.

Self-compassion is measured using *The Self-Compassion Scale* developed by Neff.¹⁸ This scale includes 26 items tapping six dimensions of self-compassion namely Self-Kindness (e.g. “I try to be loving toward myself when I’m feeling emotional pain”), Self-Judgment (e.g. “I’m disapproving and judgmental about my own flaws and inadequacies”), Common Humanity (e.g. “I try to see my failings as part of the human condition”), Isolation (e.g. “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world”), Mindfulness (e.g. “When something painful happens I try to take a balanced view of the situation), and Over-identification (e.g. “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Items are rated on a 5-point Likert scale (1 = almost never to 5 = almost always). The Self-Judgment, Isolation, and Over-Identification are reverse-scored before deriving the overall scale mean, which range from 26 to 130. As proposed by Neff,¹⁸ exploratory factors analysis shows six-factor model on our sample, explaining 54,286% of the variance (KMO = 0.848, $p < 0.001$). For our analysis, we use first the composite score and then factor scores in mediation analysis to examine the role of self-compassion on the relationship between proactive coping and perceived stress.

Three scales used in this study were originally in English. Repeated forward-backward translation procedure was adopted in this study as advised by Van de Vijver and Hambleton.¹⁹ Scales were firstly translated into Vietnamese. Then, the Vietnamese versions were translated back into English, and compared with the original English versions. Some modifications for the Vietnamese versions were done. After that, a pilot study was conducted on 50 students to check the face validity and reliability of the translated scales.

Data collection

Self-report questionnaire survey was deployed in steps to collect information. First an invitation letter and Questions and Answers (Q&A) factsheet were sent to invited students via email. One week later, investigators contacted students to ask if they were willing to participate in the research after understanding all information on the study. If they accepted, a questionnaire was delivered to them. About 448 students were invited to participate in the survey, 384 questionnaires were returned, making a response rate of 85.7%.

Data analysis and statistical method

Statistical analysis was performed using SPSS Statistical Software version 23.0. Correlations were examined by Pearson correlation coefficients. Mediation analysis was run using the PROCESS macro²⁰ which generates bootstrap confidence intervals to estimate indirect effects.

Table 1. Descriptive statistics of the relationship between perceived stress, proactive coping and self-compassion among students (*N* = 384).

Variables	Min	Max	Mean	SD	Pearson's correlations		
					1	2	3
1. Perceived stress	0	32	19.64	4.66	–		
2. Proactive coping	88	209	146.64	20.22	–0.285**	–	
3. Self-compassion	41	124	81.38	11.52	–0.608***	0.347***	–

p* < 0.01. *p* < 0.001.

Ethical considerations

Since participants were college students whereas researchers were college lecturers, violating participants' autonomy was the major threat when conducting this research. To protect participants' autonomy, firstly students' informed consent was ensured by sending out an invitation letter together with a well-established question and answer factsheet 1 week prior to the survey. Only students indicated their consent to participate were recruited for the study. Before questionnaire delivery, investigators checked again if participant understood all information provided in question and answer factsheet, and reminded them again their right to withdraw from the survey any time without asking for permission. No financial compensation was offered for participation.

Results

Descriptive statistics of the study variables and their inter-correlations are presented in the Table 1. As shown in Table 1, proactive coping was found negatively related to perceived stress ($r = -0.285$, $p < 0.01$) and positively related to self-compassion ($r = 0.347$, $p < 0.001$). The association between self-compassion and perceived stress among Vietnamese undergraduate students was also statistically significant and negative ($r = -0.608$, $p < 0.001$). These results met the requirements to test for a mediation effect as suggested by Baron and Kenny:²¹ a significant association should occur between (a) the predictor (proactive coping) and the mediator (self-compassion), (b) the mediator (self-compassion) and the outcome (perceived stress), and (c) the predictor (proactive coping) and the outcome (perceived stress).

Before testing mediation effect of self-compassion on the relationship between proactive coping and perceived stress, multivariate regression models were run to check possible confounding influence of demographic variables as sex, age, year of school and study major on proactive coping, perceived stress and self-compassion. No significant relations were found.

Table 2 presents the impact of proactive coping and self-compassion on perceived stress when staying alone and altogether. Results from regression analysis

Table 2. Regression analysis for proactive coping and self-compassion predicting perceived stress among Vietnamese students (N = 384).

Predictor	β		
	Model 1	Model 2	Model 3
Proactive coping	−0.285***		−0.079, ns
Self-compassion		−0.608***	−0.595***
R^2	0.078	0.368	0.389
F	31.321***	215.361***	111.872***

R^2 : coefficient of determination; F: test of overall significance; β : standardized regression coefficient. Model 1—predictor: proactive coping; Model 2—predictor: self-compassion; Model 3—predictors: proactive coping and self-compassion
*** $p < 0.001$. ns: non significant.

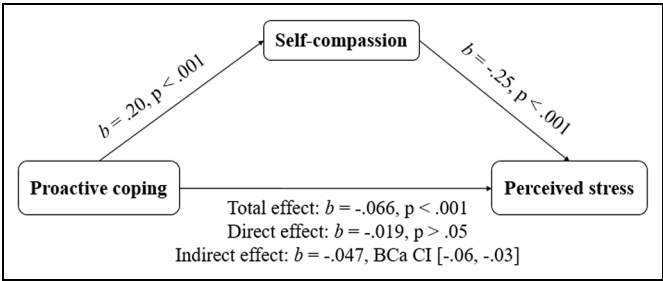


Figure 1. The mediation effect of self-compassion on the relationship between proactive coping and perceived stress.

showed that proactive coping was a significant predictor of perceived stress. Students with higher scores on proactive coping reported lower levels of perceived stress. $R^2 = 0.078$ demonstrated that proactive coping can explain 7.8% of the variance in perceived stress. Self-compassion was also a significant predictor of perceived stress with the fact that 36.8% the variance of perceived stress can be explained by self-compassion. Students with higher scores on self-compassion reported lower levels of perceived stress. The combination between proactive coping and self-compassion could significantly explain 39% of the variance in perceived stress ($R^2 = 0.39$, $p < 0.001$).

Process macro was used to test whether or not self-compassion mediated the relationship between proactive coping and perceived stress. Indirect effects were estimated using 95% bias-corrected and accelerated bootstrap confidence intervals BCa CI, based on 5,000 replications. The indirect effect was deemed significant if the 95% BCa CI did not span zero.²⁰ K^2 effect size was reported for analyses without covariates. Figure 1 summarizes the results from Hayes’s test for mediating

model in this study. The indirect effect indicated that self-compassion was a significant mediator in the relationship between proactive coping and perceived stress on our sample. With 95% confidence, we could assume that this result was significant: $b = -0.047$, 95% bias-corrected and accelerated confidence interval—BCa CI $[-0.06, -0.03]$, $K^2 = 0.20$. We could interpret that the indirect effect was about 20% of the maximum value that it could have been. Result represented a medium-to-large effect.²² The total effect model was also significant: $b = -0.066$, $p < 0.001$, BCa CI $[-0.09, -0.04]$. However, the effect of proactive coping on perceived stress was eliminated after controlling for the effect of self-compassion: $b = -0.019$, $p > 0.05$, BCa CI $[-0.038, 0.002]$. In sum, our results supported that self-compassion mediated the relationship between proactive coping and perceived stress.

To further examine the role of each factor contributing to the concept of self-compassion, we then tested to see if self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification individually mediated the relationship between proactive coping and perceived stress. Results demonstrated that proactive coping remained significant predictor for perceived stress when controlling for all factors of self-compassion, however the strength of the coefficient was lower: $b = -0.03$, $p < 0.05$. Among six factors, our data documents a partially mediating role of self-kindness: $b = -0.25$, $p < 0.01$, BCa CI $[-0.39, -0.09]$, $K^2 = 0.06$; self-judgment: $b = 0.26$, $p < 0.01$, BCa CI $[.11, .40]$, $K^2 = 0.02$; and mindfulness: $b = -0.35$, $p < 0.01$, BCa CI $[-0.54, -0.16]$, $K^2 = 0.10$. On the contrary, we did not find mediating role of common humanity, isolation, and over-identification on the relationship between proactive coping and perceived stress. Among three mediating factors, mindfulness appeared to be the most important factor explaining this relationship.

Discussion

Our investigation on Vietnamese undergraduate students shows that in general, the average level of perceived stress that students are feeling ($M = 19.64$, $SD = 4.66$) is slightly lower than that of students in other contexts such as in the US as reported by Cohen et al.¹¹ with $M = 23.18$, $SD = 7.31$ and Homan and Sirois²³ with $M = 25.7$, $SD = 7.9$; in France as reported by Saleh et al.²⁴ with $M = 30.48$, $SD = 6.17$. In addition, the mean score of self-compassion amongst Vietnamese students is also slightly higher than in other context with the mean score = 81.38 ($SD = 11.52$), whereas a study of Fong and Loi²⁵ on college students of various nationalities shows that the mean score of students' self-compassion is 74.62. At the same time, mean score of proactive coping ($M = 146.64$; $SD = 20.22$) of Vietnamese students is quite high, contributively explaining for the relatively low score of perceived stress.

Our results has shown that proactive coping has a significant negative association with students' perceived stress. This result is consistent with previous research reporting proactive coping's role in reducing stress in particular and increasing individual's psychological life quality in general in various samples. For example,

in the study on the adjustment among college freshman after 4 weeks of their college orientation, Gan et al.²⁶ show that the higher score of proactive coping students have, the lower their stress score is. This study also recognizes an important role of proactive coping in university adjustment in comparison with preventive coping. Cruz, Cabrera²⁷ find that proactive coping when dealing with work-related stresses has a positive impact on the quality of life of nurses. On a sample of teachers, Verešová²⁸ demonstrates that the more the teachers are proactive, the significantly lower their experienced stress is. Proactive coping is often considered as individual's efforts to actively seek new challenges, create new opportunities, and facilitate promotion toward challenging goals so that they will be less negative.²⁹ In this sense, participants with high proactive coping score can take more constructive and purposeful actions when dealing with different situations.¹² Through various strategies in proactive coping such as reflective coping, strategic planning, instrumental support seeking, emotional support seeking, people high in proactive coping score can face difficult events without experiencing high level of stress. Because proactive coping can make it possible to deal with anticipated and possible stressful situations that have not yet occurred,²⁹ proactive coping can develop opportunities to grow on the safe side,³⁰ and hence reduce the level of stress.

More importantly, our study documents the mechanism in which the multidimensional proactive coping as developed by Greenglass et al.¹² affects perceived stress. Our data shows that when removing the effect of self-compassion, the relationship between multidimensional proactive coping and perceived stress disappears, indicating that the relationship between multi-dimensional proactive coping and perceived stress is explained by self-compassion. Self-compassion has been confirmed to play mediating role in different models explaining stress and depression, such as in the relationship between negative affect and depression, burnout, and depression in tertiary students;²⁵ in the relationship between maternal support, family functioning, attachment style, and depression, anxiety, social connectedness in adolescents and young adults;³¹ in the relationship between maladaptive perfectionism and depressive symptoms in college students³² or in the relationship between self-stigma and depression.³³ However, to our knowledge the mediation effect of self-compassion in the relationship between proactive coping and perceived stress has not been examined yet. Hence this finding contributes more empirical support for the protective role of self-compassion against distress as suggested by Neff.¹⁸

To be specific, the results of this study suggest that if proactive individuals—who are resourceful, responsible, and principled as defined by Greenglass et al.¹²—take a kind and understanding stance toward themselves when facing stressful events will have higher possibility of avoiding perceived stress.

In the same line with the research by Zeng et al.,³⁴ we find that whereas self-compassion as a composite factor mediates the relationship between proactive coping and perceived stress, not all components of self-compassion scale intervene the relationship. Among six components, mindfulness, following by self-kindness and then self-judgment, mediates the relationship between proactive coping and perceived stress with differential strength and different direction. This result suggests

that psychologists, when working with students with stress, should intervene to improve mindfulness and self-kindness. The roles of mindfulness and self-kindness are also documented in other studies. Shin and Lim³⁵ find that self-kindness is the key component of self-compassion which promotes positive mental health in Korean students. Shapiro et al.³⁶ find that learning mindfulness can reduce stress among health care professionals.

Our results hence contribute additional support for the application of self-compassion, especially mindfulness and self-kindness training in psychological practice with individuals experiencing stressful events. In fact, training self-compassion has been applied in many intervention models by psychologists when working with people with stress and depression and proved to be effective. For example, it is documented that a group therapy model called “Compassionate Mind Training” by Gilbert and Procter³⁷ which provide training to improve individuals’ self-compassion helps reduce depression, feelings of inferiority, submissive behavior, shame, and self-attacking tendencies. Shapiro et al.³⁸ find that individuals who are taught Mindfulness-Based Stress Reduction techniques and practice it report lower stress level than who did not practice.

Our findings further suggest that this practice may also work on Vietnamese populations, particularly college students, to help them cope with stress and depression. However, it should be noted that our sample is college students, which means that this sample is young and in general has a good physical health and is well-educated. More evidence is needed to determine whether or not the mediating role of self-compassion works in the relationship between proactive coping and perceived stress among other populations such as older persons or people with chronic or severe illness. Therefore, it is suggested that the relationship between perceived stress, proactive coping, and self-compassion should be tested in different populations to gain more insight into this theoretical explanation and enlarge the scope of applying self-compassion in practice.

Limitations

Although findings of this study make some significant contributions for the understanding of perceived stress and mechanism underlying the way multidimensional proactive coping exert effect on perceived stress, there are some limitations of the current study. Firstly, the sample is quite homogenous. Future research should targets populations more varied in some factors such as age, level of education, or religious belief. Secondly, despite the fact that numerous cross-sectional studies have been carried out to explore mediating relationships between the variables, cross-sectional study is limited in establishing the causal relationship among the variables.³⁹ Additionally, both the dependent variable (perceived stress) and focal explanatory variables (proactive coping and self-compassion) in the current study were derived from the same samples and measured with self-report questionnaire, which can produce common method variance.⁴⁰ Although we took effort to reduce the likelihood of common method variance by using different scale types⁴¹ for all

variables (5-point Likert scale from 1 to 5 for “self-compassion,” 4-point Likert scale from 1 to 4 for “proactive coping strategies,” 5-point scale from 0 to 4 for “perceived stress”), longitudinal studies were expected in future research.

Conclusion

In summary, our study documents the negative correlation between multidimensional proactive coping and perceived stress among Vietnamese undergraduate students, and shows that self-compassion plays mediating role in this relationship. These results consolidate existing literature of the protective role of self-compassion on psychological health, and hence provide more support for the application of self-compassion, especially of mindfulness and self-kindness, in working with people with stress and depression.

These findings are meaningful for not only psychological counsellor, psychologist therapy, psychiatrist doctor, or clinical social worker who work directly with stressed peoples but also university managers in considering welfare programs for their students, organizational managers when seeking strategies to reduce occupational stress of their employees.


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