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To cite this article: Abbas Abdollahi, Simin Hosseinian & Gordon J.G. Asmundson (2018): Coping Styles Mediate Perfectionism Associations with Depression Among Undergraduate Students, The Journal of General Psychology, DOI: [10.1080/00221309.2017.1421137](https://doi.org/10.1080/00221309.2017.1421137)

To link to this article: <https://doi.org/10.1080/00221309.2017.1421137>



Published online: 18 Jan 2018.



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Coping Styles Mediate Perfectionism Associations with Depression Among Undergraduate Students

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ABSTRACT

To better understand depression among adolescent university students, this study was designed to examine coping style as a potential mediator between perfectionism and depression. Participants comprised 510 undergraduate students from Malaysia. Structural Equation Modelling demonstrated that personal standards perfectionism and task-focused coping style were negatively associated with depression, while emotion-focused coping style, avoidant coping style, and evaluative concerns perfectionism were positively associated with depression. Multiple mediator modelling provided evidence that coping styles partially mediated the relationship between perfectionism and depression. These findings advance current knowledge by suggesting how perfectionism may contribute to depression and may inform the development of more effective prevention and intervention programs for depression.

ARTICLE HISTORY

Received 2 August 2017
Accepted 20 December 2017

KEYWORDS

Coping styles; depression; perfectionism; students

Depression is a common and costly public mental-health concern among adolescents, particularly among university students (Ibrahim, Kelly, Adams, & Glazebrook, 2013). Depression can impair the ability to function at school or university and to cope with daily life (World Health Organization, 2015). A Malaysian study reported that the prevalence of moderate and severe depression among university students were 27.5% and 9.7%, respectively (Shamsuddin et al., 2013). Given the growing prevalence of depression among university students (Ibrahim et al., 2013), it is important to identify early-warning signs so that early intervention and preventive measures can be taken. This study aims to expand the current literature by examining the mediating role of coping styles in the relationship between perfectionism and depression among university students.

Perfectionism has been shown to play a central role in the mental health of university students (Sherry, Sherry, Hewitt, Mushquash, & Flett, 2015). Perfectionism is defined as setting high standards for self and others and engaging in overly

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critical evaluations in self and others (Burns, 1980; Hamachek, 1978). The literature suggests the importance of distinguishing between two distinct constructs: (1) *personal standards perfectionism* involves setting high standards and goals for oneself. Personal standards perfectionism is more closely associated with striving for outstanding success, resilience, and effective coping skills (Dunkley, Blankstein, & Berg, 2012); (2) *evaluative concerns perfectionism* involves overly critical evaluations of one's own behavior, an inability to derive satisfaction from successful performance, and chronic concerns about others' criticism and expectations (Dunkley, Blankstein, Masheb, & Grilo, 2006). Evaluative concerns perfectionism is more closely associated with suspicion, avoidance of intimacy, withdrawal from society, and disengagement from decisions and actions (Dunkley et al., 2012).

There are several instruments to measure perfectionism, such as the Burns Perfectionism Scale (Burns, 1980), the Multidimensional Perfectionism Scale (Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991), and the Almost Perfect Scale-Revised (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Unlike the Burns Perfectionism Scale (Burns, 1980), which focuses more on the negative aspect of perfectionism, the Almost Perfect Scale-Revised (Slaney et al., 2001) measures personal standards perfectionism and evaluative concerns perfectionism. Evaluative concerns perfectionism includes a focus on avoiding mistake, excessively high standards, feelings of self-worth dependent on performance, and reactions to failure, including harsh views of the self, whereas personal standards perfectionism is identified by the desire to be perfect and to set high but realizable standards (Slaney et al., 2001). Evaluative concerns perfectionism and personal standards perfectionism were measured in the current study.

Findings regarding the nature of association between perfectionism and depression are mixed. Flett, Galfi-pechenkov, Molnar, Hewitt, and Goldstein (2012) found that evaluative concerns perfectionism positively predicted depression in a sample of Canadian undergraduate students. Similarly, other studies have found that evaluative concerns perfectionism contributed to the prediction of depression (Cheng et al., 2015; Dunkley, Zuroff, & Blankstein, 2003; Mathew, Dunning, Coats, & Whelan, 2014; Moroz & Dunkley, 2015). On the other hand, some studies have suggested that both evaluative concerns perfectionism and personal standards perfectionism are linked with depression (Patterson, Wang, & Slaney, 2012; Stoeber & Rambow, 2007). This may be a consequence of overlap in variance between personal standards perfectionism and evaluative concerns perfectionism in terms of depression; indeed, when evaluative concerns perfectionism is controlled for, a negative association between personal standards perfectionism and depression has been reported (Mathew et al., 2014). People high in evaluative concerns perfectionism appear to lack a sense of self-competence, problem-solving skills, personal adequacy, and emotional control which, in turn, contributes to loneliness, isolation, and depression (DiBartolo, 2010). Evidence also indicates that they prefer to meet the expectations of others, rather than their own desires, and that this contributes to depression (Sherry et al., 2015). However, the nature of the relationship between perfectionism and depression remains unclear.

Past research has revealed a significant relationship between perfectionism and depression (Chen, Hewitt, & Flett, 2017); but, the possibility that coping styles mediate the association between perfectionism and depression has yet to be tested. This study investigated coping style as a possible mediator to explain why and how perfectionism contributes to depression. Having high standards of performance is not likely adaptive or maladaptive; indeed, perfectionism may be considerably affected by mechanisms that lead to positive or negative psychological functioning (Abdollahi & Talib, 2015). Coping skills (i.e., one's abilities and skills to deal with problems; Lazarus & Folkman, 1984) have been shown to be an influencing factor in depression (Abdollahi, Talib, Yaacob, & Ismail, 2014; Dunkley et al., 2003; Weiner & Carton, 2012). The coping styles comprise task-focused coping style, emotion-focused coping style, and avoidance coping style. Task-focused coping style is defined as having self assurance to deal directly with a wide range of problems. Emotion-focused coping style concentrates on the resultant emotions, such as becoming worried, angry, or upset. Avoidant coping style is defined as a tendency to avoid while facing the source of threat (Cosway, Endler, Sadler, & Deary, 2000). Coping style as a mediator is based on the postulation that individuals using an avoidant coping style (denial, behavioural, and mental disengagement) may be remarkably inclined to maladjustment, while individuals under task-focused coping are more likely to deal with problems efficiently (Edwards & Holden, 2001; Park, Heppner, & Lee, 2010; Stoeber & Janssen, 2011). Previous research findings have also revealed that people high in personal standards perfectionism are more likely to use effective coping skills compared to people high in evaluative concerns perfectionism (Noble, Ashby, & Gnilka, 2014; Stoeber & Janssen, 2011). One possible reason why evaluative concerns perfectionism is associated with depression may be that people high in evaluative concerns perfectionism fail to use effective coping strategies that help them successfully deal with the adversities of life and, instead, use coping strategies that are more harmful. Most of the studies in this area only address the linear association between perfectionism and depression (Affrunti & Woodruff-Borden, 2014; Edwards & Holden, 2001), without considering other variables influencing the association. Therefore, the present study was designed to examine the mediating role of coping styles on the relationships between perfectionism and depression.

Four hypotheses were proposed on the basis of the extant literature: (1) it was hypothesized that personal standards perfectionism and evaluative concerns perfectionism would significantly associate with depression among undergraduate students, (2) it was hypothesized that evaluative concerns perfectionism and personal standards perfectionism would significantly associate with task focused coping style, emotion-focused coping style, and avoidant coping style, (3) it was hypothesized that task focused coping style, emotion-focused coping style, and avoidant coping style would significantly associate with depression, and (4) coping styles (task-focused coping style, emotion-focused coping style, and avoidant coping style) were

predicted to mediate the relationship between the two types of perfectionism (personal standards perfectionism and evaluative concerns perfectionism) and depression among undergraduate students.

Methods

Participants

A total of 543 undergraduate students were recruited using a multi-stage cluster sampling approach. Of these, 6.1% were omitted from analyses due to incomplete information ($n = 18$) or detection as outliers ($n = 16$). The remaining 509 participants (age range = 19–24 year, Mean age = 20.18, $SD = 2.93$; male = 45%, $n = 230$, Mean age = 20.48, $SD = 2.56$; female = 55%, $n = 280$, Mean age = 20.08, $SD = 2.87$) were included in data analyses. Of the final 509 participants, there were 132 freshman (26%), 148 sophomores (29%), 127 juniors (25%), and 102 seniors (20%). Based on the total score on Beck Depression Inventory-II (Beck, Steer, & Brown, 1996), participants were categorized as minimally depressed (0–13, $n = 215$), mild-moderately depressed (14–19, $n = 192$), moderate-severely depressed (20–28, $n = 77$), severely depressed (29–63, $n = 25$).

Procedure

At the first stage, the 16 faculties from Universiti Putra Malaysia (UPM) were categorized into three different fields (science, social science, and technical). At the intermediate stage, two faculties were selected randomly from each field. At the final stage, four classes from each faculty according to student's year grade were randomly selected, and data were collected from April to June 2014 during regular class hours. Four questionnaires (one of which was a demographic questionnaire, including gender, age, and educational levels) were distributed among undergraduates. No incentive for participation was offered. Written informed consent was obtained from all participants after a full explanation of the purpose of the study prior to their involvement in the research. Undergraduate students who were categorized as moderate and severe depression were referred to psychologists for clinical diagnosis.

Measures

Beck depression inventory-II (BDI-II)

Depression was measured using the BDI-II (Beck et al., 1996). The 21 items measure depressive thoughts in the past 7 days. Items are rated on a four-point Likert scale from 0 to 3 and scores range from 0 to 63, with higher scores revealing greater depressive symptoms. A sum score between 0 and 13 indicates minimal depression, 14–19 mild depression, 20–28 moderate depression, and 29–63 severe depression

(Beck et al., 1996). Evidence suggests that the BDI-II has an acceptable reliability for both clinical and non-clinical samples (McEvoy & Mahoney, 2012). Based on the current sample, the Convergent Validity (AVE) was 0.71 and the Construct Reliability (CR) was 0.86.

Almost perfect scale-revised (APS-R)

Perfectionism was assessed using the APS-R (Slaney et al., 2001). The 23 items are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) and comprise two subscales measuring personal standards perfectionism and evaluative concerns perfectionism (Vandiver & Worrell, 2002). The personal standards perfectionism subscale evaluates the level of effort for achieving personal performance, while evaluative concerns perfectionism subscale assesses level of distress in relation to achieving personal standards (Slaney et al., 2001). Previous studies have demonstrated that the APS-R has a good validity by correlating it with other perfectionism scales (Slaney et al., 2001). Based on the current sample, the Convergent Validity (AVE) for personal standards perfectionism and evaluative concerns perfectionism were 0.76 and 0.75, and the Construct Reliability (CR) for personal standards perfectionism and evaluative concerns perfectionism were 0.83 and 0.81.

Coping inventory for stressful situations (CISS)

Coping styles were measured using the CISS (Endler & Parker, 1990). This 48-item measure (16 items for each coping style) is rated on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much) and comprises three subscales: task-focused coping style (i.e., having self-assurance to deal problems); emotion-focused coping style (i.e., concentrating on the resultant emotions); and avoidant coping style (i.e., a tendency to avoid the problem). Previous studies have shown that the CISS has good reliability and validity (Cosway et al., 2000). Based on the current sample, the Convergent Validity (AVE) for task-focused coping style, emotion-focused coping style, and avoidant coping style were 0.72, 0.73, and 0.75, and the Construct Reliability (CR) for task-focused coping style, emotion-focused coping style, and avoidant coping style were 0.84, 0.87, and 0.88.

Statistical analysis

Structural Equation Modeling (SEM) was applied to test the mediating role of coping styles between the two types of perfectionism and depression using Analysis of Moment Structures Version 20 (Arbuckle, 2006). SEM was preferred because it (1) provides better identification of the validity and reliability of the instruments; (2) tests several paths concurrently in one analysis; (3) clearly controls the errors of the measurement to certify greater theoretical meaningfulness; (4) tests much more complex models, such as testing mediation, and (5) provides goodness of fit indices for model testing (Byrne, 2010).

SEM consists of a three-step approach. In the first step, confirmatory factor analysis was conducted to test the measurement model, which consisted of six latent variables (personal standards perfectionism, evaluative concerns perfectionism, task-focused coping style, emotion-focused coping style, avoidant coping style, and depression). In the second step, the measurement model was used to test model fit. To identify model fit, the suggestions of Byrne (2010) were followed: the goodness of fit indices, such as Chi-square/degree of freedom ratio (CMIN/ df), the Comparative-Fit Index (CFI), the Goodness-of-Fit Index (GFI), the Tucker–Lewis Index (TLI), and the Root-Mean-Squared Error of Approximation (RMSEA) were used. The model has a good fit, if the indices are ≥ 0.90 , and the RMSEA ranges from 0.03 to 0.08 (Byrne, 2010). In the third step, research hypotheses were examined through multiple mediator modelling.

Results

Preliminary analyses

Data assumptions, such as missing data, outliers, and normality distributions were checked to clean the data and reduce systematic errors. Missing data to items (less than 1%) were handled by the mean replacement. Outliers were checked by conducting Mahalabobis *d*-square/degree of freedom value criteria. As a rule of thumb, described by Byrne (2010), Mahalabobis *d*-square/degree of freedom value exceed- ing 3 can be considered outliers, and 16 outliers were detected and omitted from analyses. Another rule of thumb suggests a variable is normal if skewness $< \pm 2$ and kurtosis $< \pm 3$ (Kline, 2005). For all variables, skewness (-1.11 to 1.88) and kurtosis (-1.79 to 2.12) were acceptably normal (Kline, 2005).

Descriptive statistics

Table 1 presents the means, standard deviations, actual range, reliabilities, and inter-correlations among the studied variables. Depression was positively associated with evaluative concerns perfectionism, emotion-focused coping style, and avoidant coping style among undergraduate students. Depression was negatively associated with

Table 1. The mean, standard deviations, actual range, reliability, and correlation among study variables ($N = 510$).

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Mean	23.32	39.12	37.54	33.15	27.43	15.76
Standard deviation	8.21	11.11	10.11	11.12	8.07	8.47
Actual range	1–45	1–81	1–72	1–67	1–62	0–38
Reliability	.83	.75	.79	.79	.74	.89
(1) Personal standards perfectionism	1					
(2) Evaluative concerns perfectionism	.21*	1				
(3) Task-focused coping style	.56**	-.33**	1			
(4) Emotion-focused coping style	-.44**	.34**	-.45**	1		
(5) Avoidant coping style	-.38**	.39*	-.31*	.31*	1	
(6) Depression	-.63**	.51**	-.28*	.42**	.36*	1

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

personal standards perfectionism and task-focused coping style among undergraduate students.

Measurement model

The measurement model comprised personal standards perfectionism, evaluative concerns perfectionism, task-focused coping style, emotion-focused coping style, avoidant coping style, and depression as latent variables. The measurement model indicated good fit indices: CMIN/df = 2.078 (CMIN: 2570, DE: 1237), $p < 0.01$, CFI = .93, GFI = .92, TLI = .93, and RMSEA = .05.

Structural model

The structural model (see Fig. 1) comprised personal standards perfectionism and evaluative concerns perfectionism as exogenous variables, and task-focused coping style, emotion-focused coping style, avoidant coping style, and depression as endogenous variables. The results of the structural model (see Fig. 1) indicated that personal standards perfectionism ($\beta = -.64$, $p < .01$) and task-focused coping style ($\beta = -.27$, $p < .01$) were negatively and significantly linked to depression. That is,

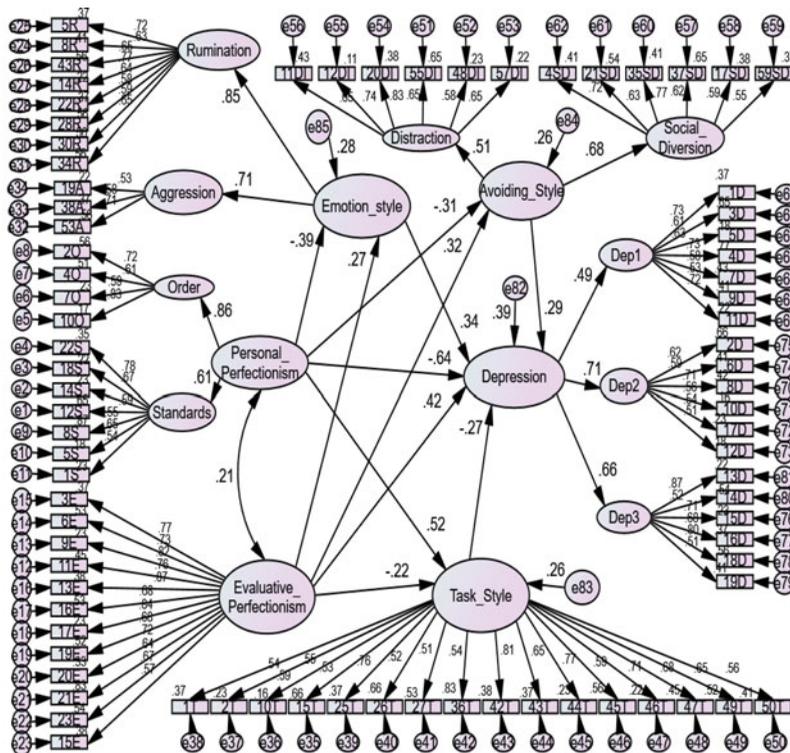


Figure 1. Structural model for the depression in undergraduate students. All pathways were significant with $p < 0.01$.

undergraduate students who reported higher levels of personal standards perfectionism and task-focused coping style had lower levels of depression. The results of the structural model (see Fig. 1) indicated that evaluative concerns perfectionism ($\beta = .42, p < .01$), emotion-focused coping style ($\beta = .34, p < .01$), and avoidant coping style ($\beta = .29, p < .01$) were significantly and positively associated with depression. That is, undergraduate students who reported higher levels of evaluative concerns perfectionism, emotion-focused coping style, and avoidant coping style had higher levels of depression. The results of the structural model (see Fig. 1) indicated that evaluative concerns perfectionism was significantly and positively associated with emotion-focused coping style ($\beta = .27, p < .01$) and avoidant coping style ($\beta = .32, p < .01$), and it was significantly and negatively associated with task-focused coping style ($\beta = -.22, p < .01$). Finally, the results of the structural model (see figure 1) showed a significant positive relationship between personal standards perfectionism and task-focused coping style ($\beta = .52, p < .01$), and that personal standards perfectionism was significantly and negatively associated with emotion-focused coping style ($\beta = -.39, p < .01$) and avoidant coping style ($\beta = -.31, p < .01$). These variables (personal standards perfectionism, evaluative concerns perfectionism, task-focused coping style, emotion-focused coping style, and avoidant coping style) explained 39.0% of the variance in depression in undergraduate students.

Mediation test of coping styles

In order to test whether coping styles (i.e., task-focused coping style, emotion-focused coping style, and avoidant coping style) mediate the relationship between the two types of perfectionism and depression, a bootstrapping method designed to test multiple mediators was employed (Preacher & Hayes, 2008). The method utilized 5000 bootstrap samples, and the alpha level for the statistical significance of the indirect effect was set at .05 via 95% bias-corrected confidence interval. If the confidence interval includes zero, this suggests the absence of significant mediation effect. If the relationship between the independent variable (type of perfectionism) and dependent variable (depression) decreases when the mediator is added, partial mediation is established (Preacher & Hayes, 2008).

As shown in Table 2, with the inclusion of coping styles (i.e., task-focused coping style, emotion-focused coping style, and avoidant coping style) as mediators, the path coefficient from personal standards perfectionism to depression was still significant ($\beta = -.55, p < .001$), thus providing support for the partial mediating role of coping styles. The total indirect effect was .27 with 95% bias corrected bootstrapped (CI: .20, .34). Coping styles ($\beta = -.50, p < .001, 95\%$ bias corrected bootstrapped CI $-.42, -.57$) emerged as significant mediators in the link between personal standards perfectionism and depression. Likewise, with the inclusion of coping styles (i.e., task-focused coping style, emotion-focused coping style, and avoidant coping style) as mediators, the path coefficient from evaluative concerns perfectionism to

Table 2. Testing Mediation of coping styles ($N = 510$).

X	M	Y	Effect of X on M	Effect of M on Y	Indirect Effect	Direct Effect	95% CI for Indirect Effect	
							Upper	Lower
Personal standards perfectionism	Task-focused coping style		.56	-.14	-.50	-.55	-.42	-.57
	Emotion-focused coping style	Depression	-.44	.32			-.37	-.51
	Avoidant coping style		-.38	.24			-.31	-.45
Total Indirect Effect				.27			.34	.20
Evaluative concerns perfectionism	Task-focused coping style		-.33	-.14	.37	.40	.45	.29
	Emotion-focused coping style	Depression	-.34	.32			-.27	-.41
	Avoidant coping style		-.39	.24			-.32	-.46
Total Indirect Effect				.39			.49	.30

depression was still significant ($\beta = .40, p < .001$), thus providing support for the partial mediating role of coping styles. The total indirect effect was .39, with 95% bias corrected bootstrapped (CI: .30, .49). Coping styles ($\beta = .37, p < .001$, 95% bias corrected bootstrapped CI .29, .45) emerged as significant mediators in the link between evaluative concerns perfectionism and depression.

Discussion

Consistent with past findings, differential roles for the two types of perfectionism in the development of depression were suggested by the results (Cheng et al., 2015; Mathew et al., 2014). The findings showed a negative association between personal standards perfectionism and depression, and a positive association between evaluative concerns perfectionism and depression among Malaysian undergraduate students. One possible explanation for the negative association between personal standards perfectionism and depression is that personal standards perfectionism is closely associated with positive achievement striving and positive affect that may contribute to positive psychological functioning, whereas evaluative concerns perfectionism is closely associated with maladaptive evaluation concerns, concern over mistakes, harsh self-criticism, and doubts about actions that may contribute to depression (DiBartolo, 2010; Moroz & Dunkley, 2015).

Evaluative concerns perfectionism and personal standards perfectionism were also associated with the coping styles. The findings showed that evaluative concerns perfectionism was negatively associated with task-focused coping style and that it was positively associated with emotion-focused coping style and avoidant coping style. These findings are consistent with previous studies that have revealed that personal standards perfectionists report more use of effective coping skills and less use of dysfunctional coping when compared to evaluative concerns perfectionists

(Noble et al., 2014; Stoeber & Janssen, 2011). Evaluative concerns perfectionism is a stable source of stress that often leaves the individual with a sense of frustration and failure (Stoeber & Rennert, 2008), and it is possible that these individuals use ineffective coping (such as avoidant coping) to escape from problems. Evaluative concerns perfectionists may be more likely to use emotion-focused coping during a stressful situation by focusing on irrelevant stimuli, such as the standards others have set for them or by becoming distracted with worry (Weiner & Carton, 2012). We also found that personal standards perfectionists are likely to use effective coping skills, suggesting they have enough self-confidence to deal with problems and are able to redirect their attention to the problem instead of using ineffective coping (Weiner & Carton, 2012).

The three types of coping styles were also significantly associated with depression. The findings showed that task-focused coping style was negatively associated with depression in undergraduate students, while emotion-focused coping style and avoidant coping styles were positively associated with depression. These findings are consistent with previous studies that have shown a negative link between ineffective coping styles and depression (Edwards & Holden, 2001; Park et al., 2010; Stoeber & Janssen, 2011). Individuals who tend to use less effective coping skills are more likely to engage in withdrawal, decreased assertiveness, feeling overwhelmed, sadness, irritability, and passivity, whereas individuals who utilize effective coping skills are able to regulate their own emotions and neutralize the negative thought and feeling of depression (Dunkley et al., 2006; Edwards & Holden, 2001; Park et al., 2010; Stoeber & Janssen, 2011).

When examining the mediating role of coping style on the relationship between perfectionism and depression among Malaysian student, the results support a partial mediation. The partial mediation suggests that coping style plays a dual role, acting both directly and indirectly on depression. That is, when personal standards perfectionism is combined with task-focused coping style, it may contribute to positive expectancy of outcomes and less depression (Dunkley et al., 2006) relative to undergraduate students who rely on emotion-focused coping style and avoidant coping style (Park et al., 2010). Personal standards perfectionists may be more likely to engage in approach coping skills, such as excitement, motivation, and perseverance, in order to achieve the desired goal rather than individuals with avoiding coping skills. In addition, the findings suggest that task-focused coping style acts as a mediator between evaluative concerns perfectionism and depression (Park et al., 2010). A possible explanation of this finding is that individuals with task-focused coping style are more likely to conceptualize several ways of achieving their goals and are more likely to overcome obstacles. For example, when individuals with task-focused coping face difficulties that prevent them from achieving their goals, they are able to establish new ways of goal achievement, and they are less likely to experience depressive symptoms. On the other hand, when individuals with emotion-focused coping style face obstacles that prevent them from attaining their goal, they are more likely to use self-blame coping and self-criticism, and they are more likely to experience depressive symptoms. The present finding that striving for personal standards perfectionism in undergraduate students was related to effective coping may explain

why perfectionistic strivings are seldom associated with higher levels of depression. The results of this study show that undergraduates who use effective coping strategies are less likely to be depressed even under the evaluative concerns perfectionism, whereas those who are using ineffective coping strategies are more likely to report depressive symptoms. These findings are consistent with those previously reported in Western countries and the USA (Noble et al., 2014; Stoeber & Janssen, 2011).

The current findings have implications for our understanding of how perfectionism contributes to depression. Understanding the mechanism underlying these relationships could facilitate the development of more effective prevention and intervention programs for depression. However, the following limitations and suggestions for future research should be considered. First, the cross-sectional design prohibits concluding any causal relationship between the studied variables. To rigorously define a causal prediction, longitudinal or experimental designs are needed. Second, self-report measures decrease internal validity; therefore, future research using a mixed-method approach and multiple measures of relevant constructs is needed. Third, this study was restricted to undergraduate students in Selangor state of Malaysia. Future studies could investigate undergraduate students at a national level, undergraduate students in other ethnic groups, as well as in postgraduate and high-school students. Regardless of these limitations, the present findings contribute to a better understanding of the complicated interplay among perfectionism, coping styles, and depression in Malaysian undergraduate student, indicating that coping style mediates the relationship between perfectionism and depression in these individuals.

Declaration of conflicting interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author notes

Abbas Abdollahi, is a post-doctoral fellow in the Alzahra University. His principal research interests are in depression, suicidal ideation, coping skills, and hardiness. **Simin Hosseini**, is a full professor of psychology at the Alzahra University. Her principal research interests are in depression, couple therapy, and cognitive behaviour therapy. **Gordon J. G. Asmundson**, is a full professor of psychology at the University of Regina and an adjunct professor of psychiatry at the University of Saskatchewan. He received his doctorate in psychology from the University of Manitoba in 1991 and in 2005–2006 trained as a Beck Scholar at the Beck Institute for Cognitive Therapy and Research in Philadelphia. His principal research interests are in depression, anxiety disorders, and cognitive behavior therapy.

Research involving human participants and/or animals: All procedures followed were in accordance with the ethical standards of the Islamic Azad University where the study was conducted. No animal studies were carried out by the authors for this article. Informed consent was obtained from all individuals participating in this study.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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