

A Study on the Mediating Effect of Resilience on the Factors Influencing Coping Mechanism among Post Graduate Management Students

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Abstract

The study attempted to identify the mediating effect of resilience on the factors affecting coping mechanisms among post graduate Students. An exploratory study was utilizing survey questionnaire carried out among 170 post graduate students from various management colleges across India. The results provided empirical insights about the factors affecting coping mechanism and the possibility of the mediating effect of Resilience on the factors affecting coping mechanism among post graduate students. Self- efficacy was found to be the major factor influencing coping mechanism followed by openness to experience. Resilience was found to partially mediate the relationship between self-efficacy and coping mechanism. The study concludes by emphasizing the development of the post graduate management students by providing them adequate training on how to become resilient and cope up with the problems of their personal and professional lives.

Keywords - Post Graduate Management Students, Resilience, Coping Mechanism, Self-efficacy

Introduction

Our greatest glory is not in never falling, but in rising every time we fall. -----Confucius

India has one of the world's highest suicide rates for youth aged 15 to 29, according to a 2012 Lancet report, which illustrated the need for urgent interventions. On 3rd April 2017, ArjunBharadwaj, a 24-year-old post graduate management student, committed suicide by jumping out of a 19th-floor hotel room in Mumbai. Media reporting suggested he had been depressed about failure in exams and repeatedly talked about ending his life on social media (NDTV, 2017). Every hour, one student commits suicide in India, according to 2015 data (the latest available) from the National Crime Records Bureau (NCRB). Several studies have identified building emotional resilience among students as one way to prevent suicides across cultures (Henden, 2017, Johnson,Gooding,Wood & TARRIER,2010., Everall, Altrows& Paulson,2006., Denny, Fleming, Clark & Wall, 2004).

In the recent past, due to the advance of positive psychology, the concept of emotional resilience has caught great attention of researchers. Resilience refers to person's ability to resist stress and bounce back to normal homeostasis state (Werner, 2000). Studies done in the area of emotional resilience suggest that people with high

emotional resilience have better mental health status, and are better enabled to successfully confront the new challenges and difficulties in their lives (Buckner, Mezzacappa, & Beardslee, 2003; Connor, & Davidson, 2003; Cuomo, Sarchiapone, Giannantonio, Mancini, & Roy, 2008). While depression represents negative mental health, emotional resilience and coping denotes positive mental health.

According to a study done by Dev, Banu, Thomas, Vardhan, Rao & Khawaja (2016), 37.7%, 13.1%, and 2.4% of the students were suffering from moderate, severe, and extremely severe depression in Indian Universities. The study also said that, a significant difference was found across semester, that is, semester II students reported a higher level of depression than semester III students. The study also found that personal resilience's such as being able to sharing personal problems with others and doing regular exercise were found to be associated with positive mental health.

College students may experience frustrations, conflicts, competitions, changes, and self-imposed stressful situations such as procrastination in their lives. University students are a special group of people that are enduring a critical transitory period in which they are going from adolescence to adulthood and can be one of the most stressful times in a person's life. Level of stress and the ability to cope are associated with both academic expectations and personal factors (Cushway, 1992; Kuyken, Peters, Power, Lavender, & Rabe-Hesketh, 2000), and graduate school is typically marked by significant life changes and stress, such as changes related to work, finances, academic demands, and social relationships (Goplerud, 1980). Previous literature showed that university students come to universities overwhelmed with economical demands, and suffer from psychosocial and mental health problems (Russell & Topham, 2012). According to Kirtzow (2003), university students seem to come to colleges unprepared to manage complicated life stressors that they are expected to confront during their university life. This increased the risk to psychosocial and mental disturbances that includes impaired social functioning and depressive feeling (Hamdan-Mansour, Dardas, AbuIsbaa, & Nawafleh, 2014; Hamdan-Mansour, Halabi, & Dawani, 2009).

Business students have the pressure to get settled in life and also they have the pressure of performing well in order to get a good package job through campus placement which ultimately helps them to feel they have done justice by taking up a MBA course. So in order to cope up with the stress they face in their education life, post graduate students need to have resilience and coping mechanisms in place to deal with the day to day problems they face in this phase of their life. Effective adjustment to their college life is an important preparation for successful entry to society to address the complex stress and conflict experience in

college life with a positive mindset (Sim & Moon, 2015).

Thus the objective of the study is to find out the effects of personality traits (neuroticism openness to experience and self-efficacy), on the coping skills of the post graduate students. The study also attempts to find the mediating effect of emotional resilience on the relationship between personality variables and coping skills.

Review of Literature

Coping Mechanism

Susan Folkman and Richard Lazarus (1984) define coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing". According to Lazarus and Folkman (1984), stressors do not ineluctably lead to depression or other negative outcomes. Rather, individuals have an opportunity to cope with stressors. Depending upon the efficacy of these coping efforts, negative outcomes can be evaded, i.e., coping can buffer the effect of stress.

Over the last four decades researchers have come up with several definitions and classifications of coping strategies. Lazarus and Folkman (1984) classified coping into problem-focused (where the focus is on managing the encounter), and emotion-focused (where the focus is on regulating the emotion) coping. Since then, researchers have taken the opportunity to consider a range of ways of classifying coping strategies, expanding the original work to include, for example, strategies that include meaning-centered coping and relationship-social coping (Folkman, 2013).

Among the umpteen number of studies conducted on coping mechanisms, this paper is focusing only on studies related to coping mechanisms among students.

One of the earliest study by Hagiwara (1992) described and compared racial-ethnic group and gender, (a) variables: daily stress experiences (hassles), physical and psychological health, and coping strategies between Asian and Caucasian University students. The study reported that Caucasian students had more psychological symptoms than Asian students across different levels of hassles. Several other studies have also attempted to address coping strategies across different cultural context like Asian-American students (Lee et al., 2009), ethnicity (Benesek, 1999), international students (Roongrattanakool, 1998). Another area which has been focused by researchers was to understand coping strategies of students having specific academic background like Clinical Psychology students (Kapadia, 2013), education graduate students (Sampson, 2007), medical students (Parekh, et al., 2010), nursing students (Mahat, 1998) whereas Alexander (2002) focuses specifically on low academic achievement students. Most of the studies done among students have not attempted any segmentation based on subject, academic achievement but

has focused on a specific country like among Taiwanese high school students (Kao,1999),university graduates in Canada (Lin,1999), college freshmen in China (Quan,., Zhen, ., Yao., & Zhou, 2014)., African-American college students (Constantine., Wilton., Gainor., & Lewis. 2002). Most of these studies irrespective of the context have emphasized the need for more training in coping skills among college students.

Resilience

As earlier discussed positive psychology has popularized the concept of resilience and several definitions for resilience could be found in literature. Resilience is defined as the ability to successfully cope with change or misfortune (Wagnild& Young, 1993). In amore elaborate definition Rutter (2006) defined resilience, as a process as well as a personal characteristic that can be developed over time and in response to the exposure to and subsequent effects of stressors (sometimes referred to as the "steeling effect). Resilience constitutes protective processes (e.g., resources, competencies, talents and skills) that reside within the individual, within the family or peer network and within the community(Garmezy 1991; Werner 2000). The accumulation of these "protective factors" gives rise to resilience. These "protective factors" become increasingly important as individuals are exposed to greater risk factors (Zautra et al. 2010)

Several studies have identified the importance of developing resilience for preventing mental health problems among college students (Waitsman,2012.,DeRosier,., Frank, E., Schwartz., & Leary, 2013).Studies have also observed that resilience is positively related to academic performance among students (Scales et al. ,2003., Hanson and Austin,2003.,Robbins et al., 2004). Resilience was found to be fully mediating the effects of positive affect on change in depression and partly mediated the effects of negative affect on change in depression among University students in Australia (Loh, Schutte, &Thorsteinsson , 2014)). Individuals with high trait resilience tend to show more flexibility when faced with changing demands, more openness to new experiences and demonstrate a greater ability to self - regulate themselves under adversities (Block and Kreman 1996; Fredrickson and Levenson 1998; Isen et al. 1987; Luthar et al. 2000; Tugade and Fredrickson 2004). Thus, high trait resilience individuals tend to have the ability to appropriately and actively self -regulate themselves whereas low trait resilience individuals tend to either over or under regulate themselves (Block and Kreman 1996; Tugade and Fredrickson 2007).

Personality factors

Lazarus and Folkman's stress-coping model (1984) indicates that coping is determined by both personal and environmental factors. The "Big Five" or "OCEAN" model

of personality provides the most appealing framework for understanding a wide range of behaviors in terms of five broad personality traits—openness, conscientiousness, extraversion, agreeableness and neuroticism (emotional stability) (Neff, Toothman, Bowmani, Fox Tree, & Walker, 2011).According to the Big Five personality model, openness to experience is one of the five major domains which are used to describe human personality. It involves active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, and intellectual curiosity (McCrae, 1993-1994). Emotional stability ranges between two extremes—emotionally stable and neurotic—and is also one of the widely examined personality trait (Neff et al., 2011). Several studies have attempted to look at the influence of big five personality dimensions on coping (Afshar et al., 2015, Mirnics et al., 2013, Karimzade and Beshrat, 2011).These studiesindicated neuroticism predicts emotion-focused coping strategies like escape, avoidance, hostile responses and emotional catharsis positively and problem-focused coping strategies like planning negatively. In a study examining neuroticism, social support, and college adjustment, higher neuroticism predicted more perceived social support. Perceived social support mediated the relationship between neuroticism and college adjustment such that higher levels of perceived social support predicted better adjustment to college (Lidy& Kahn, 2006). Openness to experience and neuroticism was observed to have gender differences in its influence on coping styles (Karimzade and Beshrat, 2011).

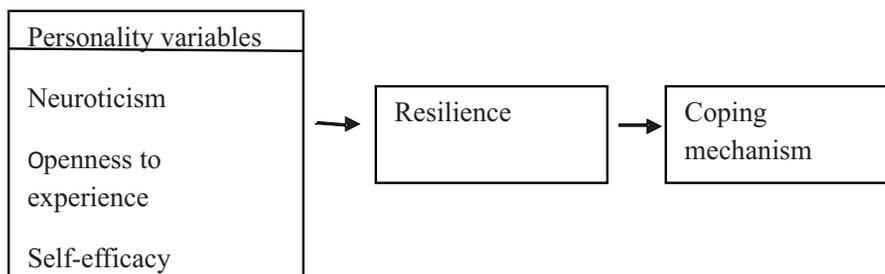
Bandura has conceptualized self-efficacy as individuals' beliefs in their capabilities to mobilize the motivation, cognitive resources, and agency to exert control over a given event. It is the belief in one's capabilities to produce a certain outcome or goal that is seen as the foundation of human agency (Bandura, Pastorelli, Barbaranelli&Caprara, 1999). One central aspect of an individual's self-efficacy is the belief that through the exertion of control one can influence the outcome of events in one's life. Particularly when confronting stressors, retaining a sense of control over one's life is an important factor in the successful adaptation to a variety of circumstances (Aspinwall& Richter, 1999). Hamill (2003) reported positive correlation between self - efficacy and resilience which in turn differentiated between efficient and inefficient coping among adolescents. Sagone and Caroli (2013) observed a positive correlation between self- efficacy and resilience and also noted that adolescents who experienced high levels of resilience, felt more able to cope with novelty in various domains of life, especially in scholastic context.

Based on the above literature, the authors framed the following hypothesis. Though there are several studies done on the relationship between personality variables and coping, resilience and coping, very few studies have

attempted to look at the mediation effect of resilience on the relationship between personality variables and coping mechanism. Most of the studies in the context of resilience

and coping have been done on adolescents and college students and very few studies have focused specifically on post graduate students.

Fig 1. Conceptual framework of the study



H1- There will be a significant relationship between personality factors (like neuroticism, self-efficacy and openness to experience) coping mechanisms.

H2- There will be a significant mediating effect of resilience on the factors like neuroticism, self-efficacy and openness to experience on coping mechanisms.

H3- There will be difference in Coping Mechanism among different demographic variables (gender and course)

H4- There will be difference in personality variables (neuroticism, self-efficacy and openness to experience) across gender

H5: There will be difference in resilience across gender

Research methodology

Sample: The study was done on post graduate students across various colleges. A sample of 170 students from colleges all over India across various PG courses participated in the study through convenience sampling method. Necessary instructions were given by the investigator to the students by email or in person in order to get the required data. The tool was submitted to the respondent through Google forms and the respondents were free to use their time and submit the questionnaire as soon as they finished filling it.

Tools: All the variables considered for the study are well established in literature and hence we adopted existing measures for the study. Likert scales with a five-point response format (1 = strongly disagree, 3 = neutral, 5 = strongly agree) were used for all the items in the questionnaire. These items were taken from already existing scales and have already proven their reliability, validity and practical relevance. For measuring neuroticism and openness to experience items from international personality item pool (Goldberg, Johnson, Eber, Hogan, Ashton, & Cloninger, 2006) was used. Internal consistencies for these subscales were found to range from

.78 to .89 (Goldberg et al., 2006). Coping mechanisms was measured using 11 items pertaining to problem-focused and emotion-focused items from the coping Instrument -SCOPE (Struthers, Perry, & Menec, 2000). The internal consistency of Problem Focused Coping was .80 and for Emotion Focused Coping it was .70. Resilience was measured using Modified Resilience Scale for Adults-RSA (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003). The RSA, a 31-item scale designed to measure a set of protective resilience factors, has been cross culturally validated. According to Friborg et al., 2003, test-retest reliability r ranged from 0.76 to 0.86. General Self-efficacy Scale (GSE) a 10 items measure, developed by Schwarzer & Jerusalem (1995) was used to measure self-efficacy. The General Self-Efficacy Scale is used in samples from 23 nations, Cronbach's alphas ranged from 0.75 to 0.91 (Scholz, Dona, Sud & Schwarzer, 2002). Schroder, Schwarzer & Konertz (1998) found a retest-reliability of $r = .67$ for 6 months after initial testing.

Results

Descriptive statistics

The demographic variables considered for the study are gender and course. The total sample was 170, out of which 100 were females and 70 were males. Thus the sample for the study was over represented with females (59%) compared to the males (41%).

The means, standard deviations and correlations for all the constructs in this study are given in Table I. Preliminary correlation analysis indicates that all the independent variables are positively and significantly related to coping mechanisms. It is interesting to note that resilience has the highest correlation with coping, followed by self-efficacy, openness to experience and neuroticism. The only variables observed without significant correlation were self-efficacy and neuroticism even though they were positively correlated.

Table I: Descriptive Statistics of the Research Variables

	Mean	Standard deviation	1	2	3	4
Coping	3.46	0.59				
Resilience	3.85	0.60	0.721**			
Neuroticism	3.08	0.71	0.199**	0.244**		
Openness to experience	3.18	0.52	0.600**	0.540**	0.520**	
Self-efficacy	3.83	0.74	0.686**	0.796**	0.124	0.552**

Note: ** correlation is significant at 0.01 level (two tailed)

*correlation is significant at 0.05 level (two tailed)

Regression Analysis

However, correlation does not imply causation and for getting more insights on the influence of personality factors on coping mechanisms, simultaneous regression analysis was carried out. The predictor variables considered were openness to experience, neuroticism, self-efficacy and resilience and the dependent variable was coping mechanism. Among the predictor variables, high and significant positive correlations were obtained, indicating the possibility of multicollinearity. Multicollinearity can have several harmful effects on multiple regressions, particularly when interpreting the results (Hair et al., 1998).

Hence all the predictor variables were subjected to multicollinearity testing, before proceeding to multiple regression analysis. The multicollinearity diagnostic values are as presented in table III. A common cut off threshold for multicollinearity is a tolerance value of 0.10 which corresponds to a VIF value of 10. Thus if the tolerance value is less than 0.10 or the VIF value is greater than 10 one can assume the presence of multicollinearity (Hair et al.,1998). As none of the independent variables in the study exceed the cut off values as given in table III, it can be concluded that there is no multicollinearity among the independent variables.

Table III: Collinearity diagnostics for independent variables

Variable	Tolerance	VIF
Neuroticism	0.343	2.91
Openness to experience	0.673	1.48
Self efficacy	0.484	2.06
Resilience	0.320	3.12

Mediating effect of Resilience

Baron and Kenny (1986) four step procedure along with a Sobel test was performed to check the mediation effect of resilience. Baron and Kenny (1986) procedure demanded that the predictor variables should be correlated with the mediator variable. Results discussed in table IV indicated that only affective commitment to change is significantly related to the predictor variables. None of the predictor variables were found to be related to normative commitment to change.

From the step 1 in table it can be noted that the overall model is significant ($F = 66.356$) with adjusted R square value of 0.534. Out of all the independent variables, neuroticism was not significantly related to coping and self -efficacy was found to be the most significant factor influencing coping mechanism followed by openness to experience. Thus H1 is partially supported.

Baron and Kenny (1986) procedure demanded that the predictor variables should be correlated with the mediator variable. Results discussed in table IV indicated that openness to experience is not correlated with resilience and hence only neuroticism and self-efficacy were considered for checking the mediation effect of resilience.

It was observed that for the variable self- efficacy, the regression coefficient has reduced from 0.5 (step 1) to 0.182 (step 3) though both are still significant. Sobel test was carried out to check the significance of the partial mediation effect observed for self-efficacy. From the sobel test it can be inferred that the partial mediation effect is significant ($t = 4.78, p = 0.00$). Thus resilience partially mediates the relationship between self-efficacy and coping mechanism. Hence H2 is partially supported.

Table IV: Mediating effect of resilience using Baron and Kenny method

Predictors	Step 1 (Criterion:Coping mechanism)		Step 2 (Criterion: Resilience)		Step 3 (Criterion:Coping mechanism)	
	β	Adj.R squared	β	Adj.R squared	β	Adj.R squared
Neuroticism	-0.043		0.116*		-0.092	
Opennessto experience	0.346**	0.534	0.069	0.651	0.317**	0.596
Self efficacy	0.5**		0.743**		0.182*	
Resilience					0.428**	

Note: ** correlation is significant at 0.01 level (two tailed)

*correlation is significant at 0.05 level (two tailed)

To test H3, H4 and H5, one way ANOVA was carries out. Results of ANOVA are discussed in table V and it could be

observed that none of the study variables were found to differ across gender. Thus H3, H5 and H6 are not accepted.

Table V: ANOVA for testing the influence of demographic variables

Variable	Gender	Course
	F	F
Neuroticism	0.199	2.532
Openness to experience	1.798	0.951
Self - efficacy	2.193	1.125
Resilience	0.002	1.978
Coping mechanism	0.002	1.948

Discussion and Conclusion

The study attempted to check the mediation effect of resilience on the relationship between neuroticism, openness to experience and self-efficacy on coping mechanism. Self-efficacy and openness to experience were found to be significantly related to coping mechanism. Resilience was found to partially mediate the relationship between self-efficacy and coping mechanism.

Out of the three independent variables (neuroticism, openness to experience and self- efficacy), neuroticism was found to be negatively but non-significantly related to coping mechanism among post graduate students. This finding though not significant is in line with previous studies (Gunthert, Cohen & Armeli.,1999, Karimzade and Beshrat, 2011., Afshar, Roohafza, Keshteli, Mazaheri, Feizi, & Adibi ,2015). Self-efficacy was found to be the most significant factor influencing coping mechanism. Those individuals with higher self-efficacy show awillingness to challenge and persist in the face of perceived obstacles (Kirsch, 1985); an attribute that will assist students with their progression through a post graduate degree. Zhao et al. (2005) study among nursing students had also observed that it is essential to bolster the students' self-efficacy to reduce stress and adopt positively the coping strategies during clinical practice. Several other studies have also identified self-efficacy as the strongest predictor of college adjustment among students (Khan,2013.Lyrakos,2013.,Sim& Moon,

2015). Openness to experience was also found to be positively and significantly related to coping in line with previous research (Penley & Tomaka, 2002. Afshar et al., 2015, Ismail, 2015). In regard to coping with family conflicts, higher openness predicted lower levels of distancing and more empathic responding (DeLongis & Holtzman, 2005). Some studies have found openness to experience to be associated with positive cognitive appraisal (Grant & Langan-Fox, 2006).

Another interesting finding of the study is the partial mediating effect of resilience on the relationship between self-efficacy and coping mechanisms. Sagone and Caroli (2013) observed that more the adolescents experienced high levels of resilience, the more they felt themselves able to cope with novelty in various domains of life, especially in scholastic context, and the more they tended to use almost all thinking styles. McLafferty et al. (2012) reported that both resilience and emotional intelligence predicted coping at university, with resilience as the only significant unique predictor of coping subscales for grades, attendance, and studying. Martin and Marsh (2006) reported self-efficacy, planning, persistence, anxiety, and uncertain control as predictors of academic resilience. In the absence of any literature supporting the mediation effect of resilience on self-efficacy and coping, the study results is a major contribution . This should encourage parents, teachers and counselors to focus more on improving the self-efficacy of

students which in turn could result in higher resilience and better coping.

Unlike previous studies reporting gender differences in coping mechanisms and resilience (Karimzade and Beshrat, 2011, Ismail, 2016) this study failed to report any gender differences across the study variables. The other demographic variable course of study also failed to report any differences among the study variables. With respect to the variable course, the sample was skewed as 69% of the sample was pursuing MBA programme.

Thus the study reinstated the relevance of self-efficacy and openness to experience in coping mechanisms among post graduate students. Another major finding of the study is the mediating influence of resilience and hence the policy makers and student counselors should focus more on resilience building programmes for college students. Since self-efficacy was also found to be a predictor of coping, the pedagogy and curriculum itself should be designed in such a way that it enhances the self-efficacy of students rather than promoting rote learning.

Limitations of the study and scope for further research

The study considered only post graduate management students. Hence the study results are not generalizable to other post graduate students. The other major limitation of the study is that it did not differentiate between emotion-focused and problem-focused coping strategies.

To get more insights on the mediating influence of resilience on coping mechanisms among post graduate students, studies should be carried out focusing specifically on single course. Comparative studies between different post graduate courses can also be carried out to get better idea on the generalizability of strategies to improve coping mechanisms among students. More predictor variables like stress, adversity, competence and demographic variables like (location, no. of siblings) could also be considered. Further research should focus more on identifying strategies to improve coping mechanisms and academic adjustment among students.

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