

# Academic Stress And Self Concept In Adolescent Students: A Moderated Mediation Model Of Coping Strategies And Democratic Parenting Styles

Saranjeet Kour<sup>1</sup>, Franky Rani<sup>1</sup>, Neha Vats<sup>1</sup>

<sup>1</sup>Department of Education, Lovely Professional University, Phagwara, Punjab, India

**Abstract:** *This study examines the relationship between academic stress and adolescent self-concept by investigating the mediating role of PFC strategies and the moderating role of democratic parenting styles in influencing the mediation. Sample of 1070 adolescents completed questionnaires regarding academic stress, coping strategies, parenting styles and self-concept. After nullifying the effect of gender, it was found that academic stress was negatively related to self-concept. Moreover, PFC strategies partially mediated the relation of academic stress to self-concept. Moderated mediation analyses further revealed that PFC strategies mediated the effect of academic stress on self-concept at different levels of perceived democratic parenting style. There was conditional direct and indirect between academic stress and self concept of adolescent students.*

**Keywords:** *academic stress, self-concept, coping strategies, moderated mediation*

## INTRODUCTION

Several types of physiological and psychological changes are being experienced by the adolescents in the transitional period. At this stage the child is being considered as impulsive, wherein they have to take numerous crucial decisions, such as opting the vocation by securing good grades in academics. An adolescent usually is a person of strong impulses. Owing to which children encounter stress (Gouda, Luong, Schmidt & Bauer, 2016, Noack *et al.* 2010).

Academic achievement of the students mostly relies upon the parents, teachers, peers, and others, their expectation moreover act as the motivators to push them study hard. However, “when there is a disparity in expectations and actual capabilities, considering all the aspects like environment, facilities, quality of guidance, personal determination and hard work; then this motivation can lead to development of stress” (Bansal & Bhawe, 2006).

Academic stress is being considered to have “a detrimental impact on students’ emotional state during their daily activities, and to create a variety of somatic symptoms” (Verma & Gupta, 1990). Academic stress and school related stressors also “contribute to the challenges faced by adolescents”. These stressors are associated with particular adolescent risk behaviours i.e. suicide (Ang & Huan, 2006) and substance use (Byrne & Mazanov, 2003).

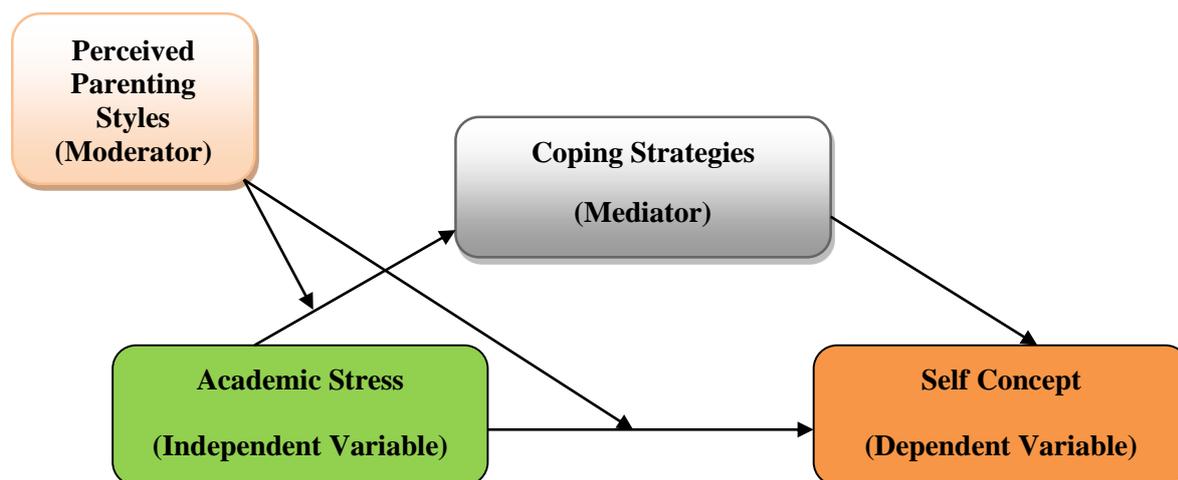
The communal environment can be either be stressful or supportive for the person (Lazarus & Folkman, 1984). Individuals who are physically isolated, and lack close knit web of relationship around them, have lower level of coping strategies and often experience

depressing emotional responses, whereas a tough web of social network can facilitate emotional support, straight aid and services, information and guidance (Lazarus & Folkman, 1984), sum of this can contribute in the process of coping with the major life issues and stresses. One important example of social environment is parental influence.

However, earlier studies have established direct relationship between self-concept and academic stress, but the embedded mechanism of such relationship remained unidentified. Academic stress influences one's self concept and this relationship is mediated by the coping strategies adopted by the individual. Besides this, parental influence is a vital factor that affects the link between the academic stress and self-concept. "The dynamic nature of parental influence on their children may be described in parenting styles, which consist of four main types: authoritative, authoritarian, permissive and rejecting. Democratic parents provide their children with a warm and structured social environment and encourage and support their independence" (Lamborn et al. 1991, Ogurlu 2015).

The conditional effect of "perceived parenting styles on the relation between academic stress and self-concept that is, whether the direct and indirect relations between academic stress and self-concept vary as a function of perceived parenting styles" has not been taken up yet in the researches.

This study establishes a model named moderated mediation, whereby "mediating process affecting the relation between the predictor and the outcome depends upon the value of a moderator variable" (Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007); Edwards and Lambert 2007; Muller et al. 2005). Alternatively, it is also known as "conditional indirect effect" (Preacher et al. 2007). Particularly, the main aim is two dimensional, firstly "to investigate whether the relation between academic stress and self-concept would be mediated by coping strategies, and secondly to examine whether the direct and indirect paths linking academic stress and self-concept would vary as a function of perceived parenting styles". Figure 1.1 represent the model specifically.



**Figure 1.1: Conceptual Framework of the Study**

More specifically, it was tested whether academic stress holds significant relationship with self-concept of adolescent students or not. It was also tested in the present research that whether coping strategies mediated the "relationship between academic stress and self-

concept of adolescent students” and this mediated relationship was moderated by perceived parenting styles or not.

**METHOD**

**Participants**

Sample were 1070 (Male= 536, Female= 534) adolescent students studying in class 9<sup>th</sup>(13 years -15 years) of four districts of Punjab viz. Amritsar, Gurdaspur, Tarn Taran and Pathankot.

**MATERIALS**

Following tools were used

- Coping Strategies- “Ways of Coping Questionnaire by Lazarus” (1967)
- Academic stress- “Bisht Battery of stress scales” (2005)
- “Children’s Perception of Parenting Styles” by Pyari and Kalra (2005)
- “Self-Concept Rating Scale”by Dr. Pratibha Deo (2011)

**Data Analysis**

To test the mediating role of coping strategies in the relationship linking academic stress and self-concept of adolescent students, method given by Baron and Kenny in 1986 was employed. Sobel’s test was used to test the statistical significance of the “indirect effect” of the independent variable (IV) on the dependent variable (DV) via the mediator. Moderated mediation emphasizes the evaluation of the extent to which “an indirect effect of an IV (X) on the DV (Y) through a mediator M depends on a moderator (W). To test the moderated mediation effect, we followed the procedure proposed by Muller et al. (2005). According to Muller et al., moderated mediation is demonstrated if (a) the main effect of the independent variable on the dependent variable is significant; and (b) the main effect of the independent variable on the mediator is significant when the moderator is controlled and the change in the effect of the mediator on the dependent variable is significant as the moderator changes”.

**RESULTS**

The results showed that academic stress was adversely linked to democratic parenting style; problem focused coping (PFC) strategies and self-concept. These findings suggest that high academic stress is potential risk factors for lowering self-concept of the adolescent. Moreover, the results also exhibited that democratic parenting was positively related to PFC strategies and self-concept. Results of the analysis reveal that low democratic parenting is potential risk factors for PFC strategies and self-concept. Finally, PFC strategies was found to be positively related to self-concept, which indicated that adopting more of the PFC strategies leads to the development of the positive self-concept of an individual.

**Table 1.1 Correlation Matrix: Shows Relationship among Academic Stress, Perceived Democratic Parenting Style, Problem Focused Coping Strategies and Self Concept of Adolescent Students (N= 1070)**

	Academic Stress	Democratic	PFC Strategies	Self-Concept
<b>Academic Stress</b>	1			

<b>Democratic</b>	-.437**	1		
<b>PFC Strategies</b>	-.452**	.414**	1	
<b>Self-Concept</b>	-.466**	.579**	.548**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed)

### Testing for Mediating Effect of PFC

Testing of mediation effect was done by adopting Baron and Kenny’s (1986) method. Equation 1 implies that academic stress significantly predicted self-concept scores of adolescent students,  $b = -.446$ ,  $t(1068) = -17.223$ ,  $p = .000$ . Equation 2 implies that academic stress significantly predicted PFC strategies scores of adolescent students,  $b = -.452$ ,  $t(1068) = -16.567$ ,  $p = .000$ . From equation 3 it is clear that it is clear academic stress significantly predicted self-concept scores of adolescent students,  $b = -.274$ ,  $t(1068) = -9.998$ ,  $p = .000$  after controlling for PFC strategies (mediator). Moreover, “the un-standardized path coefficient from **academic stress** to **self-concept** in the unmediated model was  $-.188$  and was reduced to  $-.111$  in the mediated model (the corresponding standardized coefficients were  $-.466$  and  $-.274$ )”. As both these coefficients came out to be statistically significant, partial mediation effect was observed. Indirect effects of academic stress on self-concept through PFC strategies were found significant through Sobel test ( $Z = -11.289$ ,  $SE = .0069$ ,  $p = .000$ ).

**Table 1.2: Testing the mediation effects of “PFC strategies in the relationship between academic stress on self-concept”**

Predictors	Equation 1 (Criterion Concept) $b(SE)$	Self Equation 2 (Criterion PFC) $b(SE)$	Equation 3 (Criterion Concept) $b(SE)$	Self
Academic Stress	-.466 (.011)**	-.452 (.005)**	-.274(.011)**	
<b>PFC</b>			.424(.058)**	
R <sup>2</sup>	.217	.204	.360	
N	1070	1070	1070	

Each column represents “a regression equation that predicts the outcome variable at the top of the column. PFC denotes PFC Strategies”. Multicollinearity was not found.

### Testing for Moderated Mediation

Next, testing was done for the indirect effect of academic stress (X) on the self-concept (Y) of the adolescent students through PFC strategies (M) depended upon levels of perceived democratic parenting style (W). These analyses examined whether the mediating effects of PFC strategies varied across individuals who perceived their parents high, average and low democratic.

**Table 1.3**

**Testing the Moderated Mediation Effects of Academic Stress on Self Concept (PFC Strategies as Mediator and Perceived Democratic Parenting Style as Moderator)**

Predictors	Equation 1 (Criterion Self concept) <i>b(SE)</i>	Equation 2 (Criterion PFC) <i>b(SE)</i>	Equation 3 (Criterion Self concept) <i>b(SE)</i>
Academic Stress	-.089(.010)**	-.057(.005)**	-.076(.011)**
Perceived Democratic Parenting Style	2.139(.120)**	.569(.064)**	1.775(.121)**
Academic Stress * Perceived Democratic Parenting Style	.016(.001)**	.006(.001)**	.015(.001)**
PFC			.464(.057)**
PFC * Perceived Democratic Parenting Style			.025(.008)**

**Note.** Entries are b’s (unstandardized regression coefficients). “Each column corresponds to a regression equation that predicts the criterion at the top of the column. PFC denotes PFC Strategies. Multicollinearity was not found”.

Table 1.3 shows a significant “main effect” of academic stress on self-concept ( $b = -.089, p < .01$ ). There was also a significant “main effect” of academic stress on PFC ( $b = -.057, p < .01$  when moderator was held constant and a significant interaction effect of PFC and perceived democratic parenting style ( $b = .025, p < .01$ , thereby supporting a mediation effect of PFC that is further moderated by perceived democratic parenting style).

**Table 1.4**

**Bootstrapped Indirect Effects of Academic Stress on the Self Concept of the Adolescent Students via PFC Strategies at Specific Values of the Moderator (Perceived Democratic Parenting Style)**

Mediator : PFC Strategies					
	Perceived Democratic Parenting Style	Effect	Boot SE	Boot LLCI	Boot ULCI
PFC	-6.3995	-.0503	.0085	-.0687	-.0350
PFC	.0000	-.0296	.0057	-.0423	-.0199
PFC	6.3995	-.0089	.0052	-.0208	-.0002

5000 Bootstrapping resamples; SE = Standard Error; Boot LLCI= Boot Lower level bias corrected confidence intervals, Boot ULCI = Boot Upper level bias corrected confidence intervals. Values for quantitative moderators are the mean and plus/minus one SD from mean. PFC denotes PFC Strategies.

In table 1.4, in line with the norms, the “indirect effect” of academic stress on self-concept through PFC strategies decreases along with level of perceived democratic parenting

style. This result indicated that PFC strategies mediated the effect of academic stress on self-concept at different levels of perceived democratic parenting style. Furthermore, conditional indirect effect's strength ( $\beta$ ) decreased as perceived democratic levels move from low to high.

At all the levels of perceived democratic parenting style, the 95% confidence intervals did not pass through or contain zero, which indicated that there was conditional indirect effect of PFC and it was significantly different from zero at  $p < .01$ , two tailed (see Table 4.51). Thus, PFC strategies mediated the effect of academic stress on self-concept at different levels of perceived democratic parenting style although the indirect effect through PFC strategies decreases as the level of perceived democratic parenting style was moving from low to high.

Analysing the slopes graphically showed that, for adolescents with low perceived democratic parenting style, higher academic stress was related to lower self-concept (low perceived democratic parenting style:  $b = -.0503$ ,  $SE = .0085$ ,  $CI = -.0687$  to  $-.0350$ ,  $p < .01$ ). For adolescents with high perceived democratic parenting style, academic stress was related to self-concept but its impact decreased (high perceived democratic parenting style:  $b = -.0089$ ,  $SE = .0052$ ,  $CI = -.0208$  to  $-.0002$ ,  $p < .01$ ).

Hence the hypothesis “*Perceived democratic parenting style will not moderate the mediation model of PFC strategies between academic stress and self-concept of adolescent students*” was not accepted, thus can be concluded that there was conditional direct and indirect between academic stress and self-concept of adolescent students.

## Discussion

In the present study the indirect effect was further moderated by perceived democratic and perceived autocratic parenting style. Academic stress and self-concept's effect was partially mediated by both “problem focused and emotion focused coping strategies” i.e. academic stress' effect on self-concept was partially due to the problem focused and emotion focused coping strategies that were adopted by adolescent students. This indirect effect was different at different level of perceived democratic. For adolescent students with high perceived democratic parenting style, academic stress was related to self-concept but its impact decreased and the effect of academic stress on self-concept was high when adolescent students perceive their parents low on democratic parenting style.

## Reference

- Ang, R. P., & Huan, V. S. (2006). Relationship between academic stress and suicidal ideation: Testing for depression as a mediator using multiple regression. *Child psychiatry and human development*, 37(2), 133.
- Bansal, C. P., & Bhav, S. Y. (2006). Stress in Adolescents and its Management. *Bhave's Textbook of Adolescent Medicine*. New Delhi: Jaypee Brothers Medical publishers, 844-53.
- Byrne, D. G., & Mazanov, J. (2003). Adolescent stress and future smoking behaviour: A prospective investigation. *Journal of Psychosomatic Research*, 54(4), 313-321.
- Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis. *Psychological methods*, 12(1), 1.

- Folkman, S., & Lazarus, R. S. (1984). *Stress, appraisal, and coping* (pp. 150-153). New York: Springer Publishing Company.
- Gouda, S., Luong, M. T., Schmidt, S., & Bauer, J. (2016). Students and teachers benefit from mindfulness-based stress reduction in a school-embedded pilot study. *Frontiers in psychology, 7*, 590.
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child development, 62*(5), 1049-1065.
- Pardo, A., & Román, M. (2013). Reflections on the Baron and Kenny model of statistical mediation. *Anales de psicología, 29*(2), 614-623.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate behavioral research, 42*(1), 185-227.
- Verma, S., & Gupta, J. (1990). Some aspects of high academic stress and symptoms. *Journal of Personality and Clinical Studies*.
- Folkman, S., & Lazarus, R. S. (1988). Manual for the Ways of Coping Questionnaire Research Edition. Palo Alto, CA Consulting Psychologists Press. (Hindi version-2008, adapted by Dr. Anirudh, Dept. of Psychology, MDU, Rohtak).
- Milgram. R. M.,& Hong. E. (1999).Multipotential abilities and vocational interests in gifted adolescents: Fact or fiction? *International Journal of Psychology, 34*, 81-93.
- Murphy, C., & Walker, D, (1999). Introduction and definitions of giftedness in the early years.
- NAGC/National Association for Gifted Children. (2013). *Redefining giftedness for a new century: Shifting the paradigm*. Retrieved on 10<sup>th</sup> May, 2018.
- Noeth, R.J., Engen, H.B., &Noeth, P.E. (1984). Making career decisions: A self report of factors that help high school students. *The Vocational Guidance Quarterly, 32*, 240-248.
- Noack. P. Kracke., B. Gniewosz. B.,& Dietrich. J. (2010).Parental and school effects on student's occupational exploration.A longitudinal and multilevel analysis.*Journal of Vocational Behavior, 77*, 50-57.
- Olaose.Bikan.,& Isaac. O. (2014). Effects of parental influence on adolescents' career choice in badagry local government area of lagos state, Nigeria. *IOSR Journal of Research & Method in Education, 4*(4), 44-57.
- Ozcan.D. (2017).Career decision-making of the gifted and talented. *South African Journal of Education, 37* (4), 1-8.
- Ogurlu. U. Kaya., F &Hizli. E. (2015).Career decisions of gifted students in Turkey.*Journal Of European Education, 5*(1), 31-45.
- Osipow, S. H., Carney, C. G., Winer, J., Yanoc, B. &Koschier, M. (1976). *The Career Decision Scale*.(3<sup>rd</sup> revision). Columbus, OH: Marathon Consulting & Press.
- Pasricha, P. (1964). *Educational Psychology*, Delhi: University Publishers.

- Pfeiffer. I. S. (2012). Current perspectives on the identification and assessment of gifted students. *Journal of Psycho educational Assessment*, 30(1), 3–9.
- Paloş.R.,&Drobot. L. (2010).The impact of family influence on the career choice of adolescents. *Procedia – Social and Behavioral Sciences*, 2(2), 3407-341.
- Pasricha, P. (1964). *Educational Psychology*, Delhi: University Publishers.
- Renzulli, J. S. (1979). *What Makes Giftedness: A re-examination of the Definition of the Gifted and Talented*.
- Renzulli, J. S. (2002). Emerging conceptions of giftedness: Building a bridge to the new century. *Exceptionality*, 10(2), 67-75.
- Stewart. B. H. (1999). Career counseling for the academically gifted students. *Canadian Journal of Counselling*, 33(1), 3-12.
- Seward. K.,&Gaesser. A. H. (2018). In career decision-making with gifted rural students: Considerations for school counselors and teachers. *Gifted Child Today*, 41(4), 217-225.