



RELATIONSHIP BETWEEN STUDENTS' PERSEVERANCE AND SELF-COMPASSION AMONG ADOLESCENTS; MODERATING ROLE OF MOTIVATION

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ABSTRACT

The primary objective of this study was to explore relationship between students' perseverance and self-compassion among adolescents; moderating role of motivation. Bojectives of the present research were there will be positive correlation between perseverance and self-compassion among adolescents, there will be a difference between girls and boys on motivation, perseverance, and self-compassion, and motivation will play moderating role between perseverance and self-compassion. The sample for this research was 300 secondary school students enrolled in both public and private schools. The age range of participants was 13-18 years. The participants were divided into the two gender groups i.e. male n=145, 48.3% and female n=155, 51.7% were part of the study. Three scales Students' motivation scale (Bin Dayel et al.2024), 12 Item Grit Scale (For Measuring Perseverance) (Duckworth (2007), and Self-Compassion Scale-Short Form (SCS-SF) (Raes, Pommier, Neff and Van, 2011) were used to measure the responses. Result were showed the relationship between study variables. The results indicated that both age demographics among adolescents were significantly and positively correlated with the Students' Motivation Scale, while they showed a significant positive correlation with perseverance. Results illustrated that girls are more motivated as compared to boys. Results also indicated that perseverance is higher among boys as compared to girls and Self-Compassion is significantly higher among girls. Results illustrate that those having low socio-economic status are more motivated as compared to middle and high socio-economic status. Results also illustrated that Perseverance is higher among children with high economic status. There is a non-significant interaction between perseverance and Motivation, this indicated that relationship between perseverance and self-compassion is non-conditional upon Motivation.

Introduction

Education is a vital human right necessary for personal growth and the acquisition of knowledge. The integration of technology in education has led to significant advancements, shaping students' perseverance, self-compassion, and motivation. As innovations have transformed many fields, technology has also become embedded in classrooms. While technology provides numerous benefits, it can also hinder critical thinking and impact motivation.

Motivation, crucial for goal attainment and academic success, can be intrinsic (driven by internal factors) or extrinsic (influenced by external factors). Factors such as curriculum, relationships, environment, and parental attitudes impact motivation. According to Maslow, intrinsic motivation is especially important for self-actualization and personal fulfillment. Self-determination theory provides a framework for understanding human motivation (Deci et al., 1985), positing that motivation results from cognitive and behavioral states and can be developed through practice and experience. Perseverance and motivation are deeply connected, with perseverance defined as the internal drive to complete tasks despite challenges. Research shows that perseverance is a stronger predictor of success than talent or ability, as it involves learning from failures and persisting toward goals. Studies highlight its role in academic achievement, psychological well-being, and reduced fatigue. Perseverance can be developed through interest, practice, purpose, and hope and it can be strengthened by targeted interventions such as workshops and online programs. While students' perseverance can vary, it is influenced by context and can be improved through supportive educational strategies. Perseverant behavior can be fostered through engaging learning activities, completion of complex projects, and overcoming academic challenges (Farrington et al., 2012). Setting high classroom standards and assigning tasks that challenge students beyond their current abilities can also promote perseverance (Dweck et al., 2011). While grit is considered a stable personality trait (Duckworth et al., 2007), evidence suggests individuals can adjust their behaviors' intensity, direction, and duration regardless of personality (Farrington et al., 2012).

Self-compassion is closely linked to individual motivation. Numerous studies have demonstrated that self-compassion is a significant element in academic success (Wang et al., 2023). As Neff described, self-compassion includes three main components: to be supportive towards oneself rather than judgmental, recognizing that personal difficulties are part of everyday life, and acknowledging one's suffering without becoming overwhelmed by it. It also involves realizing that one is not alone when facing imperfections or obstacles (Gilbert & Irons, 2005). Embracing self-compassion, including one's shortcomings, is thus important for personal growth and resilience (Morgado et al., 2014). Self-compassion, at the higher level, is consistently linked to better wellbeing (Johnson, 2022). Research underscores its significant role in fostering student motivation (Neff et al., 2005). Students who are high on self-compassion exhibit stronger motivation toward academic goals (Neely et al., 2009) and enhanced intrinsic motivation (Kotera & Ting, 2019).

Literature Review

Education plays a vital role in an individuals' life. Hence motivation, perseverance and self-compassion manifest students' growth and success in academics. As motivation is essential for students' goal attainment, perseverance and self-compassion also roots for the academic success and goal achievements. Attaining motivation requires an individual's full focus and

energy (Steinmayr et al., 2019), with goals and motives acting as determinants of motivated behavior.

Students' motivation has been extensively researched, as it plays a vital role in achieving personal goals. Motivation is characterized by the initiation, intensity, and persistence of behavior, all of which are essential for goal attainment (Seel, 2012).

Perseverance refers for the readiness towards not quitting the job. Grit theorists regard perseverance as a foundational element of motivation (Duckworth et al., 2011). Studies also indicate that perseverance is linked to teachers' attitudes in the classroom, with supportive teaching enhancing students' intrinsic motivation (Von Culin et al., 2014; Duckworth et al., 2009). The literature demonstrates a significant relationship between grit and adaptive academic outcomes (Reed et al., 2017), and research supports grit as a predictor of academic performance (Frazier et al., 2004; Moles et al., 2017).

Perseverance is essential for achieving long-term goals and is a crucial determinant of motivation (Rohde & Thompson, 2007). It encompasses working diligently toward challenging objectives, maintaining effort despite adversity, and is linked to satisfaction, performance, and a sense of accomplishment (Duckworth, 2009; Credé et al., 2017). Students high in perseverance invest significant time and take deliberate actions toward their goals (Hagger & Hamilton, 2019).

Moreover, self-compassion involves forgiving oneself after failure and embracing self-acceptance during challenging times. This quality is essential for fostering motivation and perseverance. Without self-compassion, individuals may struggle to recover from setbacks. Self-compassion helps individuals manage difficulties and failures, enabling them to regain their strength and continue working toward their goals (Brown, 2010). Multiple studies have revealed that self-compassion can be cultivated in students, leading to improved goal attainment (Dundas et al., 2017; Neff et al., 2007; Shapiro et al., 2005). Moreover, increased self-compassion contributes to greater motivation for learning; self-development, self-efficacy, and self-control. Research on community nurses found that those with higher self-compassion reported greater wellbeing and less burnout (Durkin et al., 2016). Other studies have confirmed the positive association between self-compassion, wellbeing and its significant relationship with motivation (Kotera et al., 2021).

The current study highlights the importance of motivation, perseverance and self-compassion among students in the technology based classrooms. As technology is one of the major aspects and essential for learning, it also divers students' attention and distract them, leading towards being less motivated and perseverant. It also hinders the ability of critical thinking and problem solving as it gets easier to jump to conclusions with the help of technology. Therefore, maintain perseverance, motivation and self-compassion in the technology based classrooms is challenging for students. Therefore, this study is essential to assess students' motivation, perseverance and self-compassion as a part of technology based classrooms. This will help in understanding the perseverance, self-compassion and motivation among students and their readiness toward achievement of their goals.

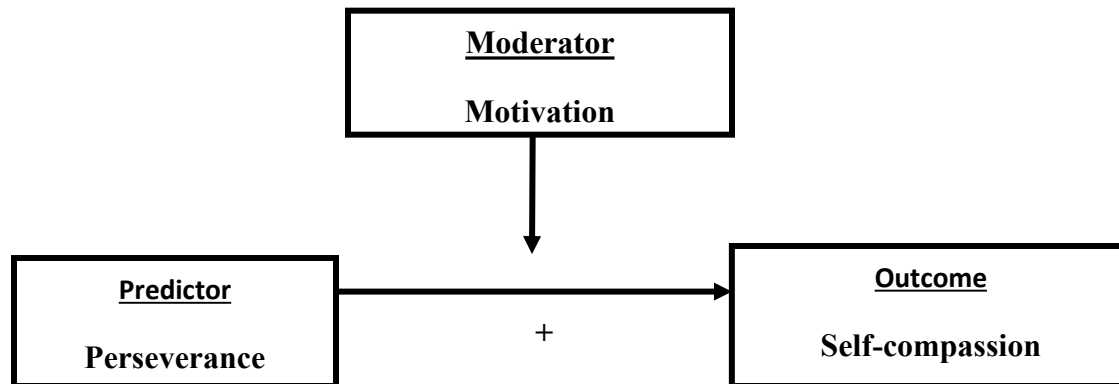
Hypotheses

- **H1.** There will be positive correlation between perseverance and self-compassion among adolescents.
- **H2.** There will be a difference between girls and boys on motivation, perseverance and self-compassion.
- **H3.** Motivation will play moderating role between perseverance and self-compassion.

Conceptual Framework

Figure 1

Conceptual Model of the Study Based on Theoretical and Empirical Literature



Material and Methods

Research design

The study utilized a quantitative, cross-sectional correlational design.

Sample

The sample for this research was 300 secondary school students enrolled in both public and private schools. The age range of participants was 13-18 years. The participants were divided into the two gender groups i.e. male n=145, 48.3% and female n=155, 51.7% were part of the study.

Population

The participants of the study were students from the various private and public sector schools of Islamabad and Rawalpindi. Participants of the study were the students of 9th till 12th grade students.

Sampling Strategy

A purposive sampling strategy was used for the selection of sample.

Inclusion criteria

- Students of government and private schools.
- Students of grade 9th till 12th
- Students with age limit of 13 to 18 years.

Exclusion criteria

- Students of below age of 13 and above age of 18 years.
- Students studying below grade 9 or above age 12
- Students studying in any other institute rather than public or private sector (Special schools, inclusive schools, religious school, online tuition, home schooling).

Research Instruments

Students' motivation scale (Bin Dayel et al.2024)

Students' motivation scale is used to measure both intrinsic and extrinsic motivation among students. It is composed of two main parts including the motivation scale and a Learning Strategies Scale. It is based on 31 items. To each item can be scored on a scale of 1 to 7. The subscales include the goal orientation, beliefs about the value of the task, confidence in ability and anxiety related to tests. The Learning strategies scale assess the students'

cognitive, metacognitive and resource management strategies. The scale is a reliable measure of motivation with an internal consistency of .80 (Bin Dayel et al.2024).

12 Item Grit Scale (For Measuring Perseverance) (Duckworth (2007))

The Grit scale was developed by Duckworth (2007). The original Grit-O consists of 12 items. It is a self- report questionnaire designed to measure perseverance and long term goals. Consisting on two subscales; measuring consistency of interest and perseverance of effort, on a 5-point Likert scale. The consistency of interest is composed of six items that assess maintenance of interest in projects and ideas, whereas, perseverance of efforts is based on other six items which assess dedication and focus on goals despite setbacks and diversity. The reliability of this scale is .70.

Self-Compassion Scale-Short Form (SCS-SF). (Raes, Pommier, Neff and Van, 2011)

The Self-compassion Scale Short-form was developed by Raes, Pommier, Neff and Van in 2011. It is a 12-item self -report measure to be used by adults to measure their self-compassion on a scale of 5 point Likert to “Almost never” to “Almost Always”. It assess six component; self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification. This scale demonstrates sufficient internal consistency with Cronbach’s alpha 0.86.

Procedure

Schools were approached through proper channels to obtain ethical approval from relevant authorities and parental consent for minor participants. At the outset of the study, participants were briefed about the objective of the study and provided with contact information for support if needed. Questionnaires were administered during regular school hours under the supervision of the research team. Participants were assured their data would be kept private and their identities protected from being linked to their responses. To maintain anonymity, unique codes were assigned to each questionnaire. Students were given adequate time to complete the questionnaires independently. Upon completion, questionnaires were collected and checked for completeness. Participants and school staff were thanked for their cooperation.

Ethical Considerations

The subjects of the quantitative study were given informed consent, prior approval, anonymity, and confidentiality in compliance with the suggested ethical standards of the American Psychological Association. Safeguards were in place to protect everyone's safety and privacy. The study was conducted ethically, and participants received a thorough explanation. The participants gave their written agreement and were told there would be no consequences if they choose to leave the research at any time. During the study, the researcher mostly followed four guiding principles: respect for the examinee's abilities, accountability, integrity, and rights.

Statistical Analysis

Descriptive statistics and inferential statistical analyses were conducted on the data to investigate the underlying aims of the present research by using the statistical package for the social science (IBM SPSS 26).

Results and Discussion

A statistical computer programmer known as the Statistical Package for Social Sciences Version 23 (SPSS-26) was used to analyze the subjects' data.

Table 1: *Psychometric Properties of the Study Major Variables/Scales (N= 300)*

Variables	K	α	M (SD)	Skewness	Kurtosis
Students' motivation	31	.82	68.06(11.29)	-.35	-1.13
Perseverance	12	.91	19.19(7.74)	.68	-1.04
Self-Compassion	12	.85	28.40(6.60)	-.04	-.54

Note: k = Number of items; α = Alpha Reliabilities; M = Mean; SD = Standard Deviation

Table indicates descriptive statistics, alpha coefficients and number of items for Students' motivation, perseverance and Self-Compassion. Alpha values of all measures are in acceptable range. For Students' motivation it is .82, for perseverance it is .91 and for Self-Compassion is .85. A descriptive analysis was also performed to examine the data distribution across research variables. The result indicates that the data are normally distributed.

Table 2: *Pearson Product Correlation between Study Variables (N = 300)*

Variables	M	SD	1	2	3	4
Age	16.12	1.74	-	.25**	.21**	.15
Students' motivation	69.71	12.28		-	.70**	.43**
Perseverance	18.70	7.57			-	.35**
Self-Compassion	29.47	7.89				-

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

Table 2 shows the relationship between study variables. The results indicate that both age demographics among adolescents were significantly and positively correlated with the Students' Motivation Scale, while they showed a significant positive correlation with perseverance. Additionally, the Students' Motivation Scale was found to be significantly positively correlated with perseverance and with self-compassion. Furthermore, perseverance demonstrated a significant positive correlation with both Students' Motivation and Self-Compassion.

Table 3: *Comparison between study Variables on the Basis of Gender*

Variables	Boys	Girls	$t(298)$	p	95% CI		Cohen's d
	($n = 145$)	($n = 155$)					
	M(SD)	M(SD)			LL	UL	
Students' motivation	60.53(9.03)	78.88(7.18)	-13.76	.000	-20.98	15.71	2.24
Perseverance	22.96(8.08)	14.44(3.67)	8.30	.000	1.02	6.49	1.35
Self-Compassion	25.89(6.02)	29.95(7.95)	-6.19	.000	1.15	-9.42	.67

Note. CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit

Above table shows mean differences of study variables on the basis of gender. Analysis produce significant results for Students' motivation $t(298) = -13.69$, $p < .001$, perseverance $t(298) = 7.50$, $p < .001$ and for Self-Compassion $t(298) = -2.94$, $p < .05$. Results illustrate that girls are more motivated as compared to boys. Results also indicate that perseverance is higher among boys as compared to girls and Self-Compassion is significantly higher among girls.

Table 4: Comparison between Study Variables on the Basis of Socio-Economic Status

Variables	Low (n =92)		Middle (n = 119)		High (n = 89)		F	p	η^2	Post hoc
	M	SD	M	SD	M	SD				
Students' motivation	74.88	7.99	68.91	10.50	59.41	10.08	25.45	.00	1.84	1>2>3
Perseverance	15.95	5.40	18.53	7.43	19.19	7.74	12.31	.00		3>2>1
Self-Compassion	26.52	8.17	29.16	4.39	29.08	7.60	2.40	.01		2>3>1

Above table shows mean differences of study variables on the basis of socio-economic status i.e., low, middle and high. Analysis produce significant results for motivation, Perseverance and Self-Compassion $F = 25.45, p < .05, F = 12.31, p < .05$ and $F = 2.40, p < .05$. Results indicated that there is significant difference between low, middle and high socio-economic status. Results illustrate that those having low socio-economic status are more motivated as compared to middle and high socio-economic status. Results also illustrated that Perseverance is higher among children with high economic status.

Table 5 : Moderating Role of Motivation in Relationship between perseverance and self-compassion (N=300)

Variables	B	SEB	t	P	95%CI	
					LL	UL
Constant	28.18	.81	34.99	.19	26.59	29.77
Perseverance	.24	.07	3.54	.29	.10	.37
Motivation	-.23	.12	-1.87	.26	0.47	4.41
perseverance* Motivation	-.02	.01	-2.28	.02	-0.14	-0.01

Note. CI = Confidence Interval; LL = Lower Limit; UL = Upper

Main effect of predictor. Results indicate that Perseverance is not associated with significant increase in psychological distress .

Main effect of the moderator. At the mean value of the Motivation there was also non significant negative relationship between Motivation and self-compassion.

Interaction. There is a non-significant interaction between perseverance and Motivation. This indicates that relationship between perseverance and self-compassion is conditional upon Motivation.

Discussion

This study examined the relationship between perseverance and self-compassion among secondary school students, with an emphasis on the moderating role of motivation. The primary aim was to address gaps in understanding how motivation influences the link between perseverance and self-compassion in this population, ultimately to help students foster these qualities for academic success. Motivation was measured using the Students' Motivation Scale, perseverance with the 12-item Grit Scale, and self-compassion with the Self-Compassion Scale Short Form (SCS-SF).

Table 1 presents the alpha reliability coefficients for the study variables, confirming that all scales demonstrated reliable internal consistency and were suitable for further analysis. Table 2 shows that Students' Motivation is significantly positively correlated with perseverance and self-compassion, consistent with previous research (Kotera et al., 2023). Perseverance also displayed a significant positive correlation with both Students' Motivation and Self-Compassion, supporting the first hypothesis that perseverance and self-compassion are positively correlated among adolescents.

Table 3 reveals that girls are more motivated than boys, while boys exhibit higher perseverance, and girls show significantly greater self-compassion. These findings align with prior research (Christensen & Knezek, 2014) and support the second hypothesis, which proposed differences between boys and girls in motivation, perseverance, and self-compassion.

Additionally, the results highlight significant disparities, evident when comparing results across socioeconomic categories. Students from lower SES backgrounds demonstrated higher motivation compared to their peers from middle and high SES backgrounds. Perseverance was highest among students with high economic status.

Table 5 demonstrated the moderating effect of motivation on the relationship between perseverance and self-compassion. The findings show that there is a higher negative correlation between self-compassion and perseverance when motivation is low. On the other hand, the link between persistence and self-compassion is unaffected by changes in motivation at high levels of perseverance. This result defies the third hypothesis, which states that among secondary school students, motivation moderates the association between perseverance and self-compassion.

Conclusion

The present study examined the moderating role of motivation in the relationship between perseverance and self-compassion among secondary school students. It also explored demographic differences in these variables. Using a correlational study design, data were collected from 300 students attending various schools in Islamabad and Rawalpindi.

The results revealed a negative connection between perseverance and self-compassion. The negative relationship between perseverance and self-compassion is stronger at low level of Motivation. Hence, perseverance, self-compassion and motivation are vital for students' academic success but they are independent of each other. These are the important and vital aspects of one's personality but do not compensate for each other.

Demographic analyses indicated differences in motivation, perseverance, and self-compassion across age, gender, socio-economic status, and educational grade. The findings both align with and diverge from prior literature, highlighting the complexity of these relationships. Further research is recommended to validate and expand upon these results.

Authors' contribution:

¹ Design of Article, Collection & Analysis of Data, Drafting & Revisions of the article ² Drafting of the article, Analysis of Data & Revisions, ³ Drafting of the article, Submission and Referencing

Conflict of interest: None

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LIMITATIONS AND SUGGESTIONS

- i. A primary limitation concerns the sample size and composition. With only 300 participants, the study may not have sufficient power to detect small effects or nuanced interactions among variables. Additionally, as the sample consisted solely of secondary school students from Islamabad and Rawalpindi, Pakistan, the findings may not generalize to other populations, regions, or cultural contexts.
- ii. Another limitation is the reliance on self-report measures for assessing key variables. Self-reported data are vulnerable to biases such as social desirability and response styles, potentially affecting the validity and reliability of the findings. Moreover, self-report instruments may not fully capture the multifaceted nature of constructs like motivation, perseverance, and self-compassion, which can have various dimensions and levels not adequately addressed by single scales.
- iii. A further limitation lies in the cross-sectional design of the study, which creates causal ambiguity to draw causal inferences or determine temporal relationships among the variables. Other factors—such as character traits, ecological impact, teaching methodologies, or peer dynamics—may mediate or moderate the observed relationships. Additionally, the interplay between motivation, perseverance, and self-compassion may evolve over time due to developmental or situational factors.

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