Teachers as Reflective Mirrors: Unveiling the Role of Teachers in Shaping Students' Self-Concepts through Positive Feedback and Support

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Abstract

Individuals develop their self-image based on others' responses as well as their perception of how others see and judge them (Cooley, 1902). Cooley's looking-glass self was applied on school education to determine whether teachers (as reflective mirrors) play a role in shaping students' self-esteem and academic self-concept through positive feedback and academic support. This quantitative study was cross-sectional survey in design. All secondary-level students in Sargodha division were the total population of study. A sample of 400 students was drawn from Thesil Mianwali through multistage sampling. Data were collected through four self-developed scales with a total of 37 Likert scale items. The study found significant relationships between teachers' positive feedback and support and students' self-esteem and their academic self-concept. Additionally, students' self-esteem played a mediating role in relationships between teachers' positive feedback and students' academic self-concept and teachers' support and students' academic self-concept. In conclusion, students who received positive feedback and support from teachers were more likely to develop self-esteem and academic self-concept. Moreover, students' self-esteem was found important as it played a mediating role in strengthening students' academic self-concept. Students' increased academic self-concept may ultimately enhance their academic performance.

Keywords: Charles Horton Cooley; looking-glass self; teacher's feedback, academic support, self-esteem

1. Introduction

How students see themselves as they progress academically is greatly influenced by the kind of feedback they get (Montgomery & Baker, 2007), and level of support they receive from their teachers (Selvaraj et al., 2021). Academic performance is severely hampered by students' poor self-esteem and negative academic self-concept (Stupnisky et al., 2007). Students' desire to succeed academically is hampered when they mistrust their value and lack confidence in their skills (Sander & de la Fuente, 2022). Fear of failing, an unwillingness to participate in the class, and aversion to difficult activities can all be symptoms of low self-esteem (Keane & Loades, 2017).

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Furthermore, the students who have a poor academic self-concept, in which they believe they are unworthy or incompetent, are less likely to be eager to work hard and persevere through challenges (Marsh & Martin, 2011). As a result, these students may not participate completely in class activities that diminish their academic accomplishments (Rady et al., 2016). Increasing students' academic achievement and well-being requires developing their self-worth and academic self-concept (Chen et al., 2013).

Teachers provide students emotional and social support in addition to intellectual help. They can provide students constructive and affirming feedbacks which may help them to assess students' academic performance and foster a healthy self-image. Building a strong self-concept among children requires developing a secure space where they can express themselves, take chances, and learn from their own mistakes (Thariq, 2018). Teachers can act as mentors and counsellors. This mentorship can provide students support and directions in trying circumstances and acknowledging their accomplishments (Ayalon, 2023). Students can develop their self-perceptions, attitudes, and ideas under the mentorship and guidance of their teachers. It may significantly affect their social interactions, academic performance, and overall well-being (Frye et al., 2010). The significance of teachers in forming students' self-concepts by providing feedback and encouragement is commonly recognized. Constructive feedback that points out areas for improvement, praises the student's strengths, and appreciates effort builds a student's self-esteem (Konold et al., 2004). On the other hand, criticism that only points out what is wrong without providing helpful guidance makes the child feel inadequate and can interrupt the development of a good self-concept (Trautwein et al., 2006).

Many students experience issues with self-confidence, self-esteem, and general well-being. These issues can be mitigated by the feedback they receive as well as the level of support they receive from their teachers. The current body of literature does not provide an in-depth exploration of the specific components of feedback and support mechanisms that may have a truly significant impact on students' self-concepts. More research is needed to determine how different teaching methods and the school environment in general shape students' self-concepts through teachers' feedback and support. This study was therefore undertaken to fill gaps in existing knowledge regarding the complex relationships between teachers, students' self-concepts, feedback, and support.

2. Research Questions

- Is there any significant relationship between teachers' positive feedback and students' academic self-concept?
- Is there any significant relationship between teachers' positive feedback and students' self-esteem?
- Is there any significant relationship between teachers' support and students' self-esteem?
- Is there any significant relationship between teachers' support and students' academic self-concept?
- Is there any significant relationship between students' self-esteem and their academic self-concept?
- Does students' self-esteem mediate the relationship between teachers' positive feedback and students' academic self-concept?

- Does students' self-esteem mediate the relationship between teachers' support and students' academic self-concept?

3. Literature Review

Cooley's Looking-Glass Self Theory

This research builds on the solid foundation of symbolic interactionism of C. H. Cooley's "looking-glass self" theory. According to this theory, people form their self-concept based on how they believe others view them. In this way, social interaction serves as a "mirror" through which a person measures their worth, values, and behaviors against the opinions they receive from others (Cooley, 1902). Cooley's looking-glass self is characterized by three main aspects: the imaginary perception of how others perceive a person, the imaginary judgment others make of that appearance, and subsequent subjective emotions, such as pride or humiliation (Bhattacharjee, 2021). A person internalizes social reactions to self-perceptions because self-concept develops through the reflections one sees in others (Krawczyk et al., 2019). This theoretical framework, when used in an educational context, provides a foundation for researching how teachers may act as reflective mirrors, providing support as well as helpful criticism and feedbacks to help students form positive academic self-concepts and feelings of self-worth.

Mirror and Reflective Mirrors

A mirror, also referred to as a looking glass, is a reflecting surface that reflects light and creates a virtual or real image. A mirror reflects the same picture of the person or thing that is placed in front of it. When applied to an educational setting, "Educators as Reflective Mirrors" view educators as the essential architects of students' self-concepts in addition to being knowledge pedagogues. This notion which has its roots in the symbolic interactionism and specifically in Cooley's theory of looking-glass self holds that teachers operate as the reflective mirrors who help students develop positive self-concepts (through reflection) by providing positive feedback and criticism, and encouragement (Komarraju et al., 2010). Teachers act as mirrors, reflecting back to pupils what they see about their own talents and value. Positive feedback that highlights one's strengths and opportunities for development serves as a positive mirror and promotes higher self-esteem (Silva & Calheiros, 2022). Students form a good academic self-concept on the reflected surface of the supportive learning environment that teachers have created (Konold et al., 2004).

Positive Feedback

Recognizing a student's growth in a specific skill or perceptive analysis during a class discussion shows that his/her efforts are appreciated. Critical feedback that emphasizes students' areas for growth helps them to promote a balanced attitude (Treglia, 2008). This fosters a growth mentality in students by helping them see their areas of strength and opportunity for improvement. Moreover, supportive remarks that stress effort over results alone—for example, commending perseverance, inventiveness or fortitude—highlight the significance of the learning process itself. A grin, a nod of approval, or a thumbs-up are some examples of affirmation gestures which may be used to successfully communicate positive reinforcement. Positive reinforcement from teachers is very essential for developing students' sense of self-worth and forming their academic identity (Agius & Wilkinson, 2014).

Support

Teachers have the ability to offer students comprehensive assistance that covers social, intellectual, and emotional facets of their growth (Giangreco, 2010). They can create a supportive emotional environment in which students feel listened, respected, and understood. This entails identifying the difficulties that students face, validating their experiences, and demonstrating empathy for their sentiments (Capern & Hammond, 2014). Additionally, instructors may help children to foster a sense of inclusion and belonging by promoting positive peer interactions and addressing cases of bullying and exclusion (Veenstra et al., 2014). In the classrooms, some teachers may provide students a range of support based on specific requirements of each student. It may include some practical explanations, practice sessions and instructional modifications to accommodate many different learning styles (Reeve & Shin, 2020).

Self-Esteem

Confidence in one's own value, skills or morality is known as self-esteem (Bailey, 2003). Beliefs about oneself as well as emotional states (including success, despair, pride, and shame) are all included in the concept of self-esteem (Branden, 2021). In psychology, it is demonstrated that concept of self-esteem is desirable since it is very much linked to a number of favourable outcomes, including a sense of pleasure, relationship satisfaction, scholastic success and decreased incidence of criminal behavior. Some meaningful advantages of having a strong sense of self-worth may include the better mental and physical health as well as a decrease in antisocial behavior (Orth & Robins, 2022). On the other hand, low self-worth is linked to negative outcomes including anxiety, loneliness, and a higher risk of drug use (Fekry et al., 2023). In terms of education, teachers' encouraging remarks and assistance serve as mirrors that have an impact on pupils' self-esteem. Students see themselves favorably via this reflecting lens when teachers provide helpful criticism and establish a supportive learning environment, which develops a sense of competence and worthiness. Because Cooley's looking glass self is reciprocal, teachers' positive reinforcement may have a substantial beneficial impact on pupils' self-esteem (Acosta-Gonzaga, 2023).
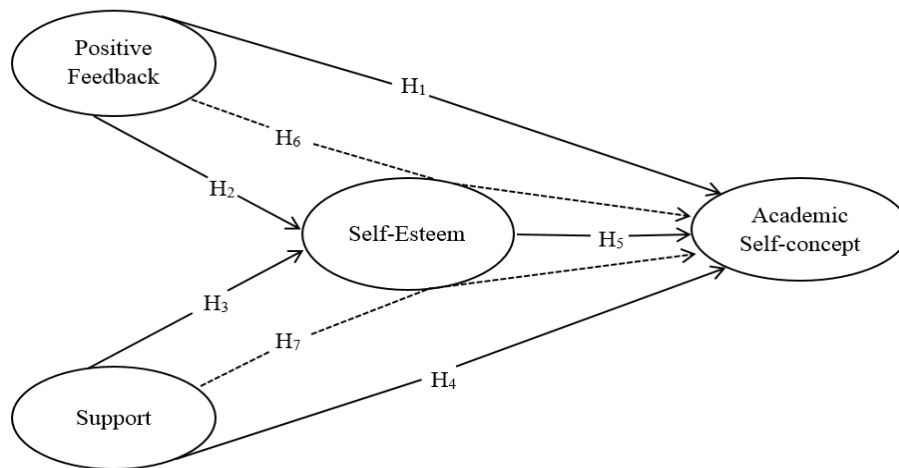
Academic Self-Concept

A person's overall belief about identity, including physical, emotional, social, spiritual, and other characteristics, is known as his/her self-concept (Hattie, 2014). As one matures, his self-concept is shaped and managed by the self-knowledge he possesses (Shavelson & Marsh, 2013). In terms of education, the complex idea of academic self-concept represents person's attitudes, convictions and assessments of his/her performance and skills in the classroom (Wu et al., 2021). This idea, which has its roots in the social cognitive framework, includes how students assess their own aptitude, competency, and potential in academic domains. Academic self-concept is influenced by a number of things including, prior academic success, peer and instructor feedback and one's perception of his/her own learning style and limitations (Chen et al., 2013). Confidence of one's academic potential and faith in one's capacity to succeed in educational endeavors are traits of a high academic self-concept. Furthermore, teachers' roles as reflected mirrors are crucial in forming students' intellectual self-concepts. Teachers affect students' perceptions of their academic ability by giving them customized feedback that highlights strengths and offers suggestions for growth (Abdullah, 2024; Vattøy & Smith, 2019).

Literature cited above highlights central roles of positive feedback and teacher support in development of students' self-esteem and academic self-concept from Cooley's looking-glass self theory. These theory assumptions form the basis of the hypothetical model constructed here whose aim is to empirically investigate the interrelationship between positive feedback, teacher support, self-esteem, and academic self-concept. The following hypothetical model is formulated from these empirically grounded conceptual relations and claim to test the mediating role of self-esteem in classroom.

Figure 1
Hypothetical Model

4. Hypotheses

Following were the hypotheses;

H_1 - There is a statistically significant relationship between teachers' positive feedback and students' academic self-concept.

H_2 - There is a statistically significant relationship between teachers' positive feedback and students' self-esteem.

H_3 - There is a statistically significant relationship between teachers' support and students' self-esteem.

H_4 - There is a statistically significant relationship between teachers' support and students' academic self-concept.

H_5 - There is a statistically significant relationship between students' self-esteem and their academic self-concept.

H_6 - Students' self-esteem mediates the relationship between teachers' positive feedback and students' academic self-concept.

H_7 - Students' self-esteem mediates the relationship between teachers' support and students' academic self-concept.

5. Methodology

Method and Participants

This quantitative study employed cross-sectional survey research design. Cross-sectional research design allows for collection of data at a single point in time, that makes it efficient and practical given the constraints of time and resources. The study was conducted in Districts Mianwali. All male secondary level public school students were included in study's population. Secondary education in Pakistan normally consists of 9th

and 10th classes with children starting at age 13 or 14. The average student's age range for secondary school in Pakistan is 13 to 16.

Sampling

This study used multistage sampling approach and was confined to district Mianwali owing to time and budget constraints. A total of four stages were used in this whole process. At the initial stage, district Mianwali, out of four districts of Sargodha Division, was chosen by simple random sampling. For that, online random number generating methods were utilized to assist the selection process after developing a sampling frame of the four districts. District Mianwali further comprised three tehsils: Mianwali, Isakhel, and Piplan. Tehsil Mianwali was selected at the second stage of the sampling procedure in the manner similar to the first stage of selection. Tehsil Mianwali comprised 66 union councils (UCs). An exhaustive list of all UCs prevailing in the selected tehsil was created in collaboration with the Mianwali district council to streamline selection process. As we proceeded to the third stage, the systematic sampling approach was used to randomly choose a subset of 21 UCs. Using the last two digits from a table of random numbers, this approach included choosing a random start point between one and three. The researchers then consulted the district education office (DEO Secondary) and asked him to create a list of every secondary school that was located in the selected UCs. A total of 77 secondary schools with over 5500 male students were found to be enrolled after careful calculations and visits to district and tehsil-level secondary education offices. Using the L. R. Gay technique for population and sample distribution, a sample of 400 students was taken - because there were more than 5000 students in the entire population (Gay et al., 2012). Since there was no exact information available on the number, name, and gender of students - as admissions were still being processed and records were not updated by officials - therefore, the required data were collected conveniently, and the same process was performed at the fourth stage as well.

6. Instrumentation

Four self-developed scales were used for data collection. All scales consisted of fixed-choice statements with a 5-point Likert scale from "strongly disagree = 1" to "strongly agree = 5." In order to guarantee understanding and remove any possible word ambiguities, all scales were translated into Urdu (the national language of Pakistan). Further, all the data scales were validated through face and content validity. The instruments were assessed by a panel of eight seasoned specialists who were knowledgeable about the pertinent fields of study. In addition, convergent and discriminant validity was established for construct validity after the data collection procedure. Following content and face validity checks, a round of pilot testing was conducted in which 40 (10% of the total) students participated in the survey to evaluate the viability of the research design and instruments. Furthermore, reliability assessment was conducted using Cronbach's alpha on the pilot-tested data to evaluate consistency among the items within their respective constructs. Additionally, the reliability of the data was also verified through composite reliability (CR), as described in Table 2.

Data collection procedure

Data were collected from November 15, 2023, to January 11, 2024. Before data collection, the researchers sought permissions from the top authorities at the district as well

as tehsil levels. The authorities were informed about the goals of study and given assurances that all the ethical principles would be observed while gathering the data. The researchers ensured that there was a little interruption to the academic activities of the participants. Researchers built rapport and confidence with students throughout this process. All the participants were assured of their confidentiality and anonymity. An informed consent form explaining the goal of the study and asking for voluntary involvement from respondents was annexed to each questionnaire. An exceptionally high level of response was observed by the surveys' remarkable 98% response rate. Significant missing data were found in just 2% (8) of the surveys, and they were excluded from the data analysis process.

7. Data analysis procedure

After data collecting was finished, the Statistical Package for Social Sciences (SPSS) version 22.0 was used to analyze the raw data. Using AMOS 23-V, structural equation modelling (SEM) was performed to investigate the correlations between dependent and independent variables. The first step was building a measurement model using confirmatory factor analysis (CFA). The links between each component and its related latent variable were confirmed. Furthermore, CFA helped to evaluate the construct validity and reliability of the data and the study instrument. After that, a structural model was drawn in order to determine the total, direct, and indirect effects of predictor variables on the outcome variable. Normality of the data was ensured through the Z score after the calculation of skewness and kurtosis values as given below:

$$Z_{kurtosis} = \frac{kurtosis}{\sqrt{s.e. \ kurtosis}}$$

According to Ho (2013), a calculated z-value surpassing ±1.96 indicates a rejection of the normality assumption at the 0.05 alpha level. In the case of the AP, SUP, SE, and ASC variables, the z-values of each item, computed from the obtained skewness statistics, falls below ±1.96, not departing significantly from normality (see Table 4).

8. Results

The data revealed .943 as a Kaiser-Meyer-Olkin (KMO) value, which indicated a high level of adequacy for conducting factor analysis. Additionally, the Bartlett's Test of Sphericity yielded chi-square ($X2 = 22470.323$, df = 465, p <.001) which indicated the probability that the correlation matrix has significant correlations among at least some of the variables in the data set.

Table 1
Goodness of Fit Measures

	X^2	df	X^2/df	CFI	SRMR	RMSEA	PClose
Positive Feedback (PF)	429.91	623	0.690	0.964	0.051	0.041	0.031
Support (SUP)	523.14	623	0.839	0.980	0.042	0.051	0.040
Self-Esteem (SE)	510.18	623	0.818	0.961	0.047	0.054	0.038
Academic Self-Concept (ASC)	403.88	623	0.648	0.966	0.060	0.050	0.047

Note. Cut-off criteria of Hu and Bentler (1999) was followed in fit indexes

Cut-off criteria established by Hu and Bentler (1999) was used as reference points for evaluating the fit indexes. According to Table 1, X^2/df values of all the constructs (PF = .690, SUP = .839, SE = .818, ASC = .648) are between the cut-off criteria of 1 and 3. The comparative fit index (CFI) assesses the model's fit relative to the null model with all the

values (PF = .964, SUP = .980, SE = .961, ASC = .966) higher than the cut-off criteria of 0.950, indicating good fit.

The standardized root mean square residual (SRMR) values of all constructs are (PF = .051, SUP = .042, SE = .047, ASC = .060). All thes values are less than 0.08, which indicates a good fit. Additionally, all constructs revealed root mean square error of approximation (RMSEA) (PF = .041, SUP = .051, SE = .054, ASC = .050). All these values are greater than the cut-off criteria of 0.06, showing how well the model fits the covariance matrix. In addition, the PClose values indicates the probability of close fit to the model with all its values greater than 0.01, further strengthening the goodness of fit.

Table 2

Validity Through Fornell-Larcker Criterian

	CR	AVE	MSV	MaxR(H)	PF	SUP	SE	ASC
PF	0.980	0.817	0.619	0.984	**0.904**			
SUP	0.984	0.873	0.524	0.987	0.639***	**0.934**		
SE	0.988	0.910	0.459	0.994	0.633***	0.597***	**0.954**	
ASC	0.982	0.856	0.619	0.984	0.787***	0.724***	0.677***	**0.925**

*** p < 0.001.

Table 2 shows the discriminant validity of the constructs through Fornell-Larcker criterion discriminant validity. The internal consistency of each construct is indicated by the composite reliability (CR) values. All these values surpass 0.98, indicating strong reliability. Further, all of the average variance extracted (AVE) values (PF = .817, SUP = .873, SE = .910, ASC = .856), which show how much variation the concept captures with respect to measurement errors, are over 0.8, suggesting excellent convergent validity.

The discriminant validity is further supported by the mean variance shared (MSV) values (PF = .619, SUP = .524, SE = .459, ASC = .619), which are lower than the AVE values. Discriminant validity is further supported by the MaxR(H) values (PF = .984, SUP = .987, SE = .994, ASC = .984), which show that the correlations between any construct and any other construct are smaller than the square roots of each construct's AVE values.

Table 3

Grouped Psychometric Properties and Discriminant Validity Through HTMT Criterion

	M	SD	α	PF	SUP	SE	ASC
PF	3.650	1.071	.818				
SUP	3.614	1.060	.845	0.641			
SE	3.221	1.151	.830	0.477	0.581		
ASC	3.694	1.063	.827	0.575	0.643	0.364	

Table 3 presents computed mean (M), standard deviations (SD), and Cronbach's alpha (α) of all research variables. Additionally, in the pursuit of establishing discriminant validity, the Heterotrait-Monotrait (HTMT) criterion was employed, as delineated by Henseler et al. (2015). The statistics, as depicted in Table 3, indicate conformity with this criterion, as all HTMT values associated with the examined constructs fall beneath the specified cut-off criteria (0.90).

Table 4 shows the psychometric properties of each item individually, supported by factor loadings (FL), Cronbach's alpha, and Z-values for data normality. It can be seen that

all FL values are above .50, indicating strong validity and reliability across constructs. Furthermore, all alpha values are above .70, indicating strong internal consistency across items. Finally, all Z-values are below ±1.96, indicating that none of the items deviate from normality

Table 4

Psychometric Properties of Each Item

Factor 1: Positive Feedback (PF)		M	SD	FL	α	Z
PF1	My teachers give feedback by saying, "You are a hard worker."	3.42	1.10	.829	.85	1.69
PF2	My teachers give feedback by saying, "You did nicely."	4.29	1.16	.859	.75	1.63
PF3	My teachers give feedback by saying, "Well done, excellent work!"	3.61	1.02	.819	.90	1.81
PF4	My teachers give feedback by saying, "Good work. Keep it up."	3.81	1.05	.824	.81	1.84
PF5	My teachers give feedback by saying, "You are doing really well."	3.51	1.16	.812	.89	1.70
PF6	My teachers give feedback by saying, "You are competent."	3.48	1.12	.811	.78	1.81
PF7	My teachers give feedback by saying, "Come on! You can do better."	4.11	1.19	.918	.81	1.58
PF8	My teachers give feedback by saying, "You seem talented."	2.89	1.24	.805	.87	1.80
PF9	My teachers give feedback by saying, "You have good academic skills."	3.51	1.07	.819	.77	1.66
PF10	My teachers give feedback by saying, "Your work is well-structured."	3.28	1.04	.729	.73	1.71
PF11	My teachers give feedback by saying, "You have improved."	4.25	0.96	.857	.84	1.67
Factor 2: Support (SUP)		M	SD	FL	α	Z
SUP1	My teachers help me when I have a question.	3.51	1.15	.851	.81	1.67
SUP2	My teachers consider me a smart student.	3.43	1.11	.859	.82	1.59
SUP3	My teachers help me minimize my academic stress.	3.38	1.16	.833	.91	1.42
SUP4	My teachers give me all necessary academic guidance.	3.39	1.00	.856	.88	1.59
SUP5	My teachers encourage inclusive classroom environment.	4.07	0.99	.865	.85	1.93
SUP6	My teachers focus on my social and emotional learning.	3.41	1.16	.856	.79	1.53
SUP7	My teachers use effective teaching methods to meet needs of students.	3.49	1.08	.721	.88	1.86
SUP8	My teachers help in setting and achieving academic goals.	4.24	0.91	.878	.84	1.59
SUP9	My teachers give constructive feedback on academic performance.	3.61	1.01	.810	.83	1.75

Factor 3: Self-Esteem (SE)		M	SD	FL	α	Z
SE1	Being a student, I feel proud of who I am.	3.11	1.20	.878	.90	1.83
SE2	Being a student, I feel confident in myself.	3.17	1.17	.811	.83	1.51
SE3	Being a student, I feel confident about general abilities I have.	2.95	1.22	.802	.81	1.81
SE4	Being a student, I believe I have worth and value.	3.41	1.09	.846	.74	1.72
SE5	Being a student, I feel comfortable with who I am.	3.39	1.21	.872	.93	1.61
SE6	Being a student, I feel good about the person I am becoming.	2.90	1.22	.804	.81	1.66
SE7	Being a student, I recognize my strengths and weaknesses.	3.33	1.13	.850	.84	1.71
SE8	Being a student, I generally have a positive outlook on my life.	3.51	1.08	.868	.78	1.83
Factor 4: Academic Self-Concept (ASC)		M	SD	FL	α	Z
ASC1	I am a hard-working student.	3.71	1.01	.785	.81	1.62
ASC2	I am a competent student.	3.63	1.07	.841	.84	1.71
ASC3	I am a talented student.	3.38	1.14	.809	.89	1.77
ASC4	I have academic abilities.	4.12	0.99	.855	.82	1.61
ASC5	I have potential academic skills.	4.03	1.00	.849	.92	1.78
ASC6	I have understanding about my academic strengths and weaknesses.	3.41	1.10	.811	.72	1.85
ASC7	I have improved my academic progress.	3.67	1.09	.798	.76	1.59
ASC8	I have potential to meet my academic goals.	3.42	1.02	.837	.79	1.74
ASC9	I have met the academic expectations placed on me.	3.88	1.04	.810	.90	1.82

Note. N = 392.

The study revealed significant relationships between predictor variables and outcome variables. As evidenced by the statistics presented in Table 5 the predictor variable positive. feedback (PF) exhibits a significant relationship with the outcome variable self-esteem (SE) (β = .4259, SE = .050, t = 8.350). Similarly, support (SUP) demonstrates a statistically significant relationship with SE (β = .3275, SE = .049, t = 6.683) and the PF revealed a significant linkage with academic self-concept (ASC) (β = .4647, SE = .041, t = 11.334).

Table 5

Mediation Model Matrices

Outcome Variable	Predictor Variable	β	SE	t	Bootstrap LBCI	Bootstrap UBCI
SE	PF	.4259***	.050	8.350	.3085	.5579
SE	SUP	.3275***	.049	6.683	.1877	.4566
ASC	PF	.4647***	.041	11.334	.3445	.5824
ASC	SE	.1996***	.036	5.264	.0927	.3195
ASC	SUP	.3094***	.039	8.018	.1873	.4306

*Note. *** p < .001. Bootstrapping was set at 5,000 samples.*

SE exhibits a comparatively weaker but still significant relationship with ASC (β = .1996, SE = .036, t = 5.264) and the predictor variable (SUP) manifests a significant relationship with ASC, evidenced by (β = .3094, SE = .039, t = 8.018). Notably, all reported relationships achieve significance at the alpha level of 0.05, underscoring their statistical significance within the

analytical framework. So, the research hypotheses that there is a significant relationship between teachers' positive feedback and students' academic self-concept, teachers' positive feedback and students' self-esteem, teachers' support and students' self-esteem, teachers' support and students' academic self-concept, and students' self-esteem and their academic self-concept are accepted.

Figure 2

Structural Model
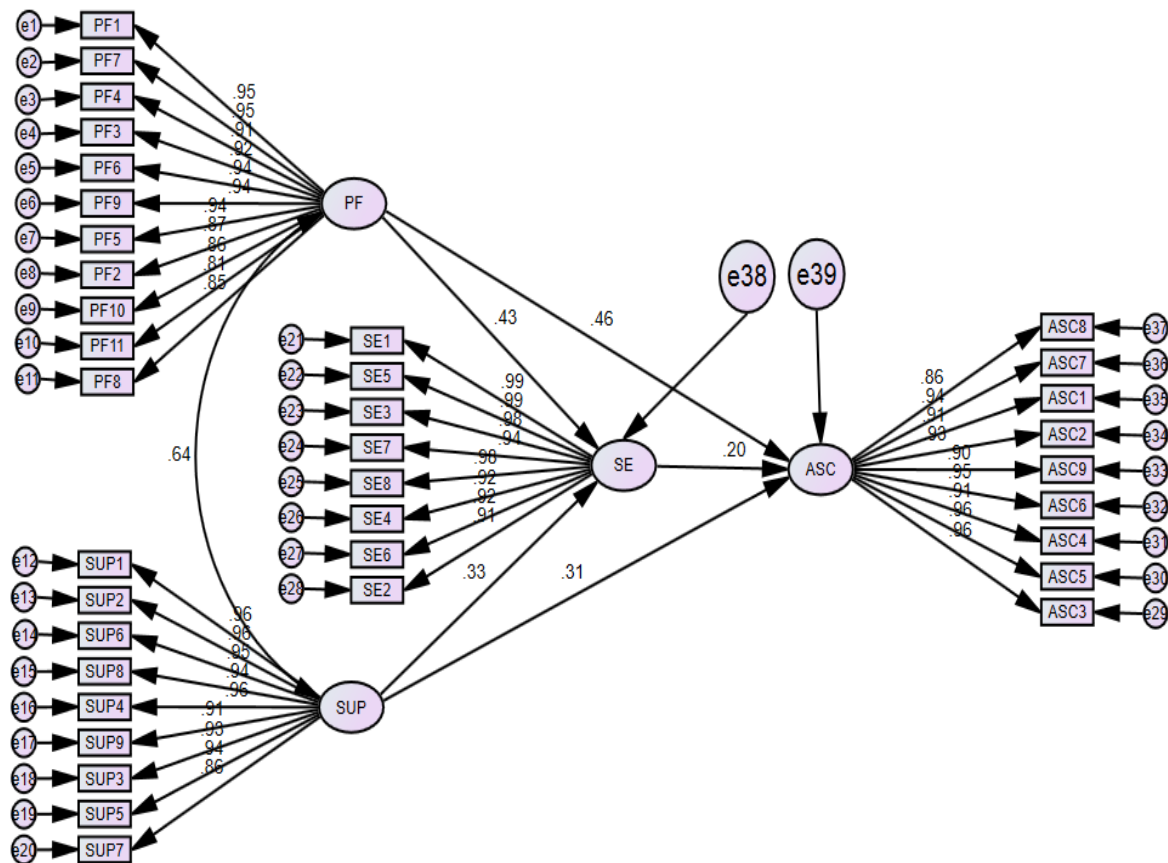
The total effects of teachers' positive feedback on students' academic self-concept (β = .5635) and support on students' academic self-concept (β = .3815) were found to be statistically significant. Further, academic self-concept was directly impacted by positive feedback (β = .4763) and academic self-concept was directly impacted by teachers' support (β = .3154).

Table 6

Total, Direct, and İndirect Effects of PF on ASC and SUP on ASC

		Effect	SE	Bootstrap LBCI	Bootstrap UBCI	p	Relative Effect Size
PF on ASC	Total	.5635	.063	.4417	.6858	.000	---
	Direct	.4763	.067	.3484	.6118	.000	84.52%
	Indirect	.0872	.027	.0426	.1546	.000	15.48%
SUP on ASC	Total	.3815	.062	.2614	.5014	.000	---
	Direct	.3154	.064	.1913	.4406	.000	82.67%
	Indirect	.0661	.024	.0277	.1286	.000	17.33%

Note. Bootstrapping was set at 5,000 samples.

Furthermore, there were significant indirect effects of positive feedback on students' academic self-concept (β = .0872) and teachers' support on students' academic self-concept (β = .0661), respectively. Additionally, the relative effect size sheds light on the proportional contributions of the direct and indirect effects to the total effects. The direct effect of positive feedback on academic self-concept accounts for 84.52% of the total effect, but the indirect effect accounts for 15.48%. In a similar vein, support had a direct effect of 82.67% on academic self-concept and an indirect effect of 17.33%. In addition, the mediated (indirect) effect of positive feedback and support on academic self-concept was significantly different from zero at the 0.001 level (p = .000 two-tailed). So the research hypotheses that students' self-esteem mediates the relationship between teachers' positive feedback and students' academic self-concept, and students' self-esteem mediates the relationship between teachers' support and students' academic self-concept are accepted.

9. Discussion

In findings, positive teacher feedback was found to be significantly associated with students' academic self-concept. This indicates how important teachers are in guiding their students towards building perceptions of academic competence. It appears that students' perceived confidence in their academic skills was closely related to the positive reinforcement they received from teachers, which could be manifested through encouragement, praise, or constructive criticism. Students were more likely to have a positive self-concept about their academic achievements when teachers provided encouraging feedback. The results are consistent with Konold et al.'s (2004) perception that positive and helpful teacher feedback significantly increased students' self-esteem. Apart from this, the statistically significant association of self-esteem with positive teacher feedback suggests that teachers are highly influential on students' psychological and academic outcomes. Positive reinforcement techniques, including praise, encouragement, or recognition of effort, increase the likelihood of students developing positive self-esteem. In line with these findings, Kumaraju et al. (2010) demonstrated that teachers acted as a reflective mirror, enhancing students' confidence levels through positive reinforcement and support.

Furthermore, it was found that students' self-esteem was statistically significantly associated with teacher support. Students who received consistent support from teachers, whether in the form of encouragement or guidance, were more likely to have higher self-esteem. Students' collective self-esteem is likely to increase because they feel that their teachers truly care about their academic success and well-being. This is because such support makes them feel capable, respected, and confident. Thus, this research finding lends strength to the conclusion reached by Acosta-Gonzaga (2023), who found that teacher facilitative and supportive feedback forms a mirror surface that can produce the desired positive effect on a student's self-esteem. Furthermore, if students perceive or infer that their teachers provide them with consistent support—through coaching, guidance, or emotional support—the students strive to achieve a positive academic self-concept. This support can come in a variety of forms, such as constructive criticism, occasional offers of assistance, or simply creating a supportive and nurturing learning environment in the classroom. Vattøy and Smith (2019) confirmed these findings by stating that teachers play an important role in shaping students' perceptions of their academic abilities and providing them with feedback to improve them academically. Students are more likely to internalize positive beliefs about their abilities in school when they feel that their teachers fully trust them and care about helping them succeed.

Likewise, relationship between academic self-concept and self-esteem was also found to be significant. Students with high self-esteem had more positive perceptions and feelings about their academic skills. Such positive thinking can ultimately bring about more positive change in academic self-concept. Students with low self-esteem have the perception that they

are not academically smart and competent. This finding represents the fact that a student must be emotionally nurtured in the process of cognitive development. Vattøy and Smith (2019) demonstrated that what teachers provide to support students' academic self-concept affects both self-esteem and students' views of their academic competence. In addition to directly affecting students' perception of themselves as capable or skilled in the academic domain, positive teacher feedback affects their academic self-concept indirectly. Teachers who provide constructive feedback enable students to feel worthy and capable of doing academic work. All of this can facilitate the development of higher self-esteem in students. Students with higher self-esteem, in return, feel more confident in themselves and have a more developed academic self-concept. The process that leads to this change also affects their self-perception in the classroom. All of these findings have a significant impact on teachers' emotional and psychological development as well as their intellectual growth. Agius and Wilkinson (2014) argue that students' perceptions of self-worth and how their academic self-concept develops are largely driven by the positive reinforcement provided by teachers. Additionally, students who receive consistent support and affirmation from their teachers develop a greater sense of competence and appreciation in the academic realm (Han, 2021).

10. Conclusion

The research findings demonstrate the complex nature of the interconnected dynamics that exist in the context of education, highlighting how teachers' positive feedback and academic support significantly impact students' self-esteem as well as their academic self-concepts. The significant relationships identified between teachers' positive feedback, students' academic self-concept, and self-esteem highlight the crucial influence that teachers have in enhancing students' confidence and perception of their abilities in academic contexts. Furthermore, the study found relationship between teacher support and students' self-esteem, which highlights the crucial roles of teacher-student interactions in developing students' emotional as well as academic well-being. In addition, the study revealed that students' self-esteem significantly mediates a relationship between teachers' positive feedback and support their academic self-concept.

11. Recommendations and Future research directions

The study findings reveal that constructive feedback and support from teachers are important for students' self-esteem as well as their academic self-concept. Thus, improving students' academic self-concept and self-esteem may be significantly supported by more positive reinforcement from teachers towards their students. Professional development programs may also be launched, and adequate materials may be provided to teachers to further develop students' emotional needs. Such initiatives can increase students' wellbeing and furnish their academic journey. Additionally, educational institutions may play a crucial role in making classrooms the venues which provide a supportive environment for emotional and mental development of students.

Subsequent research can be conducted in this area to understand and clarify the mechanisms through which constructive and positive feedback from teachers influences students' perceptions of their academic identity and overall self-worth. A longitudinal study can be conducted to examine the changing nature of these variables over time and their impact on the long-term course of students' academic achievement and psychological well-being. In addition, focus group and qualitative interview methods can also be applied for this purpose to shed light on the richer subjective experiences of both teachers and learners regarding the effects of supportive and helpful feedback on their academic self-concept and self-esteem. Additionally, more studies can be conducted to assess the cultural and environmental context in which teachers are in a position to provide feedback and support in order to achieve better

outcomes.

Declaration of Conflicting Interest:

The authors declare no conflict of interest.

Ethical Approval and Informed Consent Statements:

Ethical approval was obtained from the relevant review board at University of Peshawar. Informed consent was secured from all participants prior to data collection.

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