



## Teacher’s Self-Efficacious Beliefs Apropos Gender Equality Prioritizing to the United Nations Sustainable Development Goals 5

Dr. Mehboob Ul Hassan\*, Prof. Dr. Abid Hussain Ch.\*\*, Muhammad Rizwan\*\*\*, Naila Zaigham\*\*\*\*

\* Assistant Professor, Department of Education, The University of Lahore, Punjab-Pakistan  
[mehboob.hassan@ed.uol.edu.pk](mailto:mehboob.hassan@ed.uol.edu.pk)

\*\* Dean of Social Sciences ,Head of Education Department, The University of Lahore, Punjab-Pakistan  
[abid.hussain@ed.uol.edu.pk](mailto:abid.hussain@ed.uol.edu.pk)

\*\*\* M. Phil Scholar (Education) Department of Education, The University of Lahore, Punjab-Pakistan  
[rizwan975975@gmail.com](mailto:rizwan975975@gmail.com)

\*\*\*\* M. Phil Scholar (Education) Department of Education, The University of Lahore, Punjab-Pakistan  
[nailazaigham31@gmail.com](mailto:nailazaigham31@gmail.com)

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### ABSTRACT

Teachers are the important figure in society. They are the nation builders, and information providers and disseminate knowledge among students focusing on their efficacious beliefs for gender equality; the United Nations global agenda, 2030. As the globe intends to strengthen harmony among states, prosperity, lifelong learning, and well-being focusing on the aspect of gender equality accordingly. To spread national and international messages within states, the teachers are the backbone who confidently cooperate and implement the stances accordingly. Likewise, the authors structured the current research to figure out the aspect of teachers’ self-efficacious beliefs playing a role in prioritizing the United Nations SDG 5 “gender equality”. The authors planned the current research on a sample of 674 primary school teachers working in public sector schools of District Lahore. After obtaining unfettered and unrestricted permissions from the authors, the administration of standardized instruments assists the researcher to collect the data from participants. Following piloting criteria and ensuring reliability and normality statistics, the authors applied parametric statistics to analyze the data for smooth results in SPSS. The results revealed that teachers’ self-efficacious beliefs have a 74.90% influence on enhancing gender equality and were important to spreading UN, SDG 5 “gender equality”. Primary school teachers have equally treated and disseminated knowledge among students. However, the authors have identified that in public sector educational institutions, the government is hardly focusing on SGD to implement the UN global agenda. The current research recommends that the government of Pakistan, train teachers, conduct workshops, and arrange the speeches of motivational speakers to spread the UN 17 goals with 169 integrated targets.



### Introduction

There seems an immense shift in the field of educational research. The vast major part of scholars’ concerns has been studied in teachers’ cognitive, affective, and psychomotor domains. The teachers have

applied their maximum amount of knowledge, skills, values, and attitudinal aspects that spread and promote education at gender equality (Orakcı et al., 2023). The applications of self-efficacy are still supporting researchers to find out the ways which have been remaining part of research for the last 30 years (Hassan, 2019; Hassan & Akbar, 2020; Klassen et al., 2010; Gale et al., 2021). Social scientists have been adopting diverse aspects of self-efficacious beliefs (Caprara et al., 2006; Elliott et al., 2010; Marzano, 2017; Shidler, 2009). Self-efficacy is an important aspect of Bandura's Social Cognitive Theory; SCT (Klassen et al., 2011; Zee & Koomen, 2016). Importantly, SCT reports that environmental influence put long-lasting effects on constructive learning, and the effectee remains an active information seeker and desperately interprets observed information (Nevid, 2009). Individuals' potential and keenness to promote societal learning intermingle with the environmental effect (Bandura, 1997). The other feature of SCT focuses on the relationship of human intellectual, social, and environmental aspects that show one's inspiration for concrete learning (Crothers et al., 2008) that is ultimately embodied in triadic reciprocal determination (Wood & Bandura, 1989).

*Self-efficacy* is one's grip on confidence toward accomplishing set goals (Bandura, 1997) or predictable targets, particular beliefs on assigned tasks (Schunk & Pajares, 2005), human judgment on their potential on specific responsibilities (Axtell & Parker, 2003) and inspire the human in completing particular tasks (Pintrich & Achunk, 2002; Zimmerman & Cleary, 2009). Teachers' self-efficacy is the belief in teachers' potential (Akinsola, 2008) in achieving particular tasks (Aðalsteinsson et al., 2014) and setting targeted achievements (Ebrahim, 2012; Ertmer et al., 2012). The confidence of teachers is a paramount part of self-efficacious beliefs (Holzberger et al., 2013). Self-efficacious teachers have access to knowledge (Wolters & Daugherty, 2007), and engage the students in multiple activities (Çakiroglu et al., 2005). More efficacious teachers remain influential and are frequent appetizers toward students' learning (Ertmer et al., 2012). The literature has enriched facts that efficacious teachers equally treat their students in a class (Haciomeroglu, 2019) and work with students for many hours (Jong et al., 2014). When the teachers assign tasks to students, they guide the students and insist at every step on timely accomplishment. Due to better confidence, efficacious teachers equally treat null and dull students, dare and fair students (Bandura, 1997; Hassan, 2020; Soland, 2019).

There appears constructive deliberation in the public and private sectors on the spread of gender equality (Rosa & Clavero, 2022; Tildesley et al., 2022). The inequalities between males and females have remained unpredictable issues as well. In this regard, The European countries, put forward policies that are one of the global agenda of the United Nations, Sustainable Development Goal 5 ("*Achieve gender equality and empower all women and girls*"), and by remaining SDG that ensured highlight the burning aspects of gender inequality and its sequential reduction (Carlsen, 2020; Gaudest et al., 2022; Rosa & Clavero, 2021). The debate over gender equality has been naturally discussed as a multi-faceted delinquent (Kamke et al., 2022) and also proved by the scholastic contribution of Carlsen & Bruggemann (2021), likewise, European States correlate the aspect of gender equality in Denmark, Germany, and Czech Republic (Carlsen et al., 2023) and deeply discussed diverse phases of gender equality among, higher, middle and lower countries reflecting its social attributes with different tracks in different speediness inside Europe. The research conducted by Miralles-Cardona & Kitti (2022) in Spain exposes the self-efficacious and gender equality framework toward contemporary teachers' education. The results of the research established that teachers of contemporary education were confident in implementing sustainable male and female-sensitive practices among students. The work of Fendika et al. (2022) confirms the aspects of teachers' self-efficacy and self-esteem regarding gender equality in institutional formations based on fair dealings. The authors further identified that equal rights, toward societal capital, suitability of fundamental rights, develop in fairness as per one's needs is the basis of mutual interest. Based on the results of linear regressions, the authors have statistically assured self-efficacious beliefs have hardly any effect on gender equality rather than a 51.4% effect on gender equality in organizations' work. Miralless-Cardona et al. (2021) reported that the provision of education through teachers' self-efficacious beliefs to male and female individuals is their basic right that sustains peaceful states. The authors have reported that the United Nations also justifies the international agenda to involve mainstreaming gender in all year of age groups (Tildesley et al., 2022). They further acknowledged that throughout the globe there is a debate on gender inequalities and gender awareness, although competent both are. Moreover, in their research, Grástéin et al. (2022) measured the elementary and higher secondary school teachers' self-efficacious beliefs interconnected with gender basis quality education. The authors worked on the low, intermediate, and high-level teachers' self-efficacy toward gender equality. The results of the research established that higher teachers possess more self-efficacious beliefs toward spreading gender equality. While focusing on teachers' low efficacy profiles, teachers possessing master's degrees have high self-efficacious beliefs toward gender equality as compared to male teachers

having tertiary levels of education. In the case of intermediate and high teachers' self-efficacious beliefs, males have seemed based as compared to females, due to their interest in females, and the issue of harassment was involved.

### **Statement of the Problem**

The current research was structured in public sector primary schools of District Lahore. For decades, primary education in Punjab is going to paralyze. More experienced teachers are confident but hardly convey their knowledge to students due to diversification in the medium of instruction (Gopang et al., 2017; Hassan, 2019), lack of teachers' training (Nawaz, 2020), and pitiable feature of textbooks (Mahmood, 2010), implementation of dissimilar curriculum (Bhatti, 2015), weak in practical lab performance (Ahmad & Mehmood, 2022; Dahar & Faize, 2011) and school environment (Mahmood & Gondal, 2017) and teachers' use of traditional teaching methods (Hassan & Akbar, 2020). Moreover, the teachers' self-confidence in their academic and pedagogic potential is appreciable. Pakistani teachers working in primary public sector schools are enthusiastically and actively working in disseminating knowledge on male and female students since independence. Today, the research scholars' intentions in exploring gender equality is a burning debate since then. Likewise, the current research was planned to determine the teachers' self-efficacious beliefs playing an immense worth in prioritizing the United Nations SDG 5 "gender equality". The authors planned the current research in public-sector primary schools of district Lahore. It is an important factor that public sector schools are following the same curriculum, departmental directions, students' assessment criteria, and academic and professional qualifications. They are bound to obey and follow the direction issued by the department to smooth the running of the schools. The researchers have intends to find out the situations happening in public sector primary schools of Lahore-Punjab.

### **Research Questions**

The authors framed the following research questions in the research:

1. To find out the effect of TSEB in prioritizing gender equality
2. To execute the factors of TSEB concerning the indicator of SGES

### **The Population and Sample of the Research**

An important part of the research is the population on which the researchers applied the data from the participants. The population is the entire set of objects, things, and participants included in the research. In this research, the population of the research consisted of 1,201 primary schools teachers working in 337 Public sector schools of District Lahore.

Administratively, District Lahore is categorized into 5-tehsils: Tehsil, City, Cantt, Model Town, Shalimar, and Raiwind. The researchers selected the data from district Lahore due to the job place of researchers, ease and time to collect the data, and easy access on male teachers for the sake of data collection. To show the entire characteristics of the population, the researchers target samples to use inferences from the entire population (Aray et al., 2010; Zina, 2021). Through samples, the authors remain easy to collect the data due to its cost-effectiveness, convenience, and ease of management (Hair et al., 2011; Mertler, 2021). The sample is the selected part of the research on which, the data is being collected (Schweigert, 2021). It is the representative part of the research (Cohen et al., 2007). The sample shows the entire characteristics of the entire population (Bryman, 2012; Christensen et al., 2015). However, in the current research, the authors selected 674 primary schools in the Tehsil City of District Lahore. Moreover, to select the sample of the research the authors randomly selected two teachers from 337 primary schools. The researcher collected the data from male teachers only, as it was less possible to collect the data from female teachers as they poorly cooperate and hardly provide their data for research purposes (Hassan, 2019; Nawaz, 2019).

### **Instrumentations**

The administration of research instruments is an important aspect that assists the researchers in ending research results. A good and well-designed instrument leads the researchers in obtaining good results (April et al., 2012; Fraenkel et al. 2012). In the current research, the authors used one instrument having two parts: **Part A** consisted of Tschannen-Moran and Hoy's (2001) *Teachers' Self-Efficacy Scale*; TSES having 24 items of 3sub-factors; students' engagement, classroom management, and instructional strategies. The items of the TSES have 5-point Likert-type options already used in other studies (Hassan, 2019; Summers et al., 2017; Yough, 2019). Likewise, the authors administered *Social Gender Equity Scale*; SGES adopted from Kandemir and Nartgün (2016) has 5 subfactors; family life, school life, social life, work life, and family impact. The authors have already measured the overall Cronbach's Alpha Reliability statistics .90 while factors of the Social Gender Equity Scale; SGES; family life .92, school life .91, social life .86, working life .93, and family effect .89. SGES has high reliability including five dimensions, as reported in other studies (Büyüköztürk, 2017; Kalaycı, 2016; Lorcu, 2015; Şencan, 2005). The authors constructed TSES and SGES

scales on Likert-type options.

### Piloting the Instrument

After obtaining permission from the *Teachers' Self-Efficacious Scale* and *Gender Equality Scale*, the authors piloted the instrument on a small sample of participants. The authors visited the office of the District Education Authority / Executive District Education Officer, Lahore, discussed the purpose of the research, and obtained the list of elementary schools of District Lahore. The authors telephonically call to the heads of the institutions, shared the purpose of the research, and visited on the prescribed date and time. On the scheduled day and date, the authors handed over the questionnaires to the elementary schools' teachers and requested them to carefully get filled in. The teachers highly cooperated with researchers, sat in their offices, and filled out the questionnaire in a limited and get back accordingly. The authors entered the piloted data in SPSS to ensure Cronbach's Alpha reliability statistics. The overall reliability of TSEB was .383 and SGES was .861, whereas the factor wise-reliability of the instrument is given below, given below:

**Table 1: Cronbach's Alpha Reliability Statistics**

r #	S	Name of factors	N of Items	Cronbach's Reliability
1		Students' engagement	8	.801
2		Classroom management	8	.838
3		Instructional strategies	8	.876
4		Family life	8	.882
5		School life	3	.856
6		Social life	6	.848
7		Working life	4	.819
8		Family effect	4	.901

As delineated in Table 1, it is revealed that Cronbach's Alpha reliability of TSES and GES is greater than .70 which means the scale is highly consistent and reliable to collect the data from the final procedure (Cho & Kim, 2015; George & Mallery, 2003; Hair et al., 2010; Lance et al., 2006; Taber, 2018) when applying arbitrary cutoff value. Moreover, the authors collected the data by revising the same procedure (pilot study) although focusing on ethical considerations from the participants, assisting the researchers in data collection.

### Normality of the Data

The researchers take seriously the normality of data otherwise it is problematic to draw correct and consistent in applying statistical techniques (González-Estrada et al., 2022; Öztuna et al., 2006). The researchers analytically obtained categorical/explicit forms of desired results from normally distributed data (Demir, 2022; Douma & Shipley, 2023; Ellaway, 2022; Hormann et al., 2022; Jobst et al., 2022; Kang et al., 2023).

**Table 2 Shapiro-Wilk's tests of normality on TSEB and SGES data**

Sr.	Name of variables	Shapiro-Wilk's test			Skewness	Kurtosis
		Statistic	df	p		
1	Students' engagement	.604	672	.134	5.678	6.619
2	Classroom management	.597	672	.297	2.075	6.972
3	Instructional strategies	.633	672	.921	4.359	3.232
4	Family life	.621	672	.309	-1.074	5.154
5	School life	.854	672	.066	3.823	2.619
6	Social life	.821	672	.816	1.230	.972
7	Working life	.795	672	.621	-5.105	6.481
8	Family effect	.854	672	.519	1.177	6.398

a. Lilliefors Significance Correction

As presented in Table 2, Shapiro-Wilk's test was applied to measure the normality of data on teachers' demographic variables; locality, medium of instruction, nature of employment, current position, age, professional and academic qualification, teaching experience, and teachers' teaching subject. Shapiro-Wilk's test is the best fit that confirms the normality of the data,  $n < 2000$ ,  $p > .05$  (Elliott & Woodward, 2007; Field, 2009) with +3 to +10 value of Skewness and Kurtosis (Kline, 2015; Saunders et al., 2009). The researcher ensured the normality of the data before applying a smooth analysis. Data were analyzed by applying regression to measure the effect of TSEB on SGES.

### Data Analysis and Interpretation

The authors collected the data and entered it in SPSS for smooth results. The results were interpreted, made discussions, and concluded accordingly. The authors stated the recommendations for future research scholars based on the results.

**Table 3: Determining the Overall Effect of TSEB on SGES**

Sr.	Model	B	SE	$\beta$	t	p
1	DV: SGES	87.479	1.784		49.023	.05
2	IV: TSES	.466	.025	.591	18.982	.05

Note  $R = .891^a$ ,  $R^2 = .749$ , ( $F(1, 673) = 360.318$ ,  $p < .05$ )

As revealed in Table 3, the output showed the formation of a regression equation ( $F(1, 673) = 360.318$ ,  $p < .05$  with a .794 value of  $R^2$  having 74.90% teachers' self-efficacious beliefs on the students' gender equality with regression co-efficient ( $\beta = .591$ ). The aspect of gender equality was equal to 87.479+.466 points while teachers' self-efficacious beliefs were determined in the classroom through male and female equality. The current research concludes that when the teachers applied their self-efficacious beliefs to promote students' gender equality, it enhance the .466 score of the aspect of fairness in males and females.

**Table 4: Determining the Effect of TSEB Factors SE, CM, and IS on Gender Equality Indicator; Family Life, School Life, Social Life, Working Life, and Family Effect**

<i>S</i> <i>r. #</i>	<i>Model</i>	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
<b>1</b>	<b>DV: Family life</b>	<b>45.211</b>	<b>1.807</b>		<b>25.015</b>	<b>.05</b>
2	Students engagement	1.369	.037	.820	37.171	.05
3	Classroom management	.315	2.043	.078	.154	.877
4	Instructional strategies	.128	2.041	.032	-.063	.950
<b>Note: <math>R = .821^a</math>, <math>R^2 = .674</math>, (<math>F(1, 673) = 461.252</math>, <math>p &lt; .05</math>), Durbin-Watson = 1.979</b>						
<b>1</b>	<b>DV: School life</b>	<b>30.259</b>	<b>.713</b>		<b>42.421</b>	<b>.05</b>
2	Students engagement	.002	.015	.004	.172	.864
3	Classroom management	1.471	.806	1.075	1.825	.068
4	Instructional strategies	.450	.806	.329	.559	.576
<b>Note: <math>R = .746^a</math>, <math>R^2 = .557</math>, (<math>F(1, 673) = 280.638</math>, <math>p &lt; .05</math>), Durbin-Watson = 1.229</b>						
<b>1</b>	<b>DV: Social life</b>	<b>8.129</b>	<b>.959</b>		<b>8.479</b>	<b>.05</b>
2	Students engagement	.184	.020	.342	9.434	.05
3	Classroom management	.786	1.084	.602	.725	.469
4	Instructional strategies	.753	1.083	.578	.696	.487
<b>Note: <math>R = .344^a</math>, <math>R^2 = .119</math>, (<math>F(1, 673) = 30.057</math>, <math>p &lt; .05</math>) = Durbin-Watson = 1.214</b>						
<b>1</b>	<b>DV: Working life</b>	<b>9.496</b>	<b>.739</b>		<b>12.844</b>	<b>.05</b>
2	Students engagement	.087	.015	.218	5.793	.05
3	Classroom management	.099	.836	.102	.118	.906
4	Instructional strategies	.088	.835	.092	.106	.916
<b>Note: <math>R = .719^a</math>, <math>R^2 = .48</math>, (<math>F(4, 670) = 11.239</math>, <math>p &lt; .05</math>) = Durbin-Watson = .913</b>						
<b>1</b>	<b>DV: Family effect</b>	<b>8.991</b>	<b>.643</b>		<b>13.986</b>	<b>.05</b>
2	Students engagement	.120	.013	.334	9.174	.000
3	Classroom management	.565	.727	.648	.777	.437
4	Instructional strategies	.551	.726	.633	.759	.448
<b>Note: <math>R = .336^a</math>, <math>R^2 = .113</math>, (<math>F(1, 673) = 28.346</math>, <math>p &lt; .05</math>) = Durbin-Watson = 1.467</b>						

As exposed in Table 4, the consequences of regression analysis TSEB on factors of SGES with the formation of regression equation in case of family life ( $F(3, 671) = 461.252$ ,  $p < .05$ ), school life ( $F(3, 671) = 280.638$ ,  $p < .05$ ), social life ( $F(3, 671) = 30.057$ ,  $p < .05$ ), working life ( $F(3, 671) = 11.239$ ,  $p < .05$ ) and family effect ( $F(3, 671) = 28.346$ ,  $p < .05$ ) with .674, .557, .119, .48 and .113 value of  $R^2$  ensuring 67.40%, 55.70%, 11.90%, 48%, and 11.30% increased variations were seen. Based on the results of the research it is concluded that the application of TSEB in the case of family life 1.82, school life 1.923, social life 1.723, working life .274, and 1.236 were enhancing family effect. The use of teachers' self-efficacious beliefs was a significant predictor of enhancing gender equality focusing on the United Nations Sustainable Development Goal 5 "gender equality".

### Discussion

The enactment and contribution of the United Nations SDGs are important aspects in the globe to provide equal education to constant learning. The research scholars are trying their best to make maximum contributions (Crawford, 2020; Dhar, 2018; Eden & Wagstaff, 2021; Guavin et al., 2020; Lau et al., 2021; Solomon et al., 2021). In this regard, teachers work as catalysts that enthusiastically and actively participate and contribute accordingly. The current research was an attempt to find out the teachers' self-efficacious playing an immense role in promoting gender equality prioritizing the United Nations, Sustainable Development Goal 5. The results revealed that teachers working in public sector institutions focused on their self-efficacious beliefs for gender equality. The results of the current research align with the findings of Gråstén et al. (2022) that highly efficacious teachers prioritized their beliefs toward male and female students. The application of confidence in abilities, and potential is the ultimate attribute of teachers (Almasri, 2022; Ozdemir & Papi, 2022) in spreading education among male and female students. Likewise, Markauskaite (2006) assured the results through the dynamic model that teachers were possessing the same perceptions towards male and female students. Teachers' more efficacy in knowledge, skills, and attitude produce a soft corner for the students. High efficacious teachers hardy hard with the students and equally behave with their students. The spread of gender equality around the globe is global agenda. The possible stakeholders in this regard are the teachers and students. These are part of schools, colleges, or universities as well. The grip of knowledge, beliefs, and self-efficacious skills are important indicators in this regard.

Moreover, the results of the current research congruent with the findings of Dilekli and Tezci (2019) assured that teachers' self-efficacious beliefs are very important based on their gender working in teaching fields with the level of seniority. The authors applied MANOVA analysis techniques to observe the teachers' level of confidence toward male and female students. Moreover, there seems a significant difference between teachers' application of knowledge contribution among male and female students. The results of current results also support the results of the research planned by Markauskaite (2006) whose findings assured the moderate effect of teachers' self-efficacious beliefs on male and female students toward teaching. The authors have identified and contributed to Bandura's theory of self-efficacy in disseminating knowledge among males and females on an equal basis. The researchers highlighted another aspect of older teachers being the key supporter of gender equality as compared to newly appointed teachers. The results also supported the finding of Miralles-Cardona et al. (2022) that teachers possess an idealistic opinion about gender equality. The authors find out a moderate level of teachers' self-efficacious beliefs toward male and female students. The global agenda of the United Nations in implementing and contributing to Sustainable Development Goals is spreading day by day around the globe. The current research is one of the authors' attempts to award the stakeholders working in educational institutions. Likewise, other scholars have already taken the initiative and worked accordingly (Anchan & Manmohan, 2023; Closson et al., 2018; Engida, 2021; Hamed, 2022; Rigby et al., 2008).

### Conclusions

Teachers' confidence is an important personality indicator. Confident teachers actively engage the students, conduct classroom activities, polish students' potential, and tried their best to disseminate knowledge without gender discrimination. Both male and female students have the equal right to teachers and hardly any discrimination exists on teachers' end. Teachers' self-efficacious beliefs inspire them in ideas sharing, learning, and understanding and arouse students toward active involvement in contributing to male and female education. Likewise, the authors have structured the current research to find out the intentions of teachers-self-efficacious beliefs in prioritizing the United Nations Sustainable Development Goal 5 “*Gender Equality*”. Moreover, the current research is an attempt at the global agenda that ensures to achieve gender equality and make empower women and girls across the globe. The authors have contributed to the ever-increasing struggle of global remarkable organizations accordingly. In this regard, the administration of TSES and SGES assist the researchers to collect the data from public sector elementary school teachers. Based on the results, the research concludes that teachers' confidence was an important indicator in disseminating the quality of education among male and female students. The primary schools' teachers remain involved in students' societal, emotional, intellectual, physical, and moral development. In public sector schools of Punjab, male schools students of both genders are acquiring their education. The results of the research assured that male teachers remain neutral among students regarding what gender they have. Based on teachers' motivation, and application of creative and contemporary resources, the aspect of TSEB was prominent in spreading the concept of gender equality (SDG 5). This is an important aspect of primary school teachers in enhancing and contributing to students' numeracy and literacy needs.

### Recommendation

The application of teachers' self-efficacious beliefs is an important aspect that enhances students' learning and pushes students toward new skills, constructive attitudes, and positive behaviors. Likewise, more confident teachers easily tackle the students with gender equality. In this regard, the United Nations' global agenda is spreading in educational institutions. In this regard, teachers are pivotal figures of the societies. Pakistani school teachers working in public sector primary schools are hardly aware of the United Nations Sustainable Development Goals; a case of concern for stakeholders. This slackness may be strengthened through conducting training, arranging workshops, and conducting conferences. Moreover, the researchers' contribution to researching SDG is appreciable.

### References

- Aðalsteinsson, R. I., Frímannsdóttir, I. B., & Konráðsson, S. (2014). Teachers' self-esteem and self-efficacy. *Scandinavian Journal of Educational Research*, 58, 540-550. <https://doi.org/10.1080/00313831.2013.773559>
- Ahmad, A., & Mehmood, M. (2022). Alignment between Biology curriculum objectives and assessment at higher secondary level. *Review of Education, Administration & Law*, 5(4), 559-569.
- Akinsola, M. K. (2008). Relationship of some psychological variables in predicting problem solving ability of in-service mathematics teachers. *The Montana Mathematics Enthusiast*, 5(1), 79-100.
- Almasri, F. (2022). Simulations to teach science subjects: Connections among students' engagement, self-confidence, satisfaction, and learning styles. *Education and Information Technologies*, 27(5), 7161-7181. <https://doi.org/10.1007/s10639-022-10940-w>

- Anchan, V. M., & Manmohan, R. (2023). Attaining Sustainable Development Goals Through Gender Equality in Information and Communication Technology (ICT). In *ICT as a Driver of Women's Social and Economic Empowerment* (pp. 36-50). IGI Global.
- April, K. A., Dharani, B., & Peters, K. (2012). Impact of locus of control expectancy on level of well-being. *Review of European Studies*, 4(2), 124-137.
- Ary, D., Jacobs, L. C., & Sorensen, C. (2010). *Introduction to research in education* (8th ed.). Boston, USA: Wadsworth, Cengage Learning.
- Axtell, C. M., & Parker, S. K. (2003). Promoting role breadth self-efficacy through involvement, work redesign and training. *Human Relations*, 56, 113-131. <https://doi.org/10.1177/0018726703056001452>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4).
- Bhatti, A. J. (2015). *Curriculum Audit: An analysis of curriculum alignment at secondary level in Punjab*. Published doctoral dissertation, department of education, international Islamic University, Islamabad, Pakistan.
- Bryman, A. (2012). *Social research methods* (4th ed.). Oxford, New York, NY: Oxford University Press.
- Büyüköztürk, Ş. (2011). *Manual of data analysis for social sciences*. Ankara: Pegem Academy.
- Çakiroglu, J., Çakiroglu, E., & Boone, W. J. (2005). Pre-Service teacher self-efficacy beliefs regarding science teaching: A comparison of pre-service teachers in Turkey and the USA. *Science Educator*, 14(1), 31-40.
- Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473-490. <https://doi.org/10.1016/j.jsp.2006.09.001>
- Carlsen, L. (2020). Gender inequality and development. *Sustainability Science*, 15(3), 759-780. <https://doi.org/10.1007/s11625-019-00767-9>
- Carlsen, L., & Bruggemann, R. (2021). Gender equality in Europe: The development of the sustainable development goal No. 5 illustrated by exemplary cases. *Social Indicators Research*, 158(3), 1127-1151. <https://doi.org/10.1007/s11205-021-02732-5>
- Carlsen, L., Bruggemann, R., & Fattore, M. (2023). Factors determining the degree of gender equality within the European Union. *Quality & Quantity*, 57(2), 1483-1499. <https://doi.org/10.1007/s11135-022-01405-w>
- Cho, E., & Kim, S. (2015). Cronbach's coefficient alpha: Well known but poorly understood. *Organizational Research Methods*, 18(2), 207.
- Christensen, L. B., Johnson, B. R., & Turner, L. A., (2015). *Research methods, design, and analysis*, (8th ed.). Pearson.
- Closson, K., Dietrich, J. J., Lachowsky, N. J., Nkala, B., Palmer, A., Cui, Z., ... & Kaida, A. (2018). Sexual self-efficacy and gender: A review of condom use and sexual negotiation among young men and women in Sub-Saharan Africa. *The Journal of Sex Research*, 55(4-5), 522-539.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
- Crawford, E. (2020). *Achieving Sustainable Development Goals 5 and 6: The case for gender-transformative water programmes*. Oxford, UK: Oxfam.
- Crothers, L. M., Hughes, T. L., & Morine, K. A. (2008). *Theory and cases in school-based consultation: A resource for school psychologists, school counselors, special educators, and other mental health professionals*. New York, NY: Routledge.
- Dahar, M. A., & Faize, F. A. (2011). Effect of the availability and the use of science laboratories on Academic achievement of students in Punjab (Pakistan). *European Journal of Scientific Research*, 51(2), 193-202.
- Demir, S. (2022). Comparison of normality tests in terms of sample sizes under different skewness and Kurtosis coefficients. *International Journal of Assessment Tools in Education*, 9(2), 397-409.
- Dhar, S. (2018). Gender and sustainable development goals (SDGs). *Indian Journal of Gender Studies*, 25(1), 47-78. <https://doi.org/10.1177/0971521517738451>
- Dilekli, Y., & Tezci, E. (2019). A cross-cultural study: Teachers' self-efficacy beliefs for teaching thinking skills. *Thinking Skills and Creativity*, 35, 100624. <https://doi.org/10.1016/j.tsc.2019.100624>
- Douma, J. C., & Shipley, B. (2023). Testing Model fit in path models with dependent errors given non-normality, non-linearity and hierarchical Data. *Structural Equation Modeling: A Multidisciplinary Journal*, 30(2), 222-233.
- Ebrahim, A. H. (2012). The self-efficacy of preservice elementary teachers in Kuwaiti science programs.

*Education*, 133(1), 67-76.

- Eden, L., & Wagstaff, M. F. (2021). Evidence-based policymaking and the wicked problem of SDG 5 gender equality. *Journal of International Business Policy*, 4, 28-57.
- Ellaway, R. H. (2022). The quest for normality. *Advances in Health Sciences Education*, 27(3), 573-576.
- Elliott, A. C., & Woodward, W. A. (2007). *Statistical analysis quick reference guidebook: With SPSS examples*. London, UK: Sage.
- Engida, Y. M. (2021). The three dimensional role of education for women empowerment. *Journal of Social Sciences*, 17(1), 32-38.
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education*, 59, 423-435. <https://doi.org/10.1016/j.compedu.2012.02.001>
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). Sage.
- Fraenkel, J. R., Wallen, N. E., & Hayun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). New York, NY: McGraw-Hills.
- Frendika, R., Assyofa, A. R., & Suwarsi, S. (2022, April). The Influence of Self Efficacy and Self Confidence on Gender Equality in Manufacturing Companies-West Java Province. In *4th Social and Humanities Research Symposium (SoRes 2021)* (pp. 238-242). Atlantis Press.
- Gale, J., Alemdar, M., Cappelli, C., and Morris, D. (2021). A mixed methods study of self-efficacy, the sources of self-efficacy, and teaching experience. *Frontiers in Education*, 6, 1-16. <https://doi.org/10.3389/educ.2021.750599>
- Gaudet, S., Marchand, I., Bujaki, M., & Bourgeault, I. L. (2022). Women and gender equity in academia through the conceptual lens of care. *Journal of Gender Studies*, 31(1), 74-86.
- Gauvin, L., Tizzoni, M., Piaggese, S., Young, A., Adler, N., Verhulst, S., Ferres, L., & Cattuto, C. (2020). Gender gaps in urban mobility. *Humanities and Social Sciences Communications*, 7(1), 1-13. <https://doi.org/10.1057/s41599-020-0500-x>
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. 11.0 update (4th ed.). Boston: Allyn & Bacon.
- González-Estrada, E., Villaseñor, J. A., & Acosta-Pech, R. (2022). Shapiro-Wilk test for multivariate skew-normality. *Computational Statistics*, 37(4), 1985-2001.
- Gopang, A. S., Panhwar, A. H., Chachar, A. A., & Nizamani, H. A. (2016). Issue of language as the medium of instruction in Pakistan: An analytical research. *The Shield-Research Journal of Physical Education & Sports Science*, 11, 91-106.
- Gråstén, A., Kokkonen, J., & Kokkonen, M. (2022). Gender bias and gender equality beliefs in teaching efficacy profiles of Finnish physical education teachers. *Teachers and Teaching*, 28(2), 246-262. <https://doi.org/10.1080/13540602.2022.2062714>
- Haciomeroglu, G. (2019). The relationship between elementary students' achievement emotions and sources of mathematics self-efficacy. *International Journal of Research in Education and Science*, 5(2), 548-559
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*: Pearson College Division.
- Hair, J. F., Celsi, M. W. Money, A. H., Samouel, P., & Page, M. J. (2011). *Essentials of business research methods* (2nd ed.). New York: ME. Sharpes.
- Hamed, G. H. (2022). Literature review article: Women empowerment and sustainable development goals. *Egyptian Journal of Nursing and Health Sciences*, 3(1), 11-16.
- Hassan, M. U. (2019). Teachers self-efficacy: Effective indicator towards students success in medium of education perspective. *Problems of Education in the 21st Century*, 77(5), 667-679. <https://doi.org/10.33225/pec/19.77.667>
- Hassan, M. U., & Akbar, R. A. (2020). Tracing the effects of teachers' centered teaching methods on students' achievement scores: Secondary level study. *Bulletin of Education and Research*, 42(1), 29-43.
- Hassan, Ul. M. (2020). *Effect of teachers' self-efficacy, locus of control and teaching methods on students' achievement scores at secondary level in Punjab*, unpublished doctoral dissertation, institute of education and research, university of the Punjab, Lahore, Pakistan.
- Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology*, 105, 774-786. <https://doi.org/10.1037/a0032198>
- Hörmann, S., Kokoszka, P., & Kuenzer, T. (2022). Testing normality of spatially indexed functional



- data. *Canadian Journal of Statistics*, 50(1), 304-326.
- Jobst, L. J., Auerswald, M., & Moshagen, M. (2022). The effect of latent and error non-normality on corrections to the test statistic in structural equation modeling. *Behavior Research Methods*, 54(5), 2351-2363.
- Jong, R., Mainhard, T., Tartwijk, J. V., Veldman, I., Verloop, N., & Wubbels, T. (2014). How preservice teachers' personality traits, self-efficacy, and discipline strategies contribute to the teacher-student relationship. *British Journal of Educational Psychology*, 84, 294-310. <https://doi.org/10.1111/bjep.12025>
- Kalaycı, Ş. (2016). *SPSS Applied multivariate statistical techniques*. Ankara: Asil Publication Distribution.
- Kamke, K., Widman, L., & Javidi, H. (2022). The multidimensionality of adolescent girls' gender attitudes. *Gender Issues*, 39(2), 236-251.
- Kandemir, A., & Nartgün, S. S. (2022). The Relationship between Teachers' Perceptions of Gender Equality, Organizational Ostracism, and Organizational Obstruction. *International Journal of Curriculum and Instruction*, 14(1), 864-893.
- Kang, Y., Cheng, X., Chen, P., Zhang, S., & Yang, Q. (2023). Monthly runoff prediction by a multivariate hybrid model based on decomposition-normality and Lasso regression. *Environmental Science and Pollution Research*, 30(10), 27743-27762.
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756. <https://doi.org/10.1037/a0019237>
- Klassen, R. M., Tze, V. M., Betts, S. M., & Gordon, K. A. (2011). Teacher efficacy research 1998-2009: Signs of progress or unfulfilled promise? *Educational Psychology Review*, 23, 21-43. <https://doi.org/10.1007/s10648-010-9141-8>
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). Guilford Publications.
- Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria: what did they really say? *Organizational Research Methods*, 9(2), 202.
- Lau, J. D., Kleiber, D., Lawless, S., & Cohen, P. J. (2021). Gender equality in climate policy and practice hindered by assumptions. *Nature Climate Change*, 11(3), 186-192.
- Lorcu, F. (2015). *Data Analysis with Examples SPSS Applied*. Ankara: Detay Publishing.
- Mahmood, K. (2010). Textbook evaluation in Pakistan: Issue of conformity to the national curriculum guidelines. *Bulletin of Education and Research*, 32(1), 15-36.
- Mahmood, T., & Gondal, M. B. (2017). Effect of school environment on students' achievement: Cross comparison of Urdu and English medium classes in Punjab province. *Pakistan Journal of Education*, 34(1), 67-80.
- Markauskaite, L. (2006). Gender issues in preservice teachers' training: ICT literacy and online learning. *Australasian Journal of Educational Technology*, 22(1).
- Marzano, R. J. (2017). *The New Art and Science of Teaching*. Bloomington, IN: ASCD and Solution Tree Press
- Mertler, C. A. (2021). *Introduction to educational research*. Sage publications.
- Miralles-Cardona, C., & Kitta, I. (2022). Self-efficacy for sustainable gender equality practice in STEM teacher education in Spain and Greece, *Preprints*, <https://doi.org/10.20944/preprints202211.0367.v1>
- Miralles-Cardona, C., Chiner, E., & Cardona-Molto, M. C. (2022). Educating prospective teachers for a sustainable gender equality practice: survey design and validation of a self-efficacy scale. *International Journal of Sustainability in Higher Education*, 23(2), 379-403. <https://doi.org/10.1108/IJSHE-06-2020-0204>
- Miralles-Cardona, C., Kitta, I., Cardona Moltó, M. C., Gómez-Puerta, M., & Chiner, E. (2021). STEM students' perceptions of self-efficacy for a gender equality practice: A cross-cultural study. *Octaedro*, 19(3), 363-371
- Nawaz, H. (2020). *School curriculum implementation determinants: Intended and enacted curriculum at secondary level in Punjab*, unpublished doctoral dissertation, institute of education and research, university of the Punjab, Lahore, Pakistan.
- Nevid, J. S. (2009). *Psychology: Concepts and applications* (3rd ed.). Boston: Houghton Mifflin.
- Orakçı, Ş., Göksu, D. Y., & Karagöz, S. (2022). A mixed methods study of the teachers' self-efficacy views and their ability to improve self-efficacy beliefs during teaching. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1035829>
- Ozdemir, E., & Papi, M. (2022). Mindsets as sources of L2 speaking anxiety and self-confidence: The case

- of international teaching assistants in the US. *Innovation in Language Learning and Teaching*, 16(3), 234-248. <https://doi.org/10.1080/17501229.2021.1907750>
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and applications* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Rigby, S. A., Thornton, E. W., & Young, C. A. (2008). A randomized group intervention trial to enhance mood and self-efficacy in people with multiple sclerosis. *British Journal of Health Psychology*, 13(4), 619-631.
- Rosa, R., & Clavero, S. (2022). Gender equality in higher education and research. *Journal of Gender Studies*, 31(1), 1-7.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Financial Times / Prentice Hall
- Schunk, D. H., & Pajares, F. (2005). Competence perceptions and functioning. In A. J. Elliot, & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 85-104). New York, NY: Guilford Press.
- Schweigert, W. A. (2021). *Research methods in psychology: A handbook*. Waveland Press.
- Şencan, H. (2005). *Reliability and validity in social and behavioral measures*. Ankara: Seçkin Publishing.
- Shidler, L. (2009). The impact of time spent coaching for teacher efficacy on student achievement. *Early Childhood Education Journal*, 36(5), 453-460. <https://doi.org/10.1007/s10643-008-0298-4>
- Soland, J. (2019). Modeling academic achievement and self-efficacy as joint developmental processes: Evidence for education, counseling, and policy. *Journal of Applied Developmental Psychology*, 65, 101076.
- Solomon, D. S., Singh, C., & Islam, F. (2021). Examining the outcomes of urban adaptation interventions on gender equality using SDG 5. *Climate and Development*, 13(9), 830-841. <https://doi.org/10.1080/17565529.2021.1939643>
- Summers, J. J., Davis, H. A., & Hoy, A. W. (2017). The effects of teachers' efficacy beliefs on students' perceptions of teacher relationship quality. *Learning and Individual Differences*, 53, 17-25. <https://doi.org/10.1016/j.lindif.2016.10.004>
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in science education*, 48, 1273-1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Tildesley, R., Lombardo, E., & Verge, T. (2022). Power struggles in the implementation of gender equality policies: the politics of resistance and counter-resistance in universities. *Politics & Gender*, 18(4), 879-910.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805. [https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
- Wolters, C. A., & Daugherty, S. G. (2007). Goal structures and teachers' sense of efficacy: Their relation and association to teaching experience and academic level. *Journal of Educational Psychology*, 99, 181-193. <https://doi.org/10.1037/0022-0663.99.1.181>
- Wood, R. E., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 14, 361-384. <https://doi.org/10.2307/258173>
- Yough, M. (2019). Tapping the sources of self-efficacy: Promoting preservice teachers' sense of efficacy for instructing English language learners. *The Teacher Educator*, 54(3), 206-224. <https://doi.org/10.1080/08878730.2018.1534031>
- Zee, M., & Koomen, H. M. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research*, 86, 981-1015. <https://doi.org/10.3102/0034654315626801>
- Zimmerman, B. J., & Cleary, T. J. (2009). Motives to self-regulate learning: A social cognitive account. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 247-264). New York, NY: Routledge.
- Zina, O. (2021). *The essential guide to doing your research project*. Sage.