EFFECT OF PEER SUPPORT AND PSYCHOLOGICAL CAPITAL ON STATISTICAL ANXIETY IN UNIVERSITY STUDENTS

[1]DR SHUMAILA SHAHZAD, [2]NIDA KHALID*, [3]DR BUSHRA NAOREEN, [4]UMAIR AYUB, [5]HINA GULL

[1]Associate Professor, Department of Education, GC University Faisalabad.
[2]MPhil Scholar, Department of Education, GC University Faisalabad. Email: nidakhalid088@gmail.com
[3]Associate Professor, Department of Education, GC University Faisalabad.
[4]MPhil Scholar, Department of Education, GC University Faisalabad.
[5]Lecturer, Department of Education, GC University Faisalabad.

Abstract

Statistical anxiety (SA) is a major problem faced by university graduates majoring in almost all the disciplines. Researchers have been investigating the factors that may reduce its intensity. This study aimed to investigate the effect of peer support (PS) and psychological capital (PC) on Statistical anxiety (SA). The study used a survey (questionnaire) method to collect data. The research sample comprised 384 students from four public sector universities in Faisalabad, Punjab, Pakistan. The data were collected through PC questionnaire, a Statistics anxiety rating scale STARS questionnaire and a self-developed PS questionnaire. In this study, correlation analysis indicated that PS and PC had a positive relationship; PS and SA had an inverse relationship, while PC and SA also had an inverse relationship. Regression analysis indicated that when PC increased by one unit, the SA decreased by 0.408 units, and when PS increased by one unit, the SA decreased by 0.632 units. Educational implications are also discussed.

***Key Words**: Statistical anxiety, peer support, psychological capital*

INTRODUCTION

The majority of students in Pakistani universities, like those at many other institutions throughout the world, are mandatory to take at least one course of statistics in a variety of fields, including social sciences and education (Lavidas et al., 2020). According to many researchers, a university degree requires the completion of a statistics course. Promoting the development of analytical and critical thinking abilities as well as the statistical knowledge required to undertake quantitative research is one of its objectives (Lavidas et al., 2020). Mostly, social science learners are unaware of the potential benefits of statistics for their coursework and future careers. The difficulty of understanding statistical principles makes taking statistics courses sometimes stressful and unpleasant (Chiesi & Primi, 2010). A student is considered to have statistics anxiety if they experience anxiety while learning statistical methods or enrolling in a statistics course (Cruise, Cash & Bolton, 1985).

SA is typically seen as a significant impediment to obtaining substantial academic accomplishment (Nasser, 2004), psychology (Chiesi & Primi, 2010), and enterprise (Bell, 2008), in a range of educational contexts, including education. When statistics are needed in the curriculum, students may experience severe anxiety, tension, perplexity, intrusive thoughts, and stress-related symptoms (Zeidner, 1991). According to previously published studies, between 66 and 80% of university graduates in the business, psychology, and social and life sciences report having considerable degrees of SA (Mji & Onwuegbuzie, 2004). Therefore, experiencing SA can lead to various issues when taking a statistics course in higher education institutes (HEI).

They can use social help to overcome these challenges (Wentzel et al., 2016). Peer support has long been defined as the capacity of people with comparable experiences to relate more readily and, as a result, to offer more genuine understanding and affirmation (Mead & MacNeil, 2006). Many people have found that it is crucial to have assistance from people who share their life experiences to get through challenging circumstances (Roberts & Rappaport, 1989). People with similar life situations frequently provide advice and ideas for tactics that experts might not be able to provide or even be aware of. It is crucial to adopt an unprofessional demeanor while assisting someone who has had a distressing situation in re-establishing their sense of belonging (Mead & MacNeil, 2006). Maslach and

Goldberg (1998) assert that PS groups not only offer emotional support but also have the potential to introduce members to novel concepts, rewards, and recognition. They could offer much-needed support, humor, and optimism when times are tough. Peer assistance can benefit students' relationships and help them learn positively. Peer assistance is more reciprocal since peers are on an equal basis (Wentzel, 1994).

Besides PS, psychological capital is another strategic source that has received considerable attention in the literature (Ardichvili, 2011). In order to characterize a person's psychological dimensions that may be restricted, established, and yoked for performance progress, Luthans and his colleagues created the concept of PC (Luthans & Youssef, 2004). PC is well-defined as a person's positive psychological form of development, which is exemplified by possessing high levels of the four components of hope, self-efficacy, resilience, and optimism (Luthans & Youssef-Morgan, 2017). They identify these four significant psychological resources from the positive psychology literature founded on a set of fundamental criteria that support the higher-order idea of PC (Luthans, Youssef, & Avolio, 2007).

Several studies have been undertaken throughout the last decade to study the relationship among PC, individual employee attributes and their work performance (Avey, Luthans & Youssef, 2010). This research provides insight about the effect of these elements (PS and PC) on SA as most learners are anxious about their statistics course and want to combat it.

Objectives of the study

The objectives of the study were

1. To identify the relationship between PS, PC, and SA.
2. To find out the effect of PS on PA.
3. To find out the effect of the PC on SA.
4. To measure the moderating effect of PS in changing the effect PC on SA.

LITERATURE REVIEW

Peer Support

According to Wentzel et al. (2016), adolescents frequently experience developing stress and disputes because they are going through significant physiologic and psychological shifts in their lives. They can use social help to overcome these disputes. A number of social supports are commonly offered by parents, teachers, and peers. Peers typically provide assistance in the form of knowledge and sentiment. Researchers have found that teenagers typically stay out with their friends (Tarrant, 2002), get to class late, and rely on them for assistance when necessary. As a result, peers are a crucial origin of social assistance for teenagers. PS arises when people share their distinctive perspectives and experiences.

For Miller and Stiver (1997), PS is a technique for giving and receiving help based on the core principles of respect, shared accountability, and recognizing what is advantageous. It is about sharing another person's emotional and psychological suffering to empathize with their condition.

Cowie (2019) suggests that peer assistance, emotional help, educational support, or simply lending a "listening ear" to someone in a peer group are various names for PS. In general, teenage development depends heavily on PS. Children frequently receive more help at school when there is a friendly atmosphere **(**Connolly & Corcoran, 2016**)**; peers also influence others by setting an example of helpful behavior and strengthening the supportive environment **(**Shin, 2018**).** Bronfenbrenner and Morris (2007) suggest in ecological systems theory that the peer group is a microsystem where people engage and communicate with one another. Interactions between individuals, other group members, and the environment impact how individuals and the environment develop (for example, how PS for individuals develops). Therefore, investigations examining PS in this microsystem must consider group dynamics, peer relationships, and personal characteristics. Wentzel (1994) suggest that the support network students receive from their peers is an essential component that may impact their academic achievement. When students perceive their peers emotionally supporting them, they are more likely to engage actively and work more on their academic assignments. Students could seek academic and social help from their peers, which

will help them learn. Peer assistance is much more reciprocal because peers have equal standing (Cauce et al., 1982; Wentzel, 1994). PS offers a fascinating chance to blend a supporter's knowledge with the energizing traits of group support.

Psychological Capital

According to Herdem (2019), psychology attempts to treat mentally sick individuals and make people happier and more successful. Positive psychology was first described in the literature as a positive science emphasizing one's own good attributes and experiences. The idea of PC is, therefore, a tool for reducing the detrimental impacts of external variables and enhancing human resources. Instead of "what is wrong with people," consider "what is terrific about people." As a result, PC places high value on enjoying now, having optimism for the future, and sensing good about oneself due to the past (Newman et al., 2014). Academics and practitioners have shown considerable interest in the concept of PC, which has been linked to job engagement, behavior, and performance at different levels of education.

People with high PC can forge new avenues (hope) to accomplish their goals. These people have the self-assurance (efficacy) required to pursue their objectives through these alternative routes, a hopeful attitude toward the future (optimism), and the resilience to overcome obstacles that may develop as a result of putting creative ideas into practice. The terms "hope," "resilience," "optimism," and "efficacy" seem to be interchangeable and comparable on the surface and in general usage (Luthans et al., 2007).

Statistical Anxiety

Understanding statistics is one of the utmost valuable things you can do to enhance your aptitude for addressing issues and critical thinking. To be literate, a person must be capable of statistical reasoning and making defensible decisions (Barkley, 1995). The National Council of Teachers of Mathematics (NCTM) and the American Statistical Association (ASA) thus contend that statistics ought to be taught in all public schools (Barkley, 1995). Low, (1999) asserts that many higher education fields mandate statistics classes. One or more statistics and research courses are required at almost all schools and institutions. Due to this, many students with different educational backgrounds have enrolled in statistics courses. Barkley (1995) asserts that the abilities required to comprehend statistics have undergone major modifications. According to Onwuegbuzie and Wilson (2003), the subsequent three decades have shown that graduate and undergraduate students worried about statistics may have major problems. For instance, a 1999 study by Onwuegbuzie and Daley revealed that more than 75% of university graduates report having moderate to severe anxiety when it comes to statistics. Statistics professors that teach related courses have seen a similar range of student difficulties (Onwuegbuzie & Daley, 1996; Zeidner, 1991).

Pan and Tang's (2005) analysis of the educational psychology literature suggests that psychological conditions like anxiety may make it more difficult to comprehend statistics. The idea states that SA is a sensation of apprehension when undertaking statistical analysis, which is the collecting, processing, and interpretation of data (Cruise at al., 1985, p. 92). If a student is exposed to statistics in any way or at any time, they may experience SA (Onwuegbuzie, DaRos, & Ryan, 1997). Findings from the literature indicate that SA is a problem for the majority of students. In his study, Zeidner (1991) discovered that more than 70% of the students admitted to feeling anxiety associated with statistics. Up to 80% of graduate students, according to comparable estimates by Onwuegbuzie and Wilson (2003), experience uncomfortable levels of SA. When studying statistics or using them in a formal context, at a certain time, and under specific conditions, symptoms of SA appear (Zeidner, 1991). When confronted with statistical concepts, problems, or obstacles, educational environments, or evaluation circumstances, many students regularly display extreme levels of SA (Zeidner, 1991; Onwuegbuzie & Daley, 1996). As stated by Onwuegbuzie et al., (1997) Indeed, SA seems to encompass a wide range of emotional responses that, in their milder manifestations, may only cause modest discomfort. However, severe kinds might have negative effects, including anxiety, fear, apprehensions, panic, and concern. According to SA is a unidimensional or multidimensional phenomenon. Student's most recent math course, academic

major, academic standing, perception of prior math course achievement, aptitude for math, preparation for arithmetic, use of calculators, learning style, ethnicity, and predicted grade are all related to SA (Zeidner, 1991; Onwuegbuzie, 1999). Research has revealed that SA has a variety of manifestations (Cruise et al., 1985).

According to Hanna et al. (2008), the most popular instrument for measuring SA is the Statistics Anxiety Rating Scale (STARS; Cruise et al., 1985). Cruise created the initial version of this scale, which Hanna updated in 2008. Using factor analysis, (Cruise et al., 1985) determined the following six characteristics of SA:

a) Interpretation anxiety
b) Test and class anxiety
c) Fear of asking for help
d) Worth of statistics
e) Computational self-concept
f) Fear of statistics teachers

1) **Interpretation anxiety** may occur when learners are asked to make choices based on or interpret statistical data.
2) **Test and class anxiety** refers to fear associated with a statistics class or test.
3) **Fear of asking for help** is a measure of the anxiety one feels while pursuing clarification from a classmate or lecturer on any statistical data, such as that found in an article or printout or on any subject presented in class.
4) **Worth of statistics** reveals a student's opinion on its applicability.
5) **Computational self-concept** includes the student's view of her, or his mathematical aptitude and the anxiety felt when attempting to solve mathematical issues.
6) **Fear of statistics teachers** the way a student views their statistics teacher is correlated with fear of statistics teachers.

When teaching statistics, Rodarte-Lunaa and Sherry (2008) suggest taking into account the characteristics of the pupils, such as their learning preferences and degrees of statistical anxiety. Finding the right learning tactics in the classroom is crucial, says Onwuegbuzie (2000), to boost statistical success and lower anxiety. O'Connell (2002) asserts that as statistics demands a wide range of competencies, matching methods to the content, including statistical terminology and methodologies as well as statistical interpretation, is crucial. In light of this, it has been demonstrated that several learning strategies can enhance performance or reduce SA (Bandalos & Finney, 2003). Deep processing, planning, and monitoring are a few suggested tactics (Flavell, 1981), enabling learners to control and do their learning. Despite the fact that SA may occasionally be a motivator (Meyers & Martin, 1974), it is commonly an unpleasant sensation that can have a detrimental impact on student's accomplishment in statistics classes and lead to feelings of low self-efficacy and inadequacy for assignments in statistics courses (Blalock, 1987).

There are numerous studies which highlight the correlation among variables under study. It was need of the hour to further study the moderating role of SA in relationship of PS and PC as this phenomenon has not been studied in Pakistan specially with reference to university students.

RESEARCH METHODOLOGY

This study had a quantitative approach using descriptive survey method.

Population and Sample of Study

Population of the study consisted of MPhil and PhD scholars from four universities in Faisalabad. Convenient sampling method was used to select sample. A total of 384 scholars participated in this study. Data were collected from 285 (74.2%) MPhil and 99 (25.8%) PhD students. There were 140 (36.5%) male and 244 (63.5%) female scholars who belonged to Basic Sciences 167 (43.5%) and Social Sciences 217 (56.5%). They were divided into two groups: urban 223 (58.1%) and rural 161 (41.9%). Their age range was (22 to 31+) years.

Instruments of data collection

The data were composed using a set of demographic questions, PC questionnaire, a Statistics anxiety rating scale STARS questionnaire and a self-developed PS questionnaire. Demographic questions included students' general traits (gender, age, department of studies).

The PC Questionnaire is the standard scale for determining PC. It consisted of 24 items (self-efficacy__6 items, optimism__6 items, hope__ 6 items and resilience__6 items) of PC. These items were measured through a six-point Likert scale ranging from (1__Strongly disagree to 6__strongly agree).

Statistics anxiety rating scale (STARS) consisted of 51 items (Interpretation anxiety__11 items, Test and class anxiety__8 items, Fear of asking for help__4 items, Worth of statistics__16 items, Conceptual self-concept__7 items and Fear of statistics teacher__5 items). The initial 23 "anxiety" items were measured using a five-point scale (ranging from 1__no anxiety to 5__very strong anxiety). The further 28 "attitudes" items were measured using a Likert rating scale from (1__Strongly disagree to 5__Strongly agree).

PS consisted of 7 items. These items were measured through a five-point Likert scale ranging from (1__Strongly disagree to 5__strongly agree).

Data collection

Data were obtained both manually and electronically. The information was gathered with the consent of the head of the relevant department at public sector universities. The researcher personally went to the universities to collect data. After obtaining approval from the appropriate authorities, an online data link was shared with students via WhatsApp groups and most of the students responded actively. Data were obtained from 96 (25%) UOE students, 116 (30.2%) UAF students, 117 (30.5%) GCUF students, and 55 (14.3%) GCWF students.

Data Analysis

Data were analyzed and interpreted using two different types of statistical techniques: descriptive statistics and inferential statistics. Descriptive statistics, correlation, regression analysis and moderation analysis were run.

Results

Table 1 *Descriptive Analysis of the Factors of PC*

	N	Min	Max	M	SD
Hope	383	1.50	6.00	4.67	1.02
Resiliency	384	1.33	6.00	4.74	.87
Optimism	384	1.33	5.83	4.81	.94
Self-Efficacy	384	1.17	6.00	4.85	1.07
PC	384	1.33	5.96	4.77	.88

Table 1 displays that each participant's perceived PC mean score is higher than the average mean value of 3.5. It is discovered that participant cumulative mean scores are higher (M = 4.77, SD =.88), and most individuals generally demonstrate greater PC.

Table 2 *Descriptive Analysis of the Factors of SA*

	N	Min	Max	M	SD
Fear of asking for help	384	1.00	5.00	2.75	1.39
Interpretation anxiety	383	1.09	5.00	3.01	1.32
Test and class anxiety	384	1.13	5.00	3.03	1.37
Worth of statistics	384	1.00	5.00	3.26	1.38
Fear of statistics teachers	384	1.00	5.00	3.29	1.42
Computational self-concept	384	1.00	5.00	3.32	1.28
SA	384	1.25	5.00	3.14	1.27

Table 2 displays that each participant's perceived SA mean score is higher than the average mean value of 2.5. It is discovered that participant cumulative mean scores are higher (M = 3.14, SD =1.27); the majority of individuals demonstrate generally greater SA.

Table 3

Descriptive Analysis of PS

	N	Min	Max	M	SD
3. Peers help me to elucidate problems in my statistics course.	384	1.00	5.00	2.84	1.42
7. Peers support me to decrease statistical anxiety	384	1.00	5.00	2.88	1.67
1. Peers help me to do statistical analysis which I can't do alone.	384	1.00	5.00	2.97	1.57
5. Peers spend time with me when I required it.	384	1.00	5.00	3.11	1.51
4. When I'm disappointed, peers ease me.	384	1.00	5.00	3.12	1.55
6. I can talk about my statistics-related problems with my peers.	384	1.00	5.00	3.13	1.51
2. Peers made fun of my difficulty.	384	1.00	5.00	3.15	1.58
PS	384	1.57	5.00	3.03	1.07

Table 3 demonstrates that every PS-related item has a higher mean score, with an average mean value of 2.5, this item-by-item mean score computation demonstrates that most scholars support each other.

Table 4 *Correlation among PS, PC and SA*

	PC	SA
PS	.23**	-.63**
PC		-.41**

The Pearson correlation coefficient was applied in Table 4 to find the relationship between PS, PC and statistical anxiety. The positive correlation (r=0.23) between PS and PC demonstrates a direct relationship. PS and SA have a hostile relationship, as indicated by their negative correlation (r=-0.63). The negative correlation (r=-0.41) demonstrates an inverse relationship between PC and statistical anxiety. The relationship between PS, PC and SA is statistically significant at 0.01 level (2-tailed).

Table 5 Effect of PC on SA

Model		R	R^2	R^2 adjusted		
		.41[a]	.17	.17		
Coefficient		Unstandardized		Standardized	*t*	p
		B	SE	*B*		
	(Constant)	5.93	.33		18.27	.00
	PC	-.59	.07	-.41	-8.74	.00
ANOVA		SS	MS	Df		
	Regression	102.55	102.55	1		
	Residual	512.78	1.34	382		.00[b]
	Total	615.32		383		

As indicated in Table 5, the r-square value is 0.17, which means the independent variable, i.e., PC, causes 16.7% change in SA. ANOVA results show that the (p=0.00<0.05) determined a substantial connection between PC and SA. Coefficient results indicated that the (ß= -0.41); suggests that a change of one unit in PC causes a 0.41 unit change in SA. Furthermore, the beta value is negative,

indicating a negative relationship between PS and SA. Alternatively, we may say that when PC increases by one unit, the SA decreases by 0.41 units.

Table 6 Effect of PS on Statistical Anxiety

Model		R	R^2	R^2 adjusted		
		.63[a]	.40	.40		
Coefficient		Unstandardized		Standardized	*T*	p
		B	SE	*B*		
	(Constant)	5.4	.15		18.27	.00
	PS	-.75	.05	-.63	-8.74	.00
ANOVA		SS	MS	df		
	Regression	246.07	246.08	1		
	Residual	369.25	.97	382		.00[b]
	Total	615.32		383		

As indicated in Table 6, the (r^2 =0.40), which means PS causes 39.8% change in statistical anxiety. ANOVA results show that the (p=0.00 < 0.05) determined a substantial connection between PS and SA. Coefficient results indicated that the (ß= -0.63), which suggests that a change of one unit in PS causes a 0.63 unit change in SA. Furthermore, the beta value is negative, indicating a negative relationship between PS and SA. Alternatively, we may say that when PS increases by one unit, the SA decreases by 0.63 units.

Table 7 *Effect of PC with Interaction Variable on SA of University Students*

Coefficient	Un-standardized		Standardized	t	P	95%CI	
	b	SE	*B*			Lower	Upper
(constant)	4.90	0.74		6.61	.00		
PC	0.13	0.26	0.12	0.52	.61	-0.25	0.36
PS	0.05	0.16	0.04	0.34	.73	-0.38	0.65
Int.(PC*PS)	-0.17	0.05	-0.83	-3.15	.00	-0.27	-0.06
Model	R	R^2	R^2 adjusted	R^2 Change			
1	0.63	0.40	0.40	0.40			
2	0.69	0.48	0.47	0.08			
3	0.70	0.49	0.48	0.01			

*p = 0.01,

Stepwise multiple regressions were conducted to evaluate whether PC and PS with interaction variable would predict the SA. The value of R^2 is 0.400 (Model 1) which shows that there was 40% (R=0.63) and Model 2 with the value of R^2 = 0.475 shows that there was 47.5% (R=0.69) change in response variable (SA) respectively. It was because of changes in controlled variable (PS). The value of R^2 is 0.488 (R=0.698) for Model 3 which demonstrates that there was 48.4% change in response variable (SA) because changes in combination of two controlled variables which were PC and PS. By comparing all these models, Model 3 was a better model fit to the data than both of Model 1 and Model 2. This was due to higher value or R^2 and adjusted R^2 (Model 1=0.400; Model 2=0.475; Model 3=0.488), the better the value, the better fits the model to data. The regression coefficient (*B*= -0.17, 95% CI [-0.27, -0.06]) indicated that an increase in one unit of moderator corresponding, on average to decrease in SA of (-0.17) which demonstrate the fascination effect of PS on SA significantly.

Table 8 Measuring the Moderation Effect of PS between PC and SA by Andrew F. Hayes Model 1

			95 % CI			
Variable	B	SE	LL	UL	t	p
PC	0.05	0.15	-0.25	0.36	0.34	.73
PS	0.01	0.26	-0.38	0.65	0.52	.61
Int. (PC*PS)	-0.17	0.05	-0.27	-0.06	-3.15	.00
Model	R	R^2	$R^2_{adjusted}$	F		
	0.70	0.49	0.01	120.68		

*p = 0.01,

Moderation analysis by Hayes Process Macro was run to investigate whether the association between PC and SA is moderated with effect of PS. Overall model, F (3, 490) =120.6798, p < 0.0000, R^2= 0.4879, indicated that 0.0134 (R=0.6985) change in SA is being accountant by exogenous variables. Interaction term was statistically significant (*B*= -0.1654, t= -3.1508, p= 0018, 95% CI [-0.2686, -0.0622]) in model, lower and upper limits with same sign predicted that PS had significant effect to increase the PC.

CONCLUSION AND DISCUSSION

The present study was conducted to find the effect of PS and PC on SA of university students. The focus of the study was to measure the moderating effect of PS between PC and SA. The analysis of the data and findings led to the following conclusion.

PS and PC have a direct relationship; PS and SA have an inverse relationship, while PC and SA also have an inverse relationship. PC and SA have a substantial inverse connection; when PC increases by one unit, the SA decreases by 0.41 units. PS and SA have a substantial inverse connection; when PS increases by one unit, the SA decreases by 0.63 units. There was 40% changes in SA for Model 1, 47.5% changes in SA for Model 2 and 48.4% changes in SA for Model 3. An increase in one unit of moderator corresponding to decrease in SA of (-0.17) demonstrate the fascination effect of PS on SA significantly. PS had significant effect to increase the PC.

This research shows that PC and SA are negatively corelated. There is an agreement with Ortega-Maldonado & Salanova (2018) and Luthans et al. (2007) that PC is an underutilized individual resource that may be grown and maintained with the potential to provide competitive benefit. According to current research PS helps in minimizing the SA. These findings supported the contention made by Cauce et al. (1982) and Wentzel (1994) that peer and teacher support play crucial roles in students' learning. Language learners can feel at comfortable in a language lesson with the aid of both teachers and classmates. Additionally, these findings confirm (Hu, n.d.) assertion that academic teacher support was favorably connected with student comfort with learning English, negatively correlated with speech anxiety, fear of poor grades, and negatively correlated with fear of failing the class. Results from current research shows SA can be reduced better with the help of peer support when psychological capital is already supporting it. This study has implications for improving teaching methods to include peers in instructional process and for strengthening personal attributes of students to combat statistical anxiety.

RECOMMENDATIONS

The current research has proved that PS and PC are directly correlated, SA and PS are negatively correlated, and PC and SA are likewise negatively correlated.

The following recommendations were made based on this research.

Students need to focus on psychological wellness to gauge the high level of PC and decreased statistical anxiety. Students may assist each other to learn cooperatively and decrease statistical anxiety. Universities may organize events where students from various programs interact to reduce SA and increase PC. This research study was conducted only in the Faisalabad district; future research may also use this framework in other districts. For future research, the researcher may increase the sample size and know the effect of PS and PC on SA. Experimental and longitudinal research may be advised for future studies.

REFERENCE

[1] *Ardichvili, A. (2011). Invited reaction: Meta-analysis of the impact of psychological Capital on employee attitudes, behaviors, and performance. Human Resource Development Quarterly, 22, 153–156.*

[2] *Avey, J. B., Luthans, F., & Youssef, C. M. (2010). The additive value of positive psychological Capital in predicting work attitudes and behaviors. Journal of Management, 36, 430–452.*

[3] *Bandalos, D. L., & Finney, S. J. (2003). A model of statistics performance based on achievement goal theory. Journal of Educational Psychology, 95(3), 604–616.*

[4] *Barkley, C. A. (1995). A study of misconceptions in statistics and statistics anxiety: Affect and performance in an undergraduate math course. Unpublished doctoral dissertation, the University of Denver.*

[5] *Bell, J. A. (2008). Statistics anxiety and business statistics: The international student. Education, 129(2), 282-287.*

[6] *Blalock, H. M. (1987). Some general goals in teaching statistics. Teaching Sociology, 15(2), 164–172.*

[7] *Bronfenbrenner, U., and Morris, P.A. (2007). "The bioecological model of human development," in Handbook of Child Psychology, eds W. Damon and R. M. Lerner (Hoboken, NJ: John Wiley & Sons, Inc), 793–828.*

[8] *Cauce, A. M., Felner, R. D., & Primavera, J. (1982). Social support in high-risk adolescents: Structural components and adaptive impact. American Journal of Community Psychology, 10, 417–428.*

[9] *Chiesi, F., & Primi, C. (2010). Cognitive and non-cognitive factors related to students' statistics achievement. Statistics Education Research Journal, 9(1), 6-26. Retrieved from: http://iase-web.org/documents/SERJ/SERJ9(1)frontpages.pdf.*

[10] *Connolly, I., & Corcoran, C. (2016). "The role of school climate on willingness to seek help for bullying,". Annual Review OF Cybertherapy and Telemedicine. eds G. Riva, S. I. Kim, and B. K. Wiederhold. Amsterdam: IOS Press*

[11] *Cowie, H. (2019). "Peer support," in The Encyclopedia of Child and Adolescent Development, eds S. Hupp and J. D. Jewell (Hoboken, NJ: Wiley).*

[12] *Cruise, R. J., Cash, R. W. & Bolton, D. L. (1985). Development and validation of an instrument to measure statistical anxiety, paper presented at the Annual Meeting of the Statistical Education Section. Proceedings of the American Statistical Association, August.*

[13] *Flavell, J. H. (1981). Cognitive monitoring. In W. P. Dickson (Ed.), Children's oral communication skills (pp. 35–60). New York: Academic Press.*

[14] *Hanna, D., Shevlin, M. & Dempster, M. (2008). The structure of the statistics anxiety rating scale: A confirmatory factor analysis using UK psychology students. Personality and Individual Differences, 45(1), 68-74.*

[15] *Herdem, D. Ö. (2019). The effect of psychological capital on motivation for individual instrument: A study on university students. Universal Journal of Educational Research, 7(6), 1402-1413. https://doi.org/10.13189/ujer.2019.070608*

[16] *Hu, R. S. (n.d.). The Relationship between Teacher and Peer Support and English-Language Learners'. Anxiety. 3(1), 32-40.*

[17] *Lavidas, K., Barkatsas, T., Manesis, D., & Gialamas, V. (2020). A structural equation model investigating the impact of tertiary students' attitudes toward statistics, perceived competence at mathematics, and engagement on statistics performance. Statistics Education Research Journal, 19(2), 27-41.*

[18] *Low, M. J. (1999). Teaching basic statistical concepts through continuous data collection and feedback. In M. E. Ware, & C. L. Brewer (Eds.), Handbook for teaching statistics and research methods (pp. 90–91). Hillsdale, NJ, USA: Lawrence Erlbaum Associates.*

[19] *Luthans, F. & Youssef, C.M. (2004). "Human, social, and now positive psychological capital management: investing in people for competitive advantage. Organizational Dynamics, 33 (2), 143-160.*

[20] *Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. Journal of Management, 33, 321-349.*

[21] *Luthans, F., & Youssef-Morgan, C. M. (2017). Psychological Capital: An Evidence-Based Positive Approach. Annual Review of Organizational Psychology and Organizational Behavior, 4, 339-366.*

[22] *Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological Capital: Developing the human competitive edge. Oxford, UK: Oxford University Press.*

[23] *Maslach C. & Goldberg J. (1998) Prevention of burnout: new perspectives. Applied and Preventive Psychology 7, 63-74.*

[24] *Mead, S., & MacNeil, C. (2006). Peer support: What makes it unique? The International Journal of Psychosocial Rehabilitation, 10(2), 29–37.*

[25] *Meyers, J., & Martin, R. (1974). Relationships of state and trait anxiety to concept-learning performance. Journal of educational psychology, 66(1), 33.*

[26] *Miller, J. B. & Stiver, I. (1997). The healing connection. Boston, MA: Beacon Press.*

[27] *Mji, A., & Onwuegbuzie, A. J. (2004). Evidence of score reliability and validity of the Statistical Anxiety Rating Scale among technikon students in South Africa. Measurement and Evaluation in Counseling and Development, 36, 238–251. doi:10.1080/07481756.2004.11909745.*

[28] *Nasser, F. M. (2004). Structural model of the effects of cognitive and affective factors on the achievement of Arabic-speaking pre-service teachers in introductory statistics. Journal of Statistics Education, 12(1).*

[29] *Newman, A., Ucbasaran, D., Zhu, F., & Hirst, G. (2014). Psychological capital: A review and synthesis. Journal of Organizational Behavior, 35(S1), S120-S138. https://doi.org/10.1002/JOB.1916*

[30] *O'Connell, A. A. (2002). Student perceptions of assessment strategies in a multivariate statistics course. Journal of Statistics Education, 10(1).*

[31] *Onwuegbuzie, A. J. & Daley, C. E. (1996) The relative contributions of examination-taking coping strategies and study coping strategies on test anxiety: a concurrent analysis, Cognitive Therapy and Research, 20, 287–303.*

[32] *Onwuegbuzie, A. J. (1999) Statistics anxiety among African-American graduate students: an affective filter? Journal of Black Psychology, 25, 189–209.*

[33] *Onwuegbuzie, A. J. (2000). Attitudes toward statistics assessments. Assessment & Evaluation in Higher Education, 25(4), 321–339.*

[34] *Onwuegbuzie, A. J., & Wilson, V. A. (2003). Statistics anxiety: Nature, etiology, antecedent, effects, and treatments—A comprehensive review of the literature. Teaching in Higher Education, 8(2), 195–209.*

[35] *Onwuegbuzie, A. J., DaRos, D. & Ryan, J. (1997) The components of statistics anxiety: a phenomenological study, Focus on Learning Problems in Mathematics, 19(4), 11–35.*

[36] *Ortega-Maldonado, A., & Salanova, M. (2018). Psychological capital and performance among undergraduate students: the role of meaning-focused coping and satisfaction. Teaching in Higher Education, 23(3), 390–402.*

[37] *Pan, W., & Tang, M. (2005). Students' perceptions on factors of statistics anxiety and instructional strategies. Journal of Instructional Psychology, 32(3), 205–214.*

[38] *Roberts, L., and Rappaport, J. (1989). Empowerment in the mutual help context: An empirical analysis of the value of helping others. Lansing MI: author*

[39] *Rodarte-Lunaa, B., & Sherry, A. (2008). Sex differences in the relation between statistics anxiety and cognitive/learning strategies. Contemporary Educational Psychology, 33(2), 327–344.*

[40] *Shin, H. (2018). The role of friends in help-seeking tendencies during early adolescence: do classroom goal structures moderate selection and influence of friends? Contemp. Educ. Psychol. 53, 135–145. doi: 10.1016/ j. cedpsych .2018.03.002*

[41] *Tarrant, M. (2002). Adolescent peer groups and social identity. Soc. Dev. 11, 110–123. doi: 10.1111/1467-9507.00189*

[42] *Wentzel, K. R. (1994). Relations of social goal pursuit to social acceptance, classroom behavior, and perceived social support. Journal of Educational Psychology, 86, 173-182.*

[43] *Wentzel, K. R., Russell, S., & Baker, S. (2016). Emotional support and expectations from parents, teachers, and peers predict adolescent competence at school. J. Educ. Psychol. 108, 242-255. doi: 10.1037/edu0000049*

[44] *Zeidner, M. (1991). Statistics and mathematics anxiety in social science students: Some interesting parallels. British Journal of Educational Psychology, 61, 319-328.*