

Situational Leaders And Emotional Intelligence Among Preservice Science Teachers At Higher Education Level: An Experimental Study

Bazgha Saleem Khan¹, Dr Sajid Anwar², Dr.Samina Begum³, Dr.M .Aamir Tuaseen⁴, Nusaibah Iqbal⁵

¹Ph.D. Scholar, Department of STEM Education, Lahore College for Women University,
Visiting Lecturer, Institute of Education & Research, University of the Punjab, Quaid-e-Azam Campus, & University of Education @ Division of Education, Officer at Budget and Establishment, Finance Department, Punjab Civil Secretariat, Lahore.

²Assistant Department of Islamic Studies & Arabic, Lahore Leads university

³Assistant Professor of Islamiyat, Shaheed Benazir Bhutto women university peshawar

⁴Executive Director Majlis-E- Ilmi Foundation

⁵Ph.D Scholar , Shekh Zaid Islamic Centre , Punjab University ,Pakistan

Correspondence: Bazgha Saleem Khan

Email: bazghamoinqazi.phd@gmail.com / 00923213090111

Abstract

The study is about the connection between Situational leadership and Emotional Intelligence, these are key ingredients for effective and applicative learning. These two helped stakeholders, curriculum developers, counsellors, teachers and facilitators to improve their managerial roles to enhance the productivity. This research article provided key notes for effective situational leadership and emotional intelligence among preservice science teachers at higher education level and its' effect on their professional competencies. Quasi-experimental design was employed to establish the aims of the research study. The research study was conducted at a public sector university in District,

Lahore, Punjab, Pakistan. A convenient sample of (58) preservice science teachers was taken from the morning shift. The tools used for the research study were named as, Situational leadership and Emotional Intelligence Knowledge Questionnaire, Situational Leadership Scale, Standardized Emotional Intelligence Questionnaire and Professional Managerial Competencies Questionnaire. General improvement was observed in knowledge and skills of preservice science teachers regarding situational leadership and emotional intelligence and so, for their professional competencies. The research study recommended that by involving situational leadership and emotional intelligence, professional competencies in prospective science teachers may be enhanced. Preservice teachers should be periodically assessed for their professional managerial competencies in the subject of science whether they use situational leadership alongwith emotional intelligence.

Keywords: Emotional Intelligence, Preservice Science Teachers, Professional Competencies, Females, Situational Leadership, Gender, communication, applicative, prospective, Meta-Analysis

Introduction

The preservice science teachers have one of the most difficult and complex jobs in the world where they can turn objectives into an operational form. Resultantly, preservice science teachers are capacitated and interpreted their concepts, later applied them in a specific context (Rawat ,2021).

How about competency of leader in a specific context and situation. Under guidance, the level of maturity and readiness is obtained following any situation. Performance is increased on the basis of readiness and maturity

showed by the preservice science teacher. The style of situational leadership consists of explaining, convincing, telling, sharing, participating, actioning and delegating powers to the learner (Bhargava, 2019).

If emotional intelligence is providing effective situational leadership, ultimately, it enhances professional competencies and skills among learners. Basically, academia is a platform for a preservice science teacher where they can better grow and exercise their learning experiences. They may share

odds and evens, differences which direct their excellencies towards the situational learning (leadership). Emotional Intelligence refers as perception, valuation, judgement, appraisal, expression, etc. It's all about developing accurate instinct to incorporate the feelings like perceiving, valuing, judging, assessing, appraising, mobilizing, etc, (Arcand, 2023).

When it comes to situation-based ability, it is about comprehending, applying, regulating, promoting and growing of emotions.

The emotional intelligence is classified into five dimensions i.e.

self-awareness, motivation, self-regulation, social skills and empathy (Rubino, 2020). Professional skills and success are an umbrella term which is a cluster of individualist gestures, behaviors, aptitudes, skills, differences and knowledge. It is a source of sustainable performances and promotions which typifies wide range of expertise, practice and arrangements in a specific context (Neumann, 2021).

Significance of the Research Study

Khan, (2023) states that preservice science teachers of an academia may face many challenges as, a situational teacher leader role alongside the burden of traditional workloads e.g., attending meetings, preparing minutes for meeting, establishing task force for an agenda etc. This all requires certain skills and competences whereas, identifying such competences is very important for university administrators which may also face different situations. The pragmatic solution is recognized by a prospective situational leader.

This way, a preservice science teacher may adopt diverse situational leadership styles to influence future learners to practice the subject of science, effectively. The situational leader teachers and the styles they direct, ultimately, will increase their security that turn into a positivistic influence of their qualities (Tayebi, 2020).

Moreover, prospective teacher leaders who utilizes emotional intelligence will be able to manage, judge and assess other's viewpoint, body language and emotions. So, the

decision making becomes easy which helps them to adjust and adapt the ecosystem where they live in. The feel of being valued, appreciated, appraised increases satisfaction from the cared ones either in the form of a teacher or influencer (Kumar et. al., 2021).

Aim of the Study

This research study aimed to situational leadership and emotional intelligence among preservice science teachers and its' effect on their professional competencies.

Research Questions

1. What is the effect of situational leadership and emotional intelligence among preservice science teachers?
2. How does the situational leadership and emotional intelligence show significant improvement in professional competencies of preservice science teachers?
3. Why implementing the situational leadership and emotional intelligence as, an educational program is important?

Subjects and Methods

Research Design: Quasi-experimental research design was employed where pretest and posttest were administered to the preservice science teachers before the intervention. Later, follow up reflections/assessments were carried out in this research study, to know the depositions of the prospective teachers about this intervention.

Research Setting: The research study was conducted at postgraduate level i.e. B.Ed. (Hons.), 1st Semester, Subject General Science (6-Units) for a period of 16 Weeks (3-Credit Hours), public sector university, only for women, in District Lahore, Punjab, Pakistan.

Tools of Data Collection

Following tools were employed to collect data for present research study:

- A. Knowledge Questionnaire about Situational leadership and Emotional Researcher developed this questionnaire, after reviewing related literature (Djati,2018). This questionnaire

was used to assess the knowledge of the preservice teachers about the subject of science with regard to situational leadership and emotional intelligence which has two parts: -

The Part(1) is about demographic information of preservice teachers such as, (age, gender, marital status, family status, ethnicity and religion, socio-economic background, education level).

The Part(2) includes diverse questions in a form of multiple-choice questions and true/ false to assess preservice teachers' knowledge with regard to situational leadership. It was further divided into two more parts. Part(a): for assessing preservice teachers' knowledge about the subject of science with regard to situational leadership and emotional intelligence. It was comprised of five main approaches (subdivided into 20 items, the first approach was based on the concept of situational leadership (3 questions), second, styles of situational leadership (5 questions), third, importance of situational leadership (3 questions), fourth, features of situational leader

(2 questions) and fifth, skills of situational leader (7 questions).

Whereas, Part(b) was used to assess preservice teachers' knowledge about the subject of science with regard to emotional intelligence. It was comprised of four main approaches to assess the preservice teacher's emotional intelligence who were exposed to inspiration and motivation by the researcher/teachers' as, they got to change their behavior according to the situation required to teach the subject of science, to achieve the common objective (Mohamed et al., 2019).

It also included (20) items which were subdivided into (i)concept of emotional intelligence(4-questions), (ii) importance of emotional intelligence (8-questions), (iii) skills of emotional intelligence (5-questions), (iv) components of emotional intelligence (3-questions).

Scoring system of Knowledge Questionnaire about Situational leadership and Emotional Intelligence: In order to answer these questions, scores were spread as, One mark for correct and No mark for incorrect, that's how total score

was kept forty (40), later converted them into percent score. Therefore, if a preservice teacher had percentage more than 60% , it showed that he/she had an adequate knowledge and vice versa (Jessica et.al., 2021).

B. Situational Leadership Scale:

Situational leadership scale was developed by Leo and Eduardo (2006), and adopted by the researcher to assess preservice teachers' skills regarding situational leadership, which included twelve situations.

Scoring system of Situational Leadership Scale: This scale did not have any right / wrong answer, only different act for handling different situation while fostering their adaptability for a certain context. It was meant to determine the leadership style among the preservice science teachers.

This process directed four responses and each of these responses corresponded to specific leadership style for every single preservice teacher. Highest probability style had success/score ratio (+ 2), the second highest has ratio of (+ 1),

the last had ratio of (- 1), likewise, the lowest probability style had success/score ratio (- 2).

Since, to evaluate the success/score ratio of leadership effectiveness ranged as, effectiveness of high leader (ranged +13 to +24), moderate leader (ranged +1 to +12), low leader (ranged -12 to 0), very low leader (range -24 to -13).

C. Standardized Questionnaire on Emotional Intelligence: Palmer et. al., (2004) developed Standardized Questionnaire on Emotional Intelligence. It was adopted by the researcher who used it to assess the level of preservice teachers' emotional intelligence. It had five approaches, contained with 25 items which were subdivided as, self-awareness (3-items), Self-regulation (5-items), motivation (4-items), empathy (5-items) and social skills (8-items).

Scoring system: Under three categories, scores were allocated as, agree [2], neutral [1] and disagree [0], therefore, the students having more than 75 percent indicated high level of emotional intelligence, ranging

from 65-70 percent indicated moderate level of emotional intelligence, and if the score was less than 60% , this came under low level emotional intelligence level.

D- Questionnaire on Professional Managerial Competencies: Firstly, it was developed by the Jam et. al., (2019) and later, modified and adopted by the researcher. This modification was made after reviewing the literature (Farmer et.al., 2019). As, it was used to assess the preservice teacher's leadership competencies about the subject of science. It contained eight approaches, having forty Two (42-items) which was subdivided as, managing teaching skills (7-items), relationship management of preservice teachers and teamwork (8-items), communication competencies of teachers (4-items), leading teachers and preservice teachers (4-items), decision making (3-items) , individual quality items (4-items), changing preparation (4-items), professionalism (8-items).

Scoring system of Questionnaire on Managerial Competencies: scores were allocated to answers each

question: 3-Always done, 2- Sometimes done, (1) Rarely done. As, these scores were into percent score. Participant who scored more than 60%, considered to be competent and less than 60%, considered to be incompetent.

Validity of the tools

Three tools were tested for Face and Content validity while distribution tool. Panel of three educational experts, suggested some modifications, which was done in the light of their valuable comments.

Reliability

Reliability was assessed by the Cronbach's Alpha Coefficient test for assessing knowledge regarding situational leadership among preservice science teachers and emotional intelligence among preservice science teachers questionnaire, the results were $\alpha = (0.941)$, for situational leadership scale among preservice science teachers, and other was, $\alpha = (0.892)$, for emotional intelligence among preservice science teachers questionnaire , it was $\alpha = (0.880)$, and for leadership competency questionnaire, it was $\alpha = (0.905)$.

Ethical grounds to be Considered

Ethical approval was taken from the respective university administration and also from the respective department, before the conduction of research study.

Informed consent to the respondents

Volunteer participation was ensured by the respondent, thereby, informed consent was taken after well explained nature, objectivity, time frame, and maximized benefits of the research study.

Pilot Study

Before the beginning of the research study, pilot study was carried approximately for couple of weeks. It was used to assess tools applicability and clarity which was done on 10% of the respective sample subject (five preservice science teachers). Later, these subjects were included in the main research study, therefore, no modifications were required for evaluating the effectiveness of the acquired data, instruments, and assessing the feasibility of the research study. In addition,

estimated time was recorded to fill in the research tools.

Methodology/Field Work

To achieve the aim of the current research study, these phases were intervened throughout the semester i.e. assessment, planning, implementation and evaluation phases.

Phase-I: Assessment was a data collection process which was carried out in the one month with the onset of respective semester, to assess preservice teachers' knowledge in the subject of science in regard to situational leadership and emotional intelligence, their skills in respect of situational leadership, level of emotional intelligence and also assessed professional managerial competencies, well before the implementation of the educational program. Baseline data was collected by the researcher who made her availability on previous setup, three days a week, for morning / evening slots. In the very beginning, the researcher welcomed the preservice teachers while delivering a gist of the aim, objectivity and

activity about the setup program for all preservice teachers.

Finally, data collection was made with the use of varying research tools, available to the lecture room. Firstly, time slot was fixed as, 20-25 minutes, for completing Knowledge Questionnaire about Situational leadership and Emotional intelligence in the subject of science knowledge, Situational Leadership Scale took 20-25 minutes, likewise, Standardized Questionnaire on Emotional Intelligence got finished in 25-30 minutes and finally, Questionnaire on Professional Managerial competencies, took 25- 30 minutes, to complete.

Phase-II: During this phase, researcher who had already gained baseline data through the pretest results, related review of literature, the researcher, planned a course outline based on such reflective questions about the subject of science i.e. What do they feel about the subject, what to teach, how to teach, where to teach, whom to teach? This planning phase took researcher's one month for ongoing semester.

Phase-III – To see the impact and effectiveness of planned course outline,

immediate evaluation was made and it was implemented for all subjects with the use of same research tool, that was used before the start of the semester. Upon working, for the period of three months planned course outline of the subject of science was implemented. The recorded time for data collection was lasted for complete semester.

Statistical Analysis

Data entries were verified and entered into the computer. With the use of Statistical Package for Social Sciences (SPSS version 25.0), the acquired data was analyzed and tabulated. Descriptive statistics were also applied to the quantitative research data i.e. frequency & percentages. χ^2 -test was used to have comparison between the percentage of research variable. Paired sample t-test was employed for comparing the mean scores between pretest and posttest of the subject of science. Level of significance was considered where, $p \leq 0.05$, highly Level of significance was considered where, $p \leq 0.001$ and vice versa. Arithmetic mean was also used to describe the average central tendency of observation. Dispersion of the scores results

were measured by the standard deviation as, quantitative research variable. Thus, t-test was a test of significance for comparison between two research variables of the same

sample and for identifying association between the total scores, Pearson Correlation (r) test was applied.

Table (1) Distribution of the studied preservice teachers according to their Demographic Variables (n =58)

Demographic Variables	No	%
Background		
Arts	38	65.5
Science	20	34.5
Age (Years)		
15<25 years		
M=38.31, SD=9.05		
Gender		
Girls	58	100
University Grade Level		
B.Ed. (Hons.)	45	80
Locality		
Rural	6	10.4
Urban	52	89.6

Table (1) showed personal characteristic of preservice teachers where, more than preservice teachers had arts background. More than one third (40.0%) of preservice teachers had age of 15<25 years with mean score 38.31 ± 9.05 . Regarding to gender and

location, the all preservice teachers were female and were belonging to urban area (89.9% and 95.6%), respectively, regarding to educational level preservice teachers enrolled in university (80.0%) under the B.Ed. (Hons.) program.

Table (2) Percentage distribution of preservice teachers' skills about Situational leadership skill in totality through program phase (n=58).

Leadership Effectiveness Levels	Pretest Phase		Posttest Phase	
	No	%	No	%
High Leader Effectiveness	5	8.9	48	84.4
Moderate Leader Effectiveness	5	8.9	9	15.6
Low Leader Effectiveness	13	22.2	0	0.00
Very Low Leader Effectiveness	35	60.0	0	0.00

Table (2) Clarified that, comparison between pretest and posttest phases showed greater improvement regarding situational leadership skills. It was also observed that less than

1/5th of preservice teachers i.e. 8.9% had high effectiveness in respect of situational leadership skill and immediate increase was seen in posttest was recorded as, 84.4%.

Table (3): Matrix showing correlation among study variables of preservice teachers (Posttest Phase):

Variable		Situational Leadership knowledge in Totality	Emotional intelligence knowledge in Totality	Science Knowledge in Totality	Emotional intelligence skills in Totality	Professional managerial competence in Totality	Situation leadership effectiveness in Totality
Situational Leadership knowledge in Totality	Pearson Correlation-r	.....	.785**	.846**	.865**	.491**	.817**
	Sig.(2-tailed)-p	.....	.000	.000	.000	.000	.000
Emotional intelligence knowledge in Totality	Pearson Correlation-r	.785**	.....	.907**	.846**	.582**	.859**
	Sig.(2-tailed)-p	.000	.....	.000	.000	.000	.000
Science Knowledge in Totality	Pearson Correlation-r	.847**	.908**	.....	.827**	.498**	.876
	Sig.(2-tailed)-p	.000	.000	.....	.000	.000	.000

Table (3) revealed that there was highly statistically significant correlation among preservice science teachers' knowledge of situational leadership and emotional intelligence in totality, situational leadership skills in totality, emotional intelligence in totality and their professional managerial competencies in totality followed by immediate posttest phase.

Discussion

What is gained through this article? Every preservice teacher would have improved his/her sense of innovation, motivation, development, reinforcement and advancement in respect of teaching profession. However, it has also developed situational leadership among which helped them in simplifying the process of teaching and learning. In addition, there is always need to develop and acquire professional management skills for managing manpower and their diverse emotional intelligences. It has also provided a critical platform while developing effective leadership (Kristoffersen, 2018). This research study has shown that great effect in terms of improvement among the

preservice teacher's science knowledge in totality. Keeping in view of situational leadership and emotional intelligence throughout posttest phases (after complete semester) in the subject of science was compared with the pretest phase that showed that less than 1/5th of preservice teachers had adequate knowledge in respect of situational leadership and emotional intelligence through pretest phase (before the start of semester). Hence, an increased knowledge was recorded right after posttest phase as, compared with pretest phase in the subject of science.

In viewpoint of researcher, an inadequate preservice teachers' knowledge in regard to situational leadership and emotional intelligence was due to non-receiving of knowledge intact with situational leadership and emotional intelligence before the onset of semester (at pretest phase).

However, significant increase in knowledge was recorded which was acquired by preservice teachers at immediate posttest phase i.e. end of semester (Downey, 2023).

Devlin (2019) had termed such practices successful as, it included precise, motivational, simple, vivid and clear course of action e.g., role play, neon bulletins, graphic presentation, project making, social media campaign, pictorial demonstrations, field trips, excursions, surveys, reports and lectures. The availability of such kind of relevant data gave more insight towards comprehending and understanding the text, syllabus, situations by frequent repetitions and motivational tactics while dissemination of situational leadership knowledge in totality.

During sessions, the preservice teachers showed an interest in the subject of science as, its content was exposed by the positive interaction. Gradually, it was expected that their knowledge would decrease if, they did not keep on practice the same (Underhill, 2016).

Ahmed (2020) reported that situational leadership and emotional intelligence contributed exemplary towards the growth of preservice teachers' effectiveness, especially, in the subject of

science. Statistically, significant improvement was observed in posttest about preservice teachers' level of knowledge about the subject of science.

Alsaqa (2021) has regarded that situational leadership and emotional intelligence regraded positive relationship among preservice teacher's knowledge for the subject of science, whereas, there was no knowledge of situational leadership and emotional intelligence, before the start of the semester i.e. pretest.

Caruso et al., (2022) didn't support present study results as, they did not believe that emotional intelligence in the workplace actually, can be taught, subjected or influenced. and training did not increase the emotional intelligence knowledge.

The above-mentioned findings were observed as, in line with Vinberg and Larson (2023) who also conducted a research study wherein a study on situational leadership reported as under:

“Managers liked the situational leadership model because it is friendly and easy to understand and to be applicable

and situational leadership applied by the majority of leaders was considered good". On the other hand, these findings were stood disagreed with Crawford et al., (2021) who used different inventory to measure emotional intelligence and found that emotional intelligence scores were higher among preservice teachers' knowledge for the subject of science due to their established emotional intelligence and situation-based leadership learning. These reports had reflected a great turnover of intervention which had a significantly, high effect on improving preservice teachers' knowledge about their professional managerial competencies throughout posttest phase (after semester end), in comparison with the pretest phase.

These professional managerial competences had helped in quick decision making, establishing positive relationships, refined control over oneself and managing one's gestures & emotions and others too. Likewise, Goktepe (2019) has pointed about the development of professional managerial competencies for first-level preservice teachers in

their respective teaching faculties in Turkey had revealed significant increase.

Consequently, this also helped first line preservice teachers to improvise long end planning and strategies, for attainment of profound situational leader teachers who would be strong enough through their emotions. Current research study had identified statistically significant relationship among studied preservice teachers' total knowledge in the subject of science regarding situational leadership and emotional intelligence, leadership situational skills in the subject of science in its totality, emotional intelligence and their professional managerial competences in totality, at immediate posttest phase.

The results of the research study were dependent about know-how of situational leadership, theory on situational leadership which could get along for making oneself an effective, reliable, dependable preservice teacher who was having professional managerial competencies to lead a future learner (Cameron et al., 2013).

Conclusion

The educational program was effective for enhancing situational leadership and emotional intelligence for preservice teachers from planning phase to the end of implementation phase and then, execution phases. Majority of the prospective teachers had adequate knowledge about situational leadership and emotional intelligence right immediate the posttest phase. That, disclosed that preservice teachers had high effectiveness in the subject of science regarding situational leadership skills in totality, right immediate the posttest phase. Conclusively, statistically significant improvement was recorded among the preservice teachers in the subject of science alongwith growth of professional managerial competencies, right immediate the posttest phase. In addition to it, there was observed a positive correlation among preservice teachers` total knowledge in the subject of science in regard with situational leadership and emotional intelligence, situational leadership skills in totality, emotional intelligence level and their managerial professional

competences, right immediate the posttest phase (end of semester).

Recommendations

It is recommended that at School/classroom level, involve situational leadership and emotional intelligence & professional managerial competencies in preservice teachers` performance appraisal. School/classroom level administration should periodically assess situational leadership and emotional intelligence & professional managerial competencies in preservice teachers` performance through observation/checklist.

At institutional level, it is highly recommended to integrate theory of situational leadership and emotional intelligence into teaching education thereby aligning their curriculum with adequate information, evidences, experimentation for the growth of preservice teachers` professional managerial competencies outflow through practice.

At community level, opportunities must be officiated through various researches

which contributes in respect of communal benefits, holistically. The welfare of society is about clean drinking water, awareness about pre-natal and post-natal health of a women, healthy and balanced diet for young children,

1. Ahmed, Z., (2019). Situational leadership and emotional intelligence.contribution to Promote Preservice teachers leaders effectiveness, B.Ed (Hons.), faculty of Education , Tanta University
 2. Alsaqa, H., (2020). The situational leadership for the three realities of educational organizations (A Perspective View, Journal of Educational Archives through Systems and Policies, 2(2): 1-19
 3. Arcand, L, Neumann, JA. (2021). Professional competency assessment.across the continuum of care. J Contin Educ Nurs,36(6):247–254.
- Benson, G., Ploeg, J., & Brown, B. (2017). A cross-sectional study of

SOS villages, food drives, ecological care such as, Flood affectees, Locust attack, Acid Rains, etc., (Cuddy, 2019).

References

- emotional intelligence in baccalaureate prospective students. *Educate & Education Today*, 30(1), 49-53.
4. Beyers, W., & Goossens, L. (2019). Emotional autonomy, psychosocialadjustment and parenting: Interactions, moderating and mediating effects. *Journal of adolescence*, 22(6), 753-769.
 5. Cuddy, A. J., Fiske, S. T., & Glick, P. (2019). The BIAS map: behaviors from intergroup affect and stereotypes. *Journal of personality and social psychology*, 92(4), 631.
 6. Cameron, L., Erkal, N., Gangadharan, L., & Meng, X. (2013). Little emperors: behavioral impacts of China's One-Child Policy *Science*, 339(6122), 953-957.

7. Caruso, D., Bienn, B., and Kornacki S. (2016). Emotional Intelligence in the Workplace. 1st ed. New York Psychology Press. 187-205
8. Crawford C, Krebs D. Foundations of evolutionary psychology. New York: Psychology Press; 2021.
9. Chen, Z. Y., & Liu, R. X. (2014). Comparing adolescent only children with those who have siblings on academic related outcomes and psychosocial adjustment. *Child Development Research*, 2014.
10. Djati, S., (2018). The Effect of Situational Leadership behavior on Organizational Culture and Human Resources Management Strategy on Education and Training Institution Productivity, *Journal of Management*, 8 (2): 110-115.
11. Dolev, N, and Leshem, S. (2016). Teacher emotional intelligence: The impact of training, the international journal of emotional education, 8(1), pp 75-94.
12. Downey, D. B., & Condran, D. J. (2023). Playing well with others in kindergarten: The benefit of siblings at home. *Journal of Marriage and Family*, 66(2), 333-350.
13. Devlin, M. N., & Ghosh, S. (2019). A comparative account of academic achievement and emotional maturity among secondary school students of rural and urban area. *European Academic Research*, 2(6), 7392-7401.
14. Goktepe, M. C. (2019). Emotional Maturity among adolescents and its importance. *Indian Journal of Mental Health*, 7(1).
15. Jersild, M., & Mathew, A. (2019). Emotional maturity and general well-being of adolescents. *IOSR Journal of Pharmacy*, 8(5), 01-06.

16. Khan, et al., (2023). Emotional maturity. *Pastoral Psychology*, 1(2), 49-54.
17. Kim & Cuddy (2023). *Pride and Joy: A Guide to Understanding Your Child's Emotions and Solving Family Problems*. Oxford University Press.
18. Kristoffersen, J., & Smith, N. (2018). Gender Differences in the effects of behavioral problems on school outcomes.
19. Kumar, R., O'Malley, P. M., & Johnston, L. D. (2021). Association between physical environment of secondary schools and student problem behavior: A national study, 2000-2003. *Environment and Behavior*, 40(4), 455-486.
20. Kovacs & Devlin (2019). «The child is father of the man»- review of literature on epidemiology in child and adolescent psychiatry *Zeitschrift für Kinder-und Jugendpsychiatrie und Psychotherapie*, 41(1), 45-55.
21. Mowafy, M., Ahmed, D., Halawa, E. F., & El Din, M. E. (2015). Prevalence and predictors of emotional and behavioral problems among rural school Egyptian adolescents. *Egyptian Journal of Community Medicine*, 33(1), 79-93.
22. Rawat, C., & Gulati, R. (2021). Influence of Parenting style on emotional and social maturity of Adolescents. *Integrated Journal of Social Sciences*, 5(2), 31-34.
23. Saul, L. J., & Pulver, S. E. (2015). The concept of emotional maturity. *Comprehensive psychiatry*.
24. Singh, R., Pant, K., & Valentina, L. (2014). Impact Analysis: Family structure on social and emotional maturity of adolescents. *The Anthropologist*, 17(2), 359-365.

25. Singh & Bhargava (2019) Gender Difference on Emotional maturity. Phonix international Journal for psychology and social sciences.
26. Tayebi, N., Yektatab, S., & Akbarzadeh, M. (2020). Emotional and behavioral problems of 9–18-year-old girls and its relationship to menarche age. Middle East Current Psychiatry, 27(1), 1-7.
27. Underhill, M.,(2015). The relationship among situational leadership emotional intelligence, Unpublished PHD Theses, Washington, Eastern Washington University