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EMOTIONAL INTELLIGENCE OF SECONDARY SCHOOL STUDENTS IN RELATION TO CERTAIN DEMOGRAPHIC VARIABLES

Sameeksha Sadotra,

Research Scholar, Faculty of Education, University of Jammu.

Dr. Jaspal Singh Warwal,

Associate Professor, Faculty of Education, University of Jammu.

Abstract

The present study was an attempt to study the emotional intelligence of secondary school students. A random sampling method was used. The sample consisted of 200 secondary school students. The emotional intelligence scale developed and standardized by Mangal and Mangal (2018) was used for data collection. Statistical techniques like Mean, Standard deviation, and critical ratio were used to analyses the data. The result shows that male students are better than the female students on their emotional intelligence. It was also found that science students have higher emotional intelligence than science students. Further it was found that emotional intelligence was independent of locality and type of institution.

Key Words: *Emotional intelligence, secondary school students, locality, type of institution, stream of the study.*

Introduction

Student faces rapid changes, where various internal and external challenges always present in every walks of their life. In order to meet these challenges successfully, sound physical and mental growth of the students is very necessary. Students on daily basis interact with teachers, friends and society from varying cultural or ethnic backgrounds. Education is the most effective instrument which makes the students more competent. So there is need to educating the younger generation regarding emotional intelligence. Emotionally intelligent students are productive, confident and able to face life challenges. Students nowadays must be emotionally competent since the competitive academic environment can be mentally and emotionally taxing. In actuality, emotional intelligence is hailed as the answer to a wide range of issues in

the fields of education, employment, and health.

A child social and emotional development has significant implications for social functioning, educational and employment success. If emotional intelligence stimulate from the young age, children settled well in class, work in cooperative manner, act confidently and independently and also behave appropriately. A child with poor emotional intelligence is at risk of poor relationship with peers, academic problems, poor physical health and also may have adult mental health problems. Parent plays an important role in emotional development of the child by fulfilling their child emotional needs and understating the emotions of child. It will secure a base for well all-rounder, capable adults with robust mental health.

Etymologically, the word emotion has been derived from a Latin word "Emovere" which means to "stair up" or "to agitate" (Mali & Kumar, 2017). Therefore, emotion may be understood as an agitated or excited state of mind and body. It is innate response and profoundly influences action for better or worse. Emotions activate the whole body of an individual (Mali & Kumar, 2017). Thorndike (1920) introduced the concept of Emotional Intelligence. He distinguished social intelligence from other forms of intelligence. Salovey and Mayer (1989-90) described the emotional intelligence as a form of social intelligence that involves the ability to monitor one's own and others feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and action". Emotional intelligence is being able to monitor our own and other's feelings and emotions, to discriminate among them, and to use this to guide our thinking and actions. The idea got further boost with the release of a book by Goleman (1995) defined, "emotional intelligence as the capacity of recognizing our own feelings and those of others, motivating ourselves and for managing emotions well in ourselves and in our relationship (Gautam & Khurana, 2019, Kaur et al., 2012). Thorndike (1920) defines it as "the ability to understand and manage men and women, boys and girls to act wisely in human relations". Emotional intelligence has also been found to present a different definition of psychological well-being. It has been suggested that emotionally intelligent persons represents better ability for problem-solving and for managing stress, more pulse control and a

more positive attitude towards oneself and others implying greater enjoyment of life, resulting in psychological well-being. Different researchers found that high emotional intelligence is thought to be a protective factor for mental and physical health, it is also related to peoples' ability to manage their moods, but not to their ability to prevent moods from biasing their judgments, People with high levels of emotional awareness were found to be less likely than others to show mood congruent biases in their judgments (Sharma, 2011).

The psychological skills known as emotional intelligence allow people to recognize, comprehend, express, and regulate their own emotions as well as recognize and react to the emotions of others. Emotional intelligence underpins the successful application of social and communicative skills across a wide range of life experiences. It also makes it easier to think and act in ways that consider emotions, such as using emotions to motivate oneself or others or to pursue long-term goals (Murtoff, 2023). Ramesh, (2021) exclaimed that imparting emotional intelligence skills to students is a panacea for a range of problems like suicide, campus violence, ragging, sexual harassment, violent behaviour towards teachers, etc. So the apex bodies like University Grants Commission and All India Council for Technical Education can make it mandatory to impart emotional intelligence skills to students by crafting specialized skill based courses. Already short term courses on emotional intelligence can be conducted by professional training institutes on these lines can be crafted for university and college students. According to Sharma (2011) high emotional intelligence individuals possess abilities that help them succeed in a variety of areas of life, including work and family life. Emotional intelligence is the capacity to recognize and distinguish between one's own and other people's feelings, as well as to use this knowledge to inform one's decisions and behaviors

Emotionally intelligent mind does not get affected by any kind of situation; their mind is always in a state of equanimity. Knowing a person in perfect balance to handle the sensory impulse is known an emotionally intelligent person. According to much recent academic work, a good deal of successes and failures in cognitive abilities as measured by tests of IQ, but abilities to form and maintain social relationships, portray themselves positively, and manipulate how others perceive them. Those who lack such

understanding may be said to lack Emotional Intelligence, a type of intelligence that may be more important in reaching ones goals than traditional intelligence as measured by tests of IQ (Sharmila, 2015).

Review of Related Literature

Sharma (2006), Rani (2011), Kaur et al. (2012), Sharma and Siddiqui (2018) and Karthikeyan and Lalwani (2019), Thapa et al. (2023) reported no significant difference between male and female. Whereas Dey (2023) indicated that there was a significant differences between the mean emotional intelligence ratings of male and female teachers. Adeyemo (2008), Tiwari (2009), Sharmila (2015), Adeyemo (2008), Gautam and Khurana (2019) revealed that female had significantly better emotional intelligence as compared to their male counterparts. On the other hand Mali and Kumar (2017), Patil (2013), Raino (2017), Leelavati and Chalam (2019) reported that male had significantly more emotional intelligence as compared to their female counterparts. Vishalakshi (2013) found that male and female secondary school teachers in their total emotional intelligence level and in two dimensions of emotional intelligence viz., self-awareness and motivation and the male teachers have slightly higher emotional intelligence level than their female counterparts.

Ramesh (2021) conducted a study on impact of emotional intelligence on university students and found in the study that female students are smarter in using their emotions than male students. Also science stream students are smarter than arts stream students in regulating their emotions. Actions exhibited in their everyday life are foundations of their emotions and emotional intelligence. Emotional intelligence is a quality that needs to be fostered in all students. So the need of the hour for universities is to produce students with the emotional skill and stability to manage challenges in their life. Whereas Rani (2011) found that there was no significant difference between emotional intelligence of science and arts teachers of Degree Colleges of Rajasthan. Also Gupta (2013) found that science and arts students and a difference in emotional intelligence. On the other hand Kaur et al. (2012) found those psychology students were more emotionally intelligent as compared to their peers studying science and arts subjects. Patil (2013) found that science stream students had higher level of emotional intelligence than arts stream students.

Tiwari (2009), Rani (2011), Patil (2013), Mahato (2016), Mali and Kumar (2017), Raino (2017) found that urban area students had higher level of emotional intelligence than rural areas students. On the other hand Lone and Khan (2015), Kumar (2020) reported no significant difference in emotional intelligence of rural and urban students. Whereas Singh (2015) indicated that rural girl students were having significantly better emotional intelligence as compared to their urban counterparts.

Yadav (2014), and Rani (2019) found that there was no difference in emotional intelligence of government and private secondary school students. But on the contrary, Wani and Akhter (2020), found that government school students are more emotionally intelligent than the private school students. Whereas Kaur and Kaur (2022) indicated that private school students were having significantly better emotional intelligence as compared to government school students.

Need of the Study

Emotional Intelligence helps the students to increase their emotional self-awareness, emotional expression, creativity, increase tolerance, increase trust and integrity, improve relations within and across the society and thereby increase the performance of each student and the institution as a whole (Zabin et al., 2022). Emotional intelligence is one of the few key characteristics that give rise to strategic leaders in educational institutions. Emotional intelligence plays a significant role in the educational institutions and individual life and becomes an important criterion of success in the academic and personal life.

Objectives

1. To compare the emotional intelligence of secondary school students in relation to their gender.
2. To compare the emotional intelligence of secondary school students in relation to their locality.
3. To compare the emotional intelligence of secondary school students in relation to their stream of study.
4. To compare the emotional intelligence of secondary school students in relation to their type of institution.

Hypotheses

1. There is no significant difference in emotional intelligence of secondary

school students in relation to their gender.

2. There is no significant difference in emotional intelligence of secondary school students in relation to their locality.
3. There is no significant difference in emotional intelligence of secondary school students in relation to their stream of study.
4. There is no significant difference in emotional intelligence of secondary school students in relation to their type of institution.

Delimitation

1. The Present Study is restricted to the arts and science secondary school students.

Method

The study employed a quantitative research strategy with the objective of investigating emotional intelligence in relation to specific demographic variables within the current research domain. The study is descriptive in nature, obtaining data from respondents once and analyzing it.

Research Population/ Sample size/ Sampling Method

In the present study, the population of the study is the students studying in class XI in Government and private secondary schools located in the Jammu district. Total population of the study was 21741.

Table 1: Population of Study

Type of Institution	**Total Number of Higher Secondary Schools in Jammu District**	**Enrolment in class XI**	**Boys**	**Girls**
Government	78	11218	5813	5405
Private	165	10523	6117	4406
Total	243	21741	11930	9811

Source: Chief Education Office Jammu (2022-23)

The sample of the present study was comprised of 200 XI class students selected randomly from government and private schools of Jammu district**.** Out of fourteen education zones of Jammu district, seven zones were selected

randomly by using chit method. These Zones were Jammu, Satwari, Gandhi Nagar, Akhnoor, R.S. Pura, Vijaypur and Samba. There were 243 higher secondary schools both government (78) and private (165) in the zones of the Jammu district. The list of higher secondary schools in each zone was taken from the Chief Education Office Jammu (2022-23) as per table 1.

Tool

Emotional Intelligence Inventory by Mangal and Mangal (2018)

Result and Discussion

Data collected were analyzed using descriptive statistics mean, and standard deviation. Critical ratio was used to study the difference in emotional in relation to certain demographic variables. The results are given in the following tables:

Table 2: Significance of difference in Emotional Intelligence based on the Gender of the Secondary School Students.

Gender	Mean	Standard Deviation	N	MD	Critical Ratio
Female	116.52	14.43	97	5.03	2.12*
Male	121.55	18.68	103		

**Significant at 0.05 level of significance*

Table 2 indicate means values of female and male students are 116.52 and 121.55 respectively and standard deviation are 14.43 and 18.68 respectively. The critical ratio score is 2.12, which is significant ($p<0.05$). Therefore, it can be said that 1 which states that "There is no significant difference in emotional intelligence of secondary school students in relation to their gender," is not accepted. It reveals that female and male secondary school students differ significantly on emotional intelligence. The higher mean of male students further indicates that they have significantly higher emotional intelligence as compared to their female counterparts. This may be due to that both male and female students are having the different kind of upbringing and have different environment in the institutions which may not give them equal opportunity to take part in various programmes, to interact

with each other. This finding is in line with the results of the studies conducted by Mali and Kumar, (2017), Patil (2013), and Leelavati and Chalam (2019).

Table 3: Significance of difference in Emotional Intelligence based on the Locality of the Secondary School Students

Locality	Mean	Standard Deviation	N	MD	Critical Ratio
Rural	116.95	15.45	98	3.94	1.67 (NS)
Urban	120.89	17.81	102		

NS means non-significant

Table 3 shows that the mean values of rural and urban students are 116.95 and 120.89 respectively and standard deviation are 15.45 and 17.81 respectively. The critical ratio score is 1.67, which is not significant ($p>0.05$). Therefore hypothesis 2 which states that "There is no significant difference in emotional intelligence of secondary school students in relation to their locality," is accepted.

It indicate that rural and urban secondary school students are not differ significantly on emotional intelligence. It may be that both rural and urban parents want that their child will be successful person in life so they are giving proper attention to their children. This finding is supported by the studies conducted by Rani, (2011), and Khan and Lone (2015).

Table 4: Significance of difference in Emotional Intelligence based on the Stream of the Study of the Secondary School Students.

Stream of the study	Mean	Standard Deviation	N	MD	Critical Ratio
Arts	116.94	15.78	117	4.87	1.99*
Science	121.81	17.78	83		

**Significant at 0.05 level of significance*

Table 4 reveals that mean values of arts and science students are 116.94 and 121.81 respectively and standard deviation are 15.78 and 17.78 respectively. The critical

ratio score is 1.99, which is significant ($p<0.05$). Therefor hypothesis 3 which stats that "There is no significant difference in emotional intelligence of secondary school students in relation to their stream of study." is not to be accepted.

It is observed that art and science secondary school students are differ significantly on emotional intelligence. The higher mean of science students further indicates that they have significantly higher emotional intelligence as compared to their arts counterparts. This finding is well supported by the study conducted by Patil (2013).

Table 5: Significance of difference in Emotional Intelligence based on the Type of Institution of the Secondary School Students.

Type of institution	Mean	Standard Deviation	N	MD	Critical Ratio
Government	117.83	16.04	120	2.83	1.15 (NS)
Private	120.66	17.78	80		

NS means non-significant

Table 5 shows that the values of mean of government and private school students are 117.83 and 120.66 respectively and that of standard deviation are 16.04 and 17.78 respectively. The critical ratio score is 1.15, which is not significant ($p>0.05$). Therefore hypothesis 4 which stats that "There is no significant difference in emotional intelligence of secondary school students in relation to their type of institution," is accepted.

It is observed that government and private secondary school students are not differ significantly on emotional intelligence. This finding is in line with the studies conducted by Yadav (2014), and Rani (2019).

Implications

Emotional intelligence stimulates the students in identifying the emotions, in regulating the emotions, provides ability to resolve the interpersonal conflicts and all these consequently contribute in the emotional- social development of their students. Thus efforts should be made by the schools to provide such a congenial

environment to the students in which they can realize their full potential and utilize it in enhancing the latent attributes and this can only be possible by recognize the emotions, desires, and need of their own, utilize their emotions and enthusiasm, turn them into a positive energy for achieving the success in their life. For this students must be emotionally intelligent. Hence, the administrator of the schools should organize some workshops and programme, guidance for improving the emotional intelligent among students. As in the present study, it was found that male were more emotionally intelligent than the female, and also the science students were found to be more emotionally intelligent than arts students, thus for enhancing the emotional intelligence of female as well as arts students various guidance programme should be organized and counselling cell should be established in the schools. Teachers may adopt cooperative teaching-learning environment which will provide an open and equal opportunity to all students to interact each other, this will assist them in becoming emotionally and socially more mature.

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EFFECT OF HYBRID LEARNING ON ACADEMIC PROCRASTINATION AMONG PROSPECTIVE TEACHERS

Dr. Sukhwinder Singh,

Assistant Professor, Malwa Central College of Education for Women, Ludhiana, Punjab, India

Samiksha Arora,

M.Ed. Research Scholar, Malwa Central College of Education for Women, Ludhiana, Punjab, India

Abstract

Present study was conducted to explore the effect of hybrid learning on academic procrastination among prospective teachers (B.Ed. students). To carry out the research the pre and post-experimental method of research was used. Purposive sampling was used to select 200 (i.e. 100 from rural areas and 100 from urban areas) B.Ed. students (prospective teachers) of Education Colleges from the Ludhiana district of Punjab, India for the conduct of the study. The control group was taught using the online traditional method whereas the experimental group was given treatment using a hybrid learning method including LMS, video conferencing platform, and e-quizzes. The pre and post-tests were implied. The perusal of the data highlighted that Hybrid learning is an effective way to control academic procrastination among prospective teachers.

Key Words: *Hybrid learning, online learning, academic procrastination, prospective teachers*

Introduction

Education is a pre-condition for national development and the creation of a healthy society. Every society has established its own education system as per the indigenous needs and resources. Teaching learning process is key to success of these education systems. Teaching and learning is a process that includes variables like input (student and content), process (teacher, teaching methods, strategies, interactional platform, interactional interface), and product (assessment and evaluation strategies to quantify academic achievement).

In this technology driven society of 21st century pupils are more

informative, knowledgeable and equipped with the multitasking ICT skills, the traditional strategies are losing their effects. More and more digital and technical variables i.e. online learning, E-learning, M-Learning, Programme learning, 3D & 4D Learning, Learning Management System (LMS), self-paced learning by MOOC's and Insert Learning etc. are intervening in the teaching learning process to enhance and support better understanding and academic achievement of the learner. This situation has necessitated the emphasis on incorporating the technology driven hybrid learning in teaching learning process.

Moreover, the COVID-19 pandemic, which gripped the whole world, necessitating a range of unprecedented social isolation and safety measures, barely any aspect of daily life was left unaffected. One area, which has certainly seen considerable changes as a result of COVID-19, is the education sector. When schools and universities around the world were forced to close their doors to prevent its spread, alternative methods and technologies had to be adopted almost overnight because globally 1.2 billion children were out of the classroom (World Economic Forum, April 29, 2020). Online and hybrid learning became an urgent necessity, rather than an option.

Hybrid Learning

Hybrid learning is known as a mixed mode of instructions i.e. E-content, online face-to-face instructions, Audio- Video lectures, online discussions through combining LMS, E-learning, M-learning, Insert Learning strategies through blending of ICT and LMS technologies. According to Guzer and Caner (2014) the first recorded application of blended learning dates back to the early 2000s, according to Google Scholar search results. This led us to the conclusion that the concept of blended learning has only recently gained traction.

Heinze and Procter (2004) state that, "Hybrid learning is that which is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning and is based on transparent communication amongst all parties involved with a course." Doering (2006) defines the Hybrid Learning Model as "the blending and mixing of learning environments: face-to-face classroom instruction and online environment." Watson (2008) defines hybrid learning as, "combining

online delivery of educational content with the best features of online live instructions to personalize learning, allow thoughtful reflection through insert learning and online discussion platform, and differentiate instruction from student-to-student across a diverse group of learners." According to Center for Innovative Teaching and Learning, Northern Illinois University (2012) blended learning, also known as hybrid learning, is the combination of face-to-face and online learning activities wherein computer-mediated activities take the role of traditional classroom "seat time"

Hybrid learning thus refers to a combination of various instructional strategies that formally incorporate face-to-face learning through online meetings and distance learning by using technology, such as a LMS, to aid the learning process by personalizing learning, allowing thoughtful reflection through insert learning, and allowing self-paced evaluation through quizzes, assignments, and sessional work. As a result, Hybrid Learning could eventually produce learning experiences that maximize learning successes by utilizing e-content, audio-visual lectures, and online conversations as a collaborative learning tool, as well as self-paced feedback-based evaluation.

For the present Investigation hybrid method of learning comprises the use of Google classroom as LMS, insert learning platform as collaborative interactive learning and e-quizzes as an evaluation tool.

Academic Procrastination

Procrastination is not a new phenomenon among students as William James identified the psychological cost of procrastination about 120 years ago (Klassen et al., 2007). Procrastination is the avoidance of doing a task that needs to be accomplished by a certain deadline. It could further be stated as a habitual or intentional delay of starting or finishing a task despite knowing it might have negative consequences.

Academic procrastination is a type of procrastination that only occurs in academic situations. It entails knowing that one needs to complete an academic task or activity, such as writing a term paper, studying for examinations, completing a school-related project, or completing weekly reading assignments, but failing to motivate oneself to do so within the expected time frame

(Ackerman & Gross, 2005). According to Binder (2000), "Academic Procrastination defined is an irrational delay in the academic task due to the contradiction between intention and action, which leads to negative consequences for the procrastinator." According to Wolters (2003), "Academic procrastination is the delay of academic work, even though one wants to complete it on time. For university students, this is closer to reality, because no college students would like to delay their work purposefully in order to get a poor grade." According to Deniz et al. (2009), "Academic procrastination is the delay of academic responsibility, such as submitting homework or a delay of preparation for examination."

Academic Procrastination is the unnecessary delay in the accomplishment of the academic or learning tasks that usually results in the decrease in the level of learning achievements. For the present study it was measured by pupil's score on academic procrastination scale by Gupta and Bahir (2018).

Review of Related Literature

Melgaard et al. (2022) conducted a study in Norway on academic procrastination and online learning during COVID-19 pandemic. The preliminary findings presented in the paper highlight differences between procrastinators and non-procrastinators regarding the desire to study and satisfaction with learning outcomes. The preliminary findings also highlight challenges associated with student engagement and the use of the camera during online classes for all the students.

Hong et al. (2021) explored the ineffectiveness of online learning and examined how it can be predicted by self-regulated online learning and participants' procrastination disposition. Data of 433 participants were collected and subjected to confirmatory factor analysis with structural equation modeling. The results indicated that procrastination is negatively related to 6 sub-constructs of self-regulated online learning: task strategy, mood adjustment, self-evaluation, environmental structure, time management, and help-seeking.

Kumar (2020) investigated the problem of academic procrastination among adolescents in relation to metacognition, perfectionism and internet usage. The sample comprises 800 students from 9th class studying in government senior secondary schools of

Punjab. The findings of the study indicated towards significant negative relationship of academic procrastination with metacognition, perfectionism and significant positive relationship with internet usage in case of total adolescents, rural and urban adolescents as well as for adolescent boys and adolescent girls. The results of the study also revealed that academic Procrastination can best be predicted through an interactive effect of metacognition, perfectionism and internet usage in comparison to their independent effects.

Sanecka (2019) conducted a study to investigate the relationships between general self-efficacy, two types of procrastination (active and passive procrastination), and the behavioural tendency to postpone learning activities in a blended learning university course using Moodle platform. Results indicate that passive procrastination is strongly positively associated with procrastination in blended learning, while perceived self-efficacy and active procrastination are unrelated to the self- reported task delays during the blended learning course.

Rasanty and Qudsyi (2023) conducted a study on 307 college students from islands of Java. The result of the study indicated significant negative relationship between self-regulated learning and academic procrastination.

Objectives

1. To study the effect of hybrid learning on gain scores of controlled and experimental groups in academic procrastination among prospective teachers.
2. To study the effect of hybrid learning on gain scores of controlled and experimental groups in academic procrastination among prospective teachers of rural areas.
3. To study the effect of hybrid learning on gain scores of controlled and experimental groups academic procrastination among prospective teachers of urban areas.

Hypotheses

H01. There will be no significant difference between gain scores of academic procrastination of controlled and experimental groups among prospective teachers.

H02. There will be no significant difference between gain scores of academic procrastination of controlled and experimental groups among prospective teachers of rural area.

H03. There will be no significant difference between gain scores of academic procrastination of controlled and experimental groups among prospective teachers of urban area.

Design

To carry on the study the pre and post-experimental method of research was used in which the sample was divided into controlled and experimental groups. The controlled group was taught using online traditional method whereas the experimental group was taught using hybrid learning method including LMS, video conferencing platform and e-quizzes. The pre and post-tests were implied to collect data from the 200 B.Ed. students (prospective teachers) of Education Colleges of rural and urban area of Punjab.

Sample:

The sample of the study has been chosen on the basis of purposive sampling technique by keeping in mind the nature of the study i.e. experimental. The sample comprises of Total 200 B.Ed. students (i.e.100 rural areas and 100 urban areas) of Education Colleges of Ludhiana district of Punjab, India were selected for the conduct of the study.

Tools

Academic Procrastination Scale by Gupta and Bahir (2018).

Result and Discussion

Data was analyzed according to the objectives and the results are discussed under the following sub-parts:

Significance of Difference in Academic Procrastination of Prospective Teachers exposed to Traditional Online Learning and Hybrid Learning

To investigate the effect of hybrid learning on academic procrastination of prospective teachers mean, standard deviation and t-ratio were worked out and the values are given in table 1 below:

Table 1: **Difference in Gain scores of Academic Procrastination of Control and Experimental Groups of Prospective Teachers**

Groups	N	Mean	Standard Deviation	t-ratio
Control Group	100	15.10	9.66	7.93*
Experimental Group	100	5.31	7.68	

**Significant at 0.01 level of significance*

Table 1 shows that the values of mean of control and experimental groups are 15.10 and 5.31 respectively. The value of t-ratio is 7.93 which is significant ($p<0.01$). Thus, a significant difference exists in gain scores of academic Procrastination of total prospective teachers. This indicates that as a result of exposure to hybrid learning the academic procrastination is less common in the experimental group of prospective teachers as compared to the controlled group. So, the hypothesis H_{01} ‘‘there will be no significant difference between gain scores of academic procrastination of controlled and experimental groups among prospective teachers’ not accepted.

From the perusal of the data of the above table, it can be concluded that controlled and experimental group of total prospective teachers of Punjab differ significantly in academic procrastination as there is much difference in their gain scores. So, the results of the study indicate that Hybrid learning is an effective way of controlling the academic procrastination of the prospective teachers. The findings of this investigation are consistent with the results of the research done by Sanecka (2019), Kumar (2020), Hong et al. (2021), and Rasanty and Qudsyi (2023). The results of the studies conducted by Saele et al. (2017) contradict the results of the present study.

Significance of Difference in Academic Procrastination of Prospective Teachers of Rural Area exposed to Traditional Online Learning and Hybrid Learning

To investigate the effect of hybrid learning on academic procrastination of prospective teachers of rural area mean, standard deviation and t-ratio were worked out and the values are given in table 2 below:

Table 2: **Difference in Gain scores of Academic Procrastination of Control and Experimental Groups of Prospective Teachers of Rural Area**

Groups	N	Mean	Standard Deviation	t-ratio
Control Group	50	16.16	10.50	5.47*
Experimental Group	50	5.84	8.23	

**Significant at 0.01 level of significance*

Table 2 shows that the values of mean for control and experimental groups are 16.16 and 5.84 respectively. The value of t-ratio is 5.47, which is significant ($p<0.01$). Thus, a significant difference exists in gain scores of academic procrastination of rural prospective teachers. So, the hypothesis H_{02} 'There will be no significant difference between gain scores of academic procrastination of controlled and experimental groups among prospective teachers of rural area" not accepted.

From the perusal of the data of the above table, it can be concluded that the controlled and experimental group of rural prospective teachers differ significantly in academic procrastination as there is a huge decline in the gain scores of the controlled and experimental groups of rural prospective teachers of Punjab. So, the findings of the investigation indicates that Hybrid learning is an effective way of controlling academic procrastination among B.Ed. teacher trainees. The findings of the investigation are consistent with the results of the research done by Sanecka (2019), Kumar (2020), Hong et al. (2018), and Rasanty and Qudsyi (2023).

Significance of Difference in Academic Procrastination of Prospective Teachers of Urban Area exposed to Traditional Online Learning and Hybrid Learning

To investigate the effect of hybrid learning on academic procrastination of prospective teachers of urban area mean, standard deviation and t-ratio were worked out and the values are given in table 3 below:

Table 3: **Difference in Gain scores of Academic Procrastination of Control and Experimental Groups of Prospective Teachers of Urban Area**

Groups	N	Mean	Standard Deviation	t-ratio
Control Group	50	14.04	8.73	5.81*
Experimental Group	50	4.78	7.31	

**Significant at 0.01 level of significance*

Table 3 reveals that the values of mean of control and experimental groups are 14.04 and 4.78 respectively. The values of t-ratio is 5.81, which is significant ($p<0.01$). Thus, a significant difference exists in gain scores of academic procrastination of urban prospective teachers. Hypothesis H_{06} "There will be no significant difference between gain scores of academic procrastination of controlled and experimental groups among prospective teachers of urban area" not accepted.

From the perusal of the data of the above table and figure, it can be concluded that **t**he controlled and experimental group of prospective teachers differ significantly in academic procrastination as there is much difference in the gain scores of the controlled and experimental groups of prospective teachers of Punjab. So, the results of the study indicate that Hybrid Learning is an effective way of controlling the academic procrastination of the urban B.Ed. teacher trainees. The results of this research are consistent with the results of the research done by Sanecka (2019), Kumar (2020), Hong et al. (2021), and Rasanty and Qudsyi (2023). The results of the studies conducted by Saele et al. (2017) contradict the results of the present study.

Implications

Based on the above mentioned findings of the study, the following educational implications are suggested for inclusion in the educational process:

Hybrid learning techniques provides time bound tasks i.e. assignments and project through LMS in Google classroom which is an effective way to control unnecessary procrastination on the part of students. So, it is highly recommended that hybrid learning should be adopted to control procrastination.

Hybrid learning technique provide time bound e-quizzes for evaluation to provide immediate feedback about self progress of the child which results in controlling of procrastination. So, it is highly recommended that hybrid learning techniques should be adopted by teacher to control procrastination.

The results indicated that procrastination is negatively related to sub-constructs of self-regulated online learning: Time bond task strategy, self-evaluation, time management etc.

Present generations are tech-savvy and has positive attitude toward hybrid learning and has a high degree of acceptance for digital technique. So, teachers should adopt hybrid learning on preference to improve its effectiveness.

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JOB CRAFTING AS MEDIATOR BETWEEN ORGANIZATIONAL CLIMATE AND PROFESSIONAL COMMITMENT AMONG TEACHERS

Dr. Mohua Khosla,

Associate Professor (Retd.), Malwa Central College of Education for Women, Ludhiana, Punjab, India

Dr. Shaveta Sharma,

Associate Professor, Sant Baba Bhag Singh University, Jalandhar, Punjab, India

Abstract

Professional commitment among school teachers is not just a professional expectation; it is a moral and social imperative. The impact of committed teachers extends far beyond the classroom, shaping the future of society by nurturing informed, compassionate, and competent individuals. It has been believed that a positive and supportive organizational climate of can enhance teacher satisfaction, well-being, engagement, and performance which in turn make teachers more committed to their profession, their students, and the educational institution. Recognizing the interplay between organizational climate and professional commitment, the present study was a humble attempt to find mediating role of job crafting between organizational climate and professional commitment among teachers. The sample of the study was 300 secondary school teachers of Punjab. The study revealed that both organizational climate and job crafting effect significantly and positively the professional commitment among teachers whereas job crafting plays as significant mediator with partial mediation.

Key Words*: Job crafting, organizational climate, professional commitment, teachers*

Introduction

In the realm of education, the role of teachers is not merely that of disseminating knowledge; it is a multifaceted responsibility that encompasses the nurturing of young minds, fostering critical thinking, and imparting life skills that extend far beyond the confines of the classroom. As the fulcrum upon which the entire educational system pivots, teachers play a pivotal role in shaping the future of nations. Therefore, understanding and enhancing their professional commitment, a critical factor influencing their performance and the

quality of education they provide, is of paramount importance.

Professional Commitment

In an ever-evolving and dynamic world, the concept of professional commitment stands as a cornerstone of individual and collective success. Professional commitment transcends mere dedication to one's job or career; it encompasses a profound and enduring allegiance to the values, ethics, and goals associated with one's chosen profession. This commitment is the force that propels individuals to continually strive for excellence, maintain ethical standards, and contribute meaningfully to their respective fields. In the modern landscape of rapidly advancing technologies, shifting economic paradigms, and diverse cultural influences, understanding and fostering professional commitment is more critical than ever.

According to Allen and Meyer (1990), commitment is conceptualized as a psychological condition that establishes a strong connection between an individual and their organization. They opined that there exist three distinct forms of commitment, namely Affective Commitment, Continuance Commitment, and Normative Commitment. Affective commitment pertains to the emotional attachment an individual has towards an organization, which facilitates their engagement with the organization's objectives. Continuance commitment refers to the association between individuals and various aspects of an organization, such as salaries, earnings, perks, and accomplishments. Normative commitment pertains to an individual's adherence to the established norms within an organization, as demonstrated by their provision of feedback regarding their job performance.

According to Grossberg (1997), commitment can be understood as a belief system and a deliberate choice to pursue authenticity. According to the speaker, there are four distinct current attitudes that individuals can adopt in relation to their unavoidable commitments. These attitudes are referred to as chronic, sentimental, hyperreal, and grotesque.

According to Sperling (1998), established a framework consisting of five distinct areas in which instructors demonstrate commitment: (i) Commitment to the learner, (ii) Commitment to the society, and (iii) Commitment to the profession. (iv) Dedication to attaining a high level of performance and quality. (v)

Dedication to upholding fundamental principles of human ethics and morals.

Moving along the same line of thought, Unruh and Zhang (2014) conceptualized professional commitment as a connection to the profession characterized by a sense of pride in the profession and a willingness to sustain membership within the profession.

Professional commitment thus extends beyond mere dedication to a specific organization, encompassing an individual's overall attitude towards their chosen career and their intrinsic drive to remain in their current position, actively striving to support the profession's ideals and objectives and this elevates the need for professional commitment among teachers as teaching still holds its position as one of the noble profession putting teachers at the highest pedestal of noble professions as Singh and Billingsley (1996) argued that a teacher's professionalism is contingent upon their active contribution to the growth of their students. This contribution is manifested through the teacher's demonstration of competence, professionalism, and dedication in their behaviour which in other terms is professional commitment of teachers.

Crosswell and Elliott (2004) opined six categories that teachers might utilize to comprehend and explain the concept of professional commitment. The categories that were identified include: (a) Teachers' commitment as a passion - this category was viewed as a positive emotional commitment to the tasks and responsibilities associated with teaching; (b) Teacher commitment as an allocation of time beyond contact hours - In this context, students are regarded as an investment for whom teachers dedicate additional time to address their individual emotional, academic and other needs and requirements. Teacher commitment is a crucial obligation to effectively transmit knowledge, attitudes, values and beliefs. Shukla (2014) examined the professional commitment of teachers in relation to their obligations related with their duties to provide quality education and foster their own continuing professional improvement. He also argued that in order to assure the professional dedication of teachers, they must possess values such as empathy, humbleness, and forbearance, which contribute to their professional abilities. Salehnia and Ashraf (2015) observed that professional commitment among teachers is associated with their role as a teacher

and the pedagogy, which in turn impacts students' ability to learn effectively.

Organizational Climate

The organizational climate refers to the structured framework of task allocation and reporting hierarchies that govern, synchronize, and inspire employees to collaborate towards the attainment of an organization's objectives. This encompasses the emphasis on leadership, the exercise of power and accountability, the formulation of resource policies, and the strategic planning and execution of deployment or implementation.

According to Good's Dictionary of Education (1973), organizational climate refers to the distinctive pattern of social interaction that is characteristic of an organization. Seth and Gupta (1983) referred organizational climate to the subjective impressions or perceptions that employees have of their organization. According to Sharma and Gaba (1989), the concept of organizational climate pertains to the interpersonal dynamics that exist inside a group, as well as the interaction between the group and its leader. According to the findings of Sweeney et al. (1998), climate can be characterized as the dominant environmental factors that impact the functioning and operations of an organization.

Organizational climate can be defined as the subjective perception that a person develops based on their experiences within an organizational system. The organizational climate refers to the social and psychological environment in which employees of an organization carry out their job responsibilities. The term "organizational climate" refers to the collective and aggregated perceptions of employees inside an organization regarding its rules, processes, and practices, which in turn have an impact on their work experiences and overall satisfaction. The organizational climate functions as a set of principles for interpersonal interactions, exerting a significant impact on the motivation and productivity of both individuals and the collective work group.

According to Forehand and Glimer (1964), organizational climate refers to a collection of attributes that define an organization and differentiate it from other organizations. These attributes are typically stable over time and have an impact on the behaviour of individuals inside the organization. Campbell and Beaty (1971) referred organizational

climate to a collection of distinct characteristics that are unique to a single organization and can be inferred from the organization's interactions with its members and its surrounding environment. For individuals within an organization, organizational climate refers to a collection of attitudes and expectations that characterize the organization in terms of its static attributes (such as the level of autonomy) as well as the behavioural outcomes and contingencies associated with those outcomes.

Chattopadhya and Aggarwal (1988) defined organizational climate is the result of the interaction among several factors within the societal system, the organization, and the individual members. Thus, it is evident that the concept of organizational climate encompasses a multifaceted array of aspects. It encompasses both interpersonal behaviour and task achievement dimensions, exerting an influence on the satisfaction of needs and performance outcomes for all individuals within the organization.

Job Crafting

Job crafting is a relatively recent concept in the field of organizational psychology that has gained attention as a potential mechanism for enhancing employee well-being and job satisfaction. Job crafting refers to the proactive actions taken by employees to shape and redesign their own jobs to better align with their individual needs, preferences, and strengths. Job crafting allows employees to exert a degree of control over their work, leading to increased job satisfaction and improved performance.

Job crafting refers to the deliberate modifications that individuals make to the physical and relational limits and boundaries of their tasks, as well as the cognitive adjustments they undertake inside their employment. Wrzesniewski and Dutton (2001) delineated three distinct manifestations of job crafting: (i) altering the task boundaries of the job, such as modifying the number, range, or nature of tasks performed in the workplace; (ii) adjusting the relational aspects of the job, including the level and quality of interactions with colleagues and others at work; and (iii) transforming the cognitive task boundaries of the job, which involves changing the perceived meaning and significance of the job. It asserts that by modifying job roles or by engaging in self-directed projects, employees have the ability to design more optimal job roles for themselves, so enhancing their overall job satisfaction and performance (Fried, et al.,

2007). According to Wrzesniewski and Dutton (2001), job crafting may be defined as a collection of activities or behaviours that individual engages in to shape and redefine their work tasks and relationships inside their employment roles.

In their study conducted in 2001, Wrzesniewski and Dutton conceptualized job crafting, focusing on the impact of increasing structural job characteristics and developed four facet model of job crafting as:

(i) Increasing structural job resources (ISTJR);
(ii) Decreasing hindering job demands (DHJD);
(iii) Increasing social job resources (ISOJR); and
(iv) Increasing challenging job demand (ICJD).

Fried et al. (2007) defined job crafting as an ongoing activity that is likely to be influenced by the stage of employees' career trajectories and the social context in which they carry out their work. Job crafting enables individuals to utilize their unique job knowledge and personal attributes to strategically shape and customize their work roles in a manner that enhances the sense of meaning and purpose in their career.

Demerouti et al. (2001) defined job crafting as "changes that employees may make to balance their job demands and job resources with their personal abilities and needs".

Berg et al. (2010) opined that the concept of job crafting may be effectively utilized across a wide range of job positions, encompassing varying degrees of seniority and autonomy. In even the most mundane and constrained occupations, people possess the capacity to instigate modifications that can impact their overall work environment. Grant et al. (2009) revealed that individuals who exhibit proactive behaviour in the workplace exhibit improved performance, experience accelerated career advancement, and receive higher compensation.

Emergence of the study

The educational sector, with its unique challenges and demands, plays a pivotal role in shaping the future of society. Teachers, as the front-line agents of education, bear the responsibility of imparting knowledge, nurturing young minds, and contributing to the overall development of students. To perform their roles effectively, teachers must not only possess the necessary skills but also

exhibit a strong commitment to their profession. Professional commitment among teachers is influenced by various factors, and the organizational climate in educational institutions is a critical determinant of this commitment. A positive organizational climate, characterized by supportive leadership, a sense of belonging, recognition, and a collaborative work environment, can foster professional commitment among teachers. Conversely, a negative or unsupportive organizational climate can erode commitment, leading to teacher burnout and turnover. While previous research has examined the direct link between organizational climate and professional commitment among teachers, there is a dearth of studies that explore the role of job crafting as a mediator in this relationship. Understanding whether and how teachers engage in job crafting to adapt their work environments in response to the organizational climate could shed light on the mechanisms that underlie professional commitment in educational settings.

Thus, the primary objective of this study is to investigate whether job crafting acts as a mediator between the organizational climate in educational institutions and the professional commitment of teachers.

Operational Definition

Organizational Climate: Organizational climate pertains to an individual's subjective interpretation of the organization to which they are affiliated. It refers to a collection of attributes and variables that are subjectively perceived by employees within their respective firms, exerting a significant influence on their behavioural patterns.

Professional commitment: Professional commitment refers to an individual's readiness and dedication to actively participate in the educational institution and its associated community. The professional commitment among teachers is the professional obligation that transcends teachers the physical confines of the classroom, and conceivably extends beyond the perimeters of the educational institution.

Job crafting: Job crafting refers to the proactive adjustments that individuals make to their job responsibilities and resources in order to achieve and enhance their personal work-related objectives. Job crafting is the proactive and self-driven modifications made by individuals to the

demands and resources associated with their work.

Objectives

1. To examine the effect of organizational climate on professional commitment of teachers.

2. To explore the effect of job crafting on professional commitment of teachers.

3. To investigate whether job crafting mediates the effect of organizational climate on professional commitment of teachers.

Hypotheses

1. There exists a significant effect of organizational climate on professional commitment of teachers.
2. There exists a significant effect of job crafting on professional commitment of teachers.
3. Job crafting mediates the effect of organizational climate on professional commitment of teachers.

Method

This study employed quantitative research method. Data was collected from a diverse sample of 300 teachers across different educational institutions of Punjab state. Descriptive survey method of research was used to collect the data.

Sample

The target population for the present study was teachers teaching secondary and senior secondary students. A sample of 300 teachers comprising 150 male and 150 female teachers were selected from four senior secondary schools of Ludhiana district of Punjab.

Tool

1. Organizational Climate Scale by Pethe, Chaudhari and Dhar (2001).
2. Professional Commitment Scale for teachers by Kaur and Kaur (2011).
3. Job Crafting Scale by Tims, Bakker and Derks (2012).

Statistical Techniques

To test the hypotheses, Pearson's Product Moment correlational technique and regression analysis were employed.

Results and Conclusion

The examined relationships between the variables in the suggested model are shown in figure 1.

Figure 1. The model of the expected relationship between Organizational Climate and Professional Commitment mediated by Job Crafting

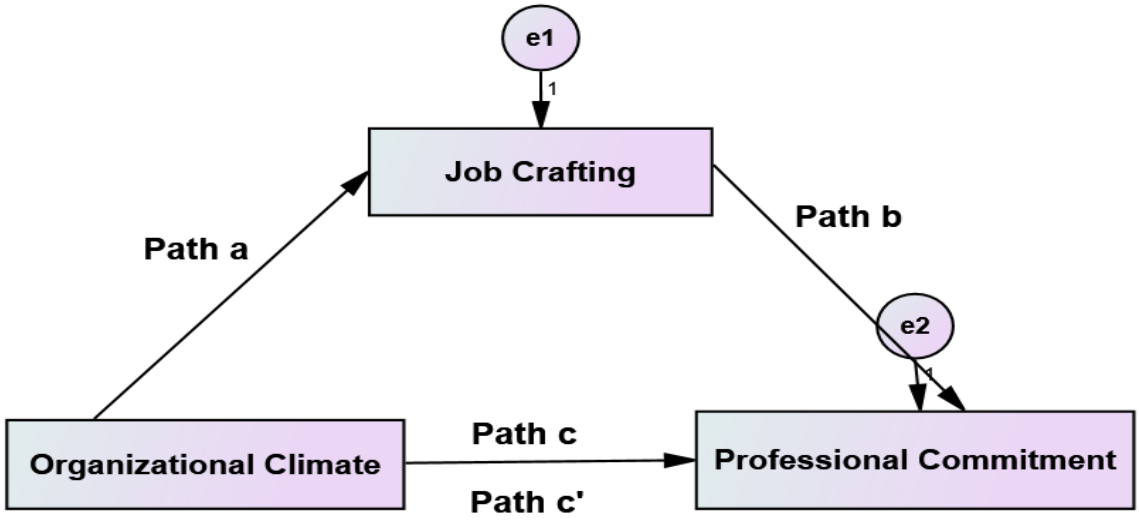

Table 1. Mean values (M), standard deviations (SD) and correlations between particular variables in study (N = 300)

	Descriptive		Correlation					
	M	**SD**	**OC**	**PC**	**ISTJR**	**DHJD**	**ISOJR**	**ICJD**
Organizational Climate	84.49	18.59	-	0.62**	0.16**	0.13*	0.24**	0.24**
Professional Commitment	136.54	19.44	-	-	0.24**	0.21**	0.25**	0.25**
Increasing Structural Job Resources (ISTJR)	17.31	2.41	-	-	-	0.40**	0.10	0.12*
Decreasing Hindering Job Demands (DHJD)	19.45	3.68	-	-	-	-	0.17**	0.11*
Increasing Social Job Resources (ISOJR)	14.68	3.53	-	-	-	-	-	0.18**
Increasing Challenging Job Demand (ICJD)	14.85	3.58	-	-	-	-	-	-

**Significant at 0.05 level of significance* ***Significant at 0.01 level of significance*

Table 1 presents mean values, standard deviations and correlations between the variables under study i.e., organizational climate, professional commitment and job crafting. The analysis revealed a positive high significant correlation between organizational climate and professional commitment (r=0.62, p<0.01) as well as positive low significant correlation between professional commitment and Increasing Structural Job Resources (ISTJR) (r=0.24, p<0.01), Decreasing Hindering Job Demands (DHJD) (r=0.21, p<0.01), Increasing Social Job Resources (ISOJR) (r=0.25, p<0.01) and Increasing Challenging Job Demand (ICJD) (r=0.25, p<0.01). Also a positive low significant correlation between organizational climate and Increasing Structural Job Resources (ISTJR) (r=0.16, p<0.01), Decreasing Hindering Job Demands (DHJD) (r=0.13, p<0.01), Increasing Social Job Resources (ISOJR) (r=0.24, p<0.01) and Increasing Challenging Job Demand (ICJD) (r=0.24, p<0.01) is evident from the table.

Table 2. Mediation Analysis of Job Crafting with respect to relationship between Organizational Climate (OC) and Professional Commitment (PC)

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval		t-statistics	Conclusion
				Lower Bound	Upper Bound		
OC→ ISTJR→PC	0.6512**	0.6280**	0.0232**	0.0058	0.0476	2.18	Partial Mediation
OC→ DHJD →PC	0.6512**	0.6341**	0.0171**	0.0098	0.0391	1.96	Partial Mediation
OC→ ISOJR →PC	0.6512**	0.6248**	0.0264**	0.0029	0.0557	1.98	Partial Mediation
OC→ ICJD →PC	0.6512**	0.6258**	0.0254**	0.0032	0.0553	1.99	Partial Mediation

***Significant at 0.01 level of significance*

The findings of the regression analysis by Process Macro have been presented in Table 2. The analysis conducted in this study aimed to establish the correlation between organizational climate and professional commitment, with a specific focus on examining the mediating effect of job crafting.

Table 2 shows that the direct value of organizational climate and professional commitment in the presence of Increasing structural job resources (ISTJR); Decreasing hindering job demands (DHJD); Increasing social job resources (ISOJR); and Increasing challenging job demand (ICJD) came out to be 0.6280, 0.6341, 0.6248 and 0.6258 respectively which are significant at 0.01 level. This indicates that a significant effect of organizational climate on professional commitment of teachers exists.

Therefore hypothesis 1 stating 'There exists a significant effect of organizational climate on professional commitment of teachers' stands accepted.

The indirect value of organizational climate and professional commitment in the presence of Increasing structural job resources (ISTJR); Decreasing hindering job demands (DHJD); Increasing social job resources (ISOJR); and Increasing challenging job demand (ICJD) came out to be 0.0232, 0.0171, 0.0264 and 0.0254 respectively which are significant at 0.01 level. This indicates that a significant effect of job crafting on professional commitment of teachers exists.

Therefore hypothesis 2 stating 'There exists a significant effect of job crafting on professional commitment of teachers' stands confirmed.

According to Hayes (2013), the presence of statistically significant routes a and b is considered essential for mediation. The observed association between organizational climate and four facets of job crafting had a positive but low in magnitude (path a).

Following that, the relationship between four facets of job crafting and professional commitment was confirmed (route b).

Further the study assessed the mediating role of Job Crafting in terms of four facets (i) Increasing Structural Job Resources (ISTJR); (ii) Decreasing Hindering Job Demands (DHJD); (iii) Increasing Social Job Resources (ISOJR); and (iv) Increasing Challenging Job Demand (ICJD) on the relationship between Organizational Climate and Professional Commitment. The results of Table 2 revealed that

1. A significant indirect effect of impact of organizational climate on professional commitment (b=0.0232, t=2.18), revealing Increasing Structural Job Resources (ISTJR) mediates the relationship between organizational climate and professional commitment.

Furthermore, the direct effect of organizational climate on professional commitment in presence of Increasing Structural Job Resources (ISTJR) as mediator was also found significant (b=0.6280, p<0.01). Hence, Increasing Structural Job Resources (ISTJR) partially mediated the relationship between organizational climate and professional commitment.

2. A significant indirect effect of impact of organizational climate on professional commitment (b=0.0171, t=1.96), revealing Decreasing Hindering Job Demands (DHJD) mediates the relationship between organizational climate and professional commitment. Furthermore, the direct effect of organizational climate on professional commitment in presence of Decreasing Hindering Job Demands (DHJD) as mediator was also found significant (b=0.6341, p<0.01). Hence, Decreasing Hindering Job Demands (DHJD) partially mediated the relationship between organizational climate and professional commitment.

3. A significant indirect effect of impact of organizational climate on professional commitment (b=0.0264, t=1.98), revealing Increasing Social Job Resources (ISOJR) mediates the relationship between organizational climate and professional commitment. Furthermore, the direct effect of organizational climate on professional commitment in presence of Increasing Social Job Resources (ISOJR) as mediator was also found significant (b = 0.6248, p<0.01). Hence, Increasing Social Job Resources (ISOJR) partially mediated the relationship between organizational climate and professional commitment.

A significant indirect effect of impact of organizational climate on professional commitment (b=0.0254, t=1.99), revealing Increasing Challenging Job Demand (ICJD) mediates the relationship between organizational climate and professional commitment. Furthermore, the direct effect of organizational climate on professional commitment in presence of Increasing Challenging Job Demand (ICJD) as mediator was also found significant (b=0.6258, p<0.01). Hence, Increasing Challenging Job Demand (ICJD) partially mediated the relationship between organizational climate and professional commitment.

The partial mediation of all the four facets of job crafting the relationship

between organizational climate and professional commitment leads to further confirmation of hypothesis 3 stating 'Job crafting mediates the effect of organizational climate on professional commitment of teachers'.

Results and Conclusion: On the basis of the above results shown in the above Tables, it may be concluded that:

1. Organizational climate has a significant impact on professional commitment among teachers.

2. Job crafting in terms of increasing structural job resources (ISTJR); Decreasing hindering job demands (DHJD); increasing social job resources (ISOJR); and Increasing challenging job demand (ICJD) has a significant impact on professional commitment among teachers.

3. Job Crafting in terms of four facets (i) Increasing Structural Job Resources (ISTJR); (ii) Decreasing Hindering Job Demands (DHJD); (iii) Increasing Social Job Resources (ISOJR); and (iv) Increasing Challenging Job Demand (ICJD) mediates the effect of organizational climate on professional commitment of teachers. However, the mediation is partial, not full mediation. It implies that there exists significant direct and indirect effects from organizational climate to professional commitment. Thus, the unmediated relationship between organizational climate and professional commitment is significant. Also, the relationship from organizational climate to job crafting and job crafting to professional commitment is significant.

Implications

The present study holds significant implications for educational institutions and teacher management practices. In the realm of education like other professions, professional commitment serves as a driving force that underpins job satisfaction, enhances productivity, and fosters innovation. This study seeks to provide a comprehensive analysis that could inform the development of strategies to create more supportive work environments for teachers and, ultimately, enhance the quality of education they deliver. By revealing the significant impact of organizational climate on professional commitment, the study will sensitize government, policy makers, management and other stakeholders to ensure well-being of employees, the success of organizations, and the overall quality of services and outcomes in teaching professions by improving organizational climate of schools. By studying the impact

of organizational climate on professional commitment, they can better understand how to support teachers in their vital roles. It can influence not only the career trajectories of teachers but also the overall prosperity and ethical integrity of educational institutions and society at large. Further in an era where educational institutions face increasing challenges in retaining and motivating their teaching staff, understanding the dynamics of job crafting as a mediator between organizational climate and professional commitment is crucial. By uncovering the mediating role of job crafting, this study can offer valuable insights for fostering professional commitment among teachers, thereby improving educational outcomes and the overall quality of education. Additionally, it will contribute to the broader literature on job crafting, organizational climate, and employee commitment in a unique and vital context, the field of education.

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CYBERCRIME AWARENESS OF MALE AND FEMALE PROSPECTIVE TEACHERS: A COMPARATIVE STUDY

Dr. Sunil Kumar,

Former Research Scholar in Education, C.T. University, Chaukiman Ludhiana, Punjab, India

Abstract

The study was undertaken to investigate the significance of differences in the cybercrime awareness of male and female prospective teachers. A total of 401 prospective teachers participated in the study, with 177 male and 224 female participants. Cybercrime awareness was measured using a self-report questionnaire. Results showed that female prospective teachers (Mean=134.38, standard deviation=15.21) had a significantly higher level of cybercrime awareness than male prospective teachers (Mean=126.71, standard deviation=14.94) with t-ratio=5.06 (p<0.01). This finding has important implications for the implementation of cybercrime awareness initiatives in educational settings.

Key Words: *Cybercrime, male and female prospective teachers*

Introduction

Computer education is included in school and college curricula because it is essential for every individual nowadays to have a basic understanding of computers. The usage of computers and the internet is rapidly expanding. New technological tools are on the way to assist adolescents in learning more effectively. Computers and the internet not only assist pupils in exploring their creativity and imagination, but also in understanding technology. The growing integration of web technologies into daily life, as well as the popularity of social networks and the advancement of mobile technology, all contribute to the formation of an ideal environment for various sorts of cybercrime and the propagation of illegal Internet content. Children and teenagers are not only the most enthusiastic consumers of new technologies and functionalities, but also the most inexperienced sector of the population. The general population is likewise under-aware of the gravity of the situation. Teachers have to play a critical role in educating pupils about cybercrime and encouraging them to be vigilant. As a result, prospective teachers must be well-versed in cybercrime awareness.

Cybercrime

The latest and possibly toughest issue facing the online community is cybercrime. "Cybercrime encompasses any illegal activity that utilizes computers as a tool for further criminal activity or as an instrumental target" (Malgi, 2012). The general public's understanding of cybercrime has increased in tandem with the rise in cybercrime over the last several decades. In order to help avoid and lessen cybercrime, as well as to assist people and organizations in being ready for and responding to cybercrime situations, awareness of cybercrime is crucial. Therefore, in order to aim awareness-raising efforts as effectively as possible, it is critical to understand the awareness of cybercrime across various groups of people.

Cybercrime, according to Kruse and Heiser (2002), is any crime in which a computer may have been the target or utilized as a tool to commit the crime. Cybercrime, according to Toyne (24 October, 2003), is any computer-mediated activity that is either illegal or that some parties view as illegitimate. Wall (2007) includes so-called "third generation" cybercrime- crimes that are entirely mediated by technology. Cybercrime according to Dennis (2023) is the term for using a computer to carry out unlawful activities, including fraud, identity theft, the trafficking of child pornography and intellectual property, and invasions of privacy.

Cybercrime Awareness

The term "cyber awareness" describes end users' knowledge and comprehension of cyber-security best practices and the ongoing risks to their networks and organizations.

Being conscious of cyber-security in daily life is part of being aware of cybersecurity. Cyber-security awareness includes understanding the risks associated with emailing, using the internet, and connecting with others (Koziol, et al., 2022). To safeguard digital assets, cyber security awareness entails being aware of the different types of cyber threats, being able to identify such dangers, and taking action to lessen their impact (Shah, 2022). Being aware of the different kinds of cyber threats of cybercrime and being able to use cyber resources safely is hence known as cybercrime awareness.

The present study focuses specifically on the cybercrime awareness of male and female prospective teachers.

This is an important area of research, as teachers play an important role in educating young people about cybercrime and helping to promote cybercrime awareness in the wider community. The study also has implications for the education sector, as it can provide insights into the cybercrime awareness of prospective teachers and how this can be improved.

Review of Related Literature

Studies conducted by Singh (2013), Goel (2014), Shekhar and Nathyal (2018), Sunder (2018), Singh and Sharma (2019), Choudhary (2020), and Joshi and Kandpal (2020) revealed no significant difference in the cybercrime awareness of male and female. On the other hand Malhotra and Malhotra (2017), Jazeel (2018), Kumaravelu (2018), Suvera and Tailor (2020), and Maurya and Suryanashi (2023), reported significantly better cybercrime awareness among male as compared to female teacher trainees. Whereas Hasan et al. (2015); and Prabhu (2015) revealed that female have significantly better cybercrime awareness as compared to their male counterparts.

According to a survey of related literature given above, little research has been done on the topic of cybercrime awareness. The findings of the few studies conducted are contradictory, therefore no firm conclusions can be formed on the cybercrime awareness of male and female prospective teachers.

Objective

To investigate the significance of difference in cybercrime awareness of male and female prospective teachers.

Hypothesis

There is no significant difference in cybercrime awareness of male and female prospective teachers.

Method

Descriptive survey method of research was used.

Sample

The survey was administered to a total of 401 prospective teachers selected randomly from colleges of Education in Ludhiana district of Punjab, India. The sample consisted of 177 male and 224 female prospective teachers.

Tool

Cybercrime awareness questionnaire developed by the investigator (which included questions regarding the

participants' level of cybercrime awareness, as well as their general attitude towards cybercrime).

Delimitation: Prospective teachers in the study was confined to B.Ed. students.

Result and Discussion: To investigate the significance of gender differences in cybercrime awareness among prospective teachers, the mean, standard deviation, and t-ratio were calculated, and the results are shown in table 1 below:

Table 1: Cybercrime Awareness of Male and Female Prospective Teachers

Groups	N	Mean	Standard Deviation	t-ratio
Male Prospective Teachers	177	126.71	14.94	5.06*
Female Prospective Teachers	224	134.38	15.21	

**Significant at 0.01 level of significance*

Table 1 shows that the values of mean of cybercrime awareness of male and female prospective teachers are 126.71 and 134.38 respectively and the values of standard deviation are 14.94 and 15.21 respectively. The t-ratio is 5.06, which is significant ($p<0.01$). It indicates that there is significant difference in cybercrime awareness of male and female prospective teachers. The female prospective teachers have significantly better cybercrime awareness as compared to their male counterparts. The null hypothesis "There is no significant difference in cybercrime awareness of male and female prospective teachers," is thus rejected. This finding is in line with the studies conducted by Hasan et al. (2015); and Prabhu (2015).

Most Indian parents are concerned about their female children's internet use and make them aware of their safety. Females are no longer at a competitive disadvantage. Female students outnumber male students in Punjab when it comes to B.Ed. admissions. More women are pursuing higher education, and as a result, they are becoming more conscious. Colleges of education provide the same facilities to both male and female students. Women, according to Titi (2003), are more conscious of cyber rules and have higher ethical ideals than men. Women are less likely than men to become victims.

Implication

The current study investigated the difference in cybercrime knowledge

between male and female prospective teachers. According to the survey findings, there is a statistically significant difference in cybercrime awareness among female prospective instructors. This data shows that female prospective teachers may be better equipped to leading initiatives to raise awareness of cybercrime among students since they have a higher level of awareness than their male counterparts. Furthermore, it emphasizes the significance of giving sufficient training and materials to prospective teachers, particularly male prospective teachers, in order for them to effectively educate young people about cybercrime and the risks connected with it.

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A COMPARATIVE STUDY OF LOGICAL THINKING OF SECONDARY SCHOOL STUDENTS ON THE BASIS OF THEIR TYPE OF SCHOOL, LOCALE AND GENDER.

Dr. Kiranjit Kaur

Associate Professor, Dev Samaj College of Education, Chandigarh, India

Abstract

This study examines the significance of difference in logical thinking of ninth class students in relation to their type of school, locale, and gender. The study was conducted on 200 ninth class students in which 108 students were taken from government schools and 92 students were taken from private schools. Logical thinking Test by Kumar and Tiwari (2012) was used for data collection. Results showed that there is no significant difference in logical thinking of ninth class secondary school students with regard to type of school, locale, and gender i.e. Government/ private, rural/ urban, and male/female.

Key Words*: Logical thinking, government schools, private schools, rural students, urban students, male students, female students.*

Introduction

Reasoning is by no means a skill that only the learned possess. It was present in the earliest animals as well as humans. We only perform a limited set of mental operations while reasoning that are based on our racial background, past experiences, or instincts. A well-known Sanskrit proverb states that we only owe our professors one-fourth of the knowledge we have learned; the other one-fourth is our own work. Peer experience accounts for four out of every five pieces of information, with interactions with the social and physical world providing the remaining five percent (Tenneti, 2009).

The word "logical" itself derives from the Greek logikê-logikós, which is derived from logos, which means reason. Logic teaches precise reasoning and is the science and art of discovering the truth. It is a discipline that determines the legitimacy of a foundation by norms and procedures; it is understood as the right idea, where it is ensured that the in-depth information it offers fits into the existent (Luna-Guevara et al., 2021). According to Nunes (2012) when applying rigorous reasoning to derive conclusions that are

suggested or necessitated by premises and relations between premises, one is engaging in logical reasoning. According to Baserer (2020), logical thinking is a way of thinking that shows correct thinking by utilizing different concepts and their meanings, drawing conclusions through recommendations, and developing reasoning by concentrating on problem solving.

Logical thinking is defined as examining a problem and formulating a plausible solution. It is similar to reasoning based on analysis. Using reasoning tools, logical thinking looks at any problem objectively and helps determine a reasonable path of action. It requires being aware of one's surroundings as well as having the emotional self-control to keep feelings from interfering with judgment.

Logic is the science of reasonable cognition. It looks at logical thinking and how to make conclusions. Logic is not a natural skill; rather, it is acquired through worldly knowledge. Children who use logical reasoning to solve difficulties may become more autonomous thinkers and begin to understand the options open to them. They take into account a number of options and evaluate all possible outcomes before reaching the best decision.

Related literature

Malik and Mohini (2020) found no significant difference in logical thinking of government and private secondary school students. Whereas Sherafat and Murthy (2016) reported that private school students had significant better critical thinking as compared to their government school counterparts.

Uddin et al. (2023) found that urban students have significantly better critical thinking as compared to their rural counterparts. Kumar (2017) revealed that urban students have significantly better logical thinking as compared to their rural counterparts. Whereas Tamam et al. (2021) revealed that rural students have significantly better critical thinking as compared to their urban counterparts. On the other hand Prabhyumaansinh (2021) revealed that rural and urban students do not differ in their intelligence.

Mawaddah and Duskri (2018) and Tamam et al. (2021) revealed that critical skill of female is significantly better than that of male. Whereas Kumar (2017) revealed that male students have significantly better logical thinking as compared to their female counterparts. On the other hand Malik and Mohini (2020) found no significant difference in logical thinking of male and female secondary school students. Fah (2010) reported no

significant difference in logical thinking ability of male and female students.

Objectives

1. To compare the logical thinking of ninth class government and private school adolescents.
2. To compare the logical thinking of ninth class secondary school students of urban and rural areas.
3. To compare the logical thinking of ninth class secondary school students with regard to gender.

Hypotheses

1. There is no significant difference in logical thinking of secondary school students studying in government and private schools.
2. There is no significant difference in logical thinking of secondary school students of urban and rural areas.
3. There is no significant difference in logical thinking of secondary school students with regard to gender.

Tools

The following tools were used in the present study to collect data:

1. Logical thinking Test by Kumar and Tiwari (2012).

Sample

The sample for present study comprised of 200 students in which 108 students were taken from government schools and 92 students were taken from private schools.

Delimitation

The sample was restricted to government and private secondary schools of rural and urban areas of Chandigarh.

Results and discussion

To investigate the significance of difference in logical thinking of secondary school students studying in government and private schools mean, standard deviation and t-ratio were worked out and the values are given in table 1 below:

Table 1: Significance of difference in Logical thinking of secondary school students studying in government and private schools

Groups	N	Mean	Standard Deviation	t-ratio
Government School	108	13.44	4.40	0.24 (NS)
Private School	92	13.28	4.42	

NS means non-significant

Table 1 represents the mean differentials in government and private schools. The mean score of secondary school students studying in government and private schools are 13.44 and 13.28 respectively. The standard deviation of score of government and private schools are 4.40 and 4.42 respectively. The calculated values of t-ratio is 0.24, which is non-significant ($p>0.05$). It indicates that the mean differentials in logical thinking of secondary school students studying in government and private school is not significant, which means that government and private school students do not differ significantly in their logical thinking. Thus, hypothesis 1, i.e. "There is no significant difference in logical thinking of secondary school students studying in government and private schools," is accepted. This finding is in line with the study conducted by Malik and Mohini (2020).

To investigate the significance of difference in logical thinking of secondary school students of urban and rural areas mean, standard deviation and t-ratio were worked out and the values are given in table 2 below:

Table 2: Significance of difference in Logical thinking of secondary school students of urban and rural areas

Groups	**N**	**Mean**	**Standard Deviation**	**t-ratio**
Urban Area	101	13.89	4.94	1.72 (NS)
Rural Area	99	12.83	3.71	

NS means non-significant

Table 2 represents the mean differentials in mathematical interest of secondary school students of urban and rural areas. The mean score of secondary school students of urban and rural area are 13.89 and 12.83 respectively. The standard deviation of scores of urban and rural area are 4.94 and 3.71 respectively. The calculated values of t-ration is 1.72, which is non-significant ($p>0.05$). It shows that the difference in logical thinking of secondary school students of urban and rural areas is not significant which indicates that the secondary school students of urban and rural areas do not differ significantly in logical thinking. Hence hypothesis 2, namely, "There is no significant difference in logical thinking of secondary school students of urban and rural areas," is accepted. This finding is contradictory to

the findings of the studies conducted by Uddin et al. (2023), Kumar (2017), and Tamam et al. (2021); but similar to the findings of the study conducted by Prabhyumaansinh (2021).

To investigate the significance of difference in logical thinking of secondary school students of male and female students mean, standard deviation and t-ratio were worked out and the values are given in table 3 below:

Table 3: Significance of difference in Logical thinking of secondary school students with regard to gender

Groups	N	Mean	Standard Deviation	t-ratio
Male	93	13.54	4.5	0.52 (NS)
Female	107	13.21	4.33	

NS means non-significant

Table 3 represents the mean differentials in Logical thinking with regard to gender. The mean score of male and female students are 13.54 and 13.21 respectively. The standard deviation of scores of male and female students are 4.5 and 4.33 respectively. The calculated value of t-ratio is 0.516, which is non-significant. It reveals that the mean differentials in logical thinking with regard to gender is not significant which indicates that the logical thinking do not differ with regard to gender. Hence hypothesis 3, namely, "There is no significant difference in logical thinking with regard to gender," is accepted. This finding is well supported by the studies conducted by Malik and Mohini (2020) and Fah (2010).

Implication

The results of the study reveal no significant difference in logical thinking of ninth class secondary school students with regard to locale, type of school and gender i.e. Government/ private, rural/urban and male/female. It indicate that similar methods and techniques for fostering logical thinking in all the students can be created, regardless of their type of school, locale, or gender. Independence is necessary for logical reasoning. As educators and parents, we may help adolescents develop logical reasoning skills by attempting to trust them and their decisions. Children start to develop the ability to reason rationally when they search for solutions on their own (Ahuja;

October 30, 2019). Students cannot develop logical thinking skills unless they receive experience via trial and error. The only way they can improve at what they do is by applying reason to rectify their errors. In order to foster logical thinking, it is advised that educators and parents establish a supportive environment and employ child-centered teaching strategies.

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IMPACT OF ACADEMIC CONFIDENCE ON STUDENT'S LEARNING OUTCOMES IN MATHEMATICS

Pallavi Sharma,

Research Scholar, Punjabi University, Paitala, Punjab, India

Dr. Tasneem Khan,

Assistant Professor, Department of Open and Distance Learning, Punjabi University, Patiala, Punjab, India

Abstract

The study was conducted to examine the impact of programme of developing academic confidence on the learning outcomes in mathematics. The sample of the study included 56 students of 9th class from a Public School from Patiala district of Punjab, India. The pupils were randomly allocated to two groups- academic confidence group and control group. For eight weeks, the experimental group met once a week. Students reviewed their academic goals, successes, and challenges during the meetings. They also designed methods to improve their academic performance. The control group took part in the general discussion. Academic confidence scale by Sander and Sanders (2003) and learning outcomes in mathematics test of 9th class developed by the investigators, were used for data collection. The result of the study indicated that the programme of developing academic confidence had significant positive impact on the learning outcome in mathematics.

***Key Words**: Programme of developing academic confidence, learning outcome in mathematics, 9th class students.*

Introduction

The relationship between students' academic self-confidence and their overall performance is critical in the subject of education. Academic confidence, or students' belief in their own abilities, can have a significant impact on how driven they are to learn and how successful their educational experiences are. Despite its acknowledged importance, academic confidence remains little unexplored in academic research. This research endeavour intends to close this gap by conducting a detailed comparison examination of the Low

Academic Confidence Group and the High Academic Confidence Group.

Bandura's Social Cognitive Theory influences academic confidence, which in turn influences student accomplishment (Bandura, 1977a). According to research, increased academic confidence increases goal-setting, motivation, and perseverance, all of which contribute to improved academic achievement. A variety of factors, including teacher support, influence academic self-confidence, emphasizing the importance of interventions to increase student accomplishment. This study found a link between student performance and academic self-confidence.

Academic Self-Confidence

Academic self-efficacy, or confidence in one's own abilities to succeed in academic tasks, is a term used in educational contexts. It includes a student's impression of their skills, drive, and ability to reach academic objectives. The Social Cognitive Theory of Bandura (1977b) offers a theoretical framework for comprehending the significance of self-efficacy in academic environments.

Positivity, mental wellness, and a happy outlook on life are all positively correlated with self-confidence. Being self-assured involves acting as well as feeling. "People's sense of competence and skill, their perceived capability to deal effectively with various situations" is the definition of self-confidence (Shrauger & Schohn, 1995). Self-confidence seems to be an evaluative component of self-concept, a person's cognitive representation of themselves. Although research emphasizes the cognitive component of self-confidence, several studies indicate that self-confidence (Uglanova, 2014).

Academic self-concept is described as a person's perception of self in connection to academic achievement (Reyes, 1984). It can be defined as students' belief in their ability to succeed academically (Komarraju & Nadler, 2013), faith in their capacity for achievement in the classroom (Honicke & Broadbent, 2016).

Review of Literature

Pajares and Valiante (2001) conducted a study on 1257 students of the age group of 9 to 17 years. The study indicated that the students who felt more confidence about their academic abilities tended to set higher standards, put in more effort, and persevere through challenges, all of which contributed to their eventual success in the classroom.

Schunk and Pajares (2009) conducted a study involving two groups of students, one with strong academic confidence and the other with low academic confidence. The finding of the study revealed that the high confidence group regularly out-performed the low confidence group in a variety of academic tasks.

Malik (2014) conducted a study on 200 students of 11th class from four schools of Rohatk City. The results of the study indicated that self-confidence effects the academic achievement of girl students but there is no effects of self confidence on academic achievement of boy students.

Verma and Kumari (2016) conducted a study on 300 elementary school students (Class 5th) of Ludhiana, Punjab, India. The result of the study showed significant negative relationship (r=-0.75, N=300) between self-confidence and academic achievement.

Rabha and Saikia (2019) conducted a study on 400 higher secondary school students of Kamrup district of Assam, India and found significant positive relationship (r=0.84, N=400) between self-confidence and academic achievement.

Akbar i and Sahibzada (2020) conducted a study on 1375 male and female students of Kandhar University and revealed that self-confidence of the students leads to improved learning process.

Marpaung (2018) studied 30 tertiary students enrolled in the English Language Education studies programme at Universitas Advent Indonesia. The findings revealed that there is no significant relationship between students' self-confidence and their English achievement.

Oktafiani and Yusri (2021) conducted a study on 282 senior high school students and reported significant positive (r=0.73, N=282) relationship between self-confidence and students' achievement.

Olutola et al. (2023) conducted a study on 124 senior secondary school students from Dustin-Ma Katsina state, Nigeria. The result of the study revealed significant positive relationship (r=0.498, N=124) between self-confidence and academic performance in English.

Studies conducted by Pajares and Valiante (2001), Schunk and Pajares (2009), Verma and Kumari (2016), Rabha and Saikia (2019), Akbar i and Sahibzada (2020), Oktafiani and Yusri (2021), and Olutola et al. (2023) indicated significant positive impact of self-confidence on academic achievement, whereas Malik

(2014) and Marpaung (2018) reported no significant relationship between self-confidence and academic achievement.

Objective

1. To investigate the impact of academic confidence on student performance in a university setting.

Hypothesis

1. There is no significant difference in learning outcome in mathematics of group exposed to programme of academic confidence and control group.

Method

The pupils were randomly allocated to two groups- academic confidence group and control group. They were givens pre-test. Test of learning outcomes in mathematics as pretest. The experimental group met once a week for eight weeks. During the meetings, students discussed their academic objectives, achievements, and difficulties. They also came up with strategies to improve their academic performance. The control group engaged in general discussion during this period. After the treatment of eight weeks both the groups were given academic confidence scale. Learning outcomes in mathematics was given as post-test. The gain score of learning outcomes in mathematics was calculated (Post-test – pre-test).

Sample

The sample comprised of 56 students of 9th Class of a CBSE School Patiala District. The students were randomly assigned to experimental (28 students) and control group (28 students).

Tools

1. Academic confidence scale by Sander and Sanders (2003).
2. Test of Learning Outcomes in Mathematics for 9^{th} class developed by the investigators according to the syllabus of CBSE.

Table 1: Difference in Learning Outcome in Mathematics (Gain scores) of Group exposed to Programme of Academic Confidence and Control Groups

Groups	N	Mean	Standard Deviation	t-ratio
Control group	28	7.14	2.97	4.22*
Group exposed to programme of academic confidence	28	11.11	4.81	

**Significant at 0.01 level of significance*

Table 1 reveals that the values mean for learning outcome in mathematics gain scores of control group and group exposed to programme of academic confidence are 7.14 and 11.11 respectively and the values of standard deviation are 2.97 and 4.81 respectively. The value of t-ratio is 4.22 which is significant ($p<0.01$). It indicates that there is significant difference in learning outcome in mathematics gain scores of control group and group exposed to programme of academic confidence. The group exposed to programme of academic confidence (mean=11.11) has significant better learning outcome as compared to the control group (mean=7.14). Hypothesis 1 which states that "There is no significant difference in learning outcome in mathematics of group exposed to programme of academic confidence and control group," is thus rejected.

This finding is well supported by the studies conducted by Pajares and Valiante (2001), Schunk and Pajares (2009), Verma and Kumari (2016), Rabha and Saikia (2019), Akbar i and Sahibzada (2020), Oktafiani and Yusri (2021), and Olutola et al. (2023). As it is crucial in personal growth and development, self-confidence has a substantial positive impact on achievement. It encourages people to believe in their own abilities and potential for success in life (Boswel, 2022; Ahmad, 2023). It is the belief that one can usually achieve one's goals in the future (Bhat, 2014).

Implication

The study's findings show that academic confidence has a significant effect on students' performance. High academic confidence is associated with better academic outcomes, but low academic

confidence can obstruct achievement. It is suggested that in order to improve their academic performance in the long run, all students should have the opportunity to develop and maintain strong academic confidence. Stipek and Daniels (2018) assert that feedback and encouragement from teachers are essential in helping students develop their academic confidence.

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CAREER DECISION MAKING OF ADOLESCENTS IN RELATION TO PERSONALITY TRAITS

Prabhjyot Kaur

Research Scholar, Department of Education, Panjab University, Chandigarh, |India

Dr. Avninder Preet Singh

Associate Professor, Malwa Central College of Education, Ludhiana, Punjab, India

Abstract

The present investigation explored the relationship between career decision making and personality traits of adolescents. The investigation was conducted on total 200 students (100 Boys and 100 Girls) studying in 10+1 class of government senior secondary schools of Jalandhar district of Punjab, India. The investigator used Career Decision Making Scale (CDMS) by Singh (2014) and Maudsley Personality Inventory (MPI) by Jalota and Kapoor (2000) for collecting data. The study revealed no significant difference between Career Decidedness of adolescents with Extraversion and Neuroticism Personality Trait and also no significant difference between Career Indecision of adolescents with Extraversion and Neuroticism Personality Trait. Girls were found significantly higher than boys on the variable of Career Decidedness whereas Boys were significantly higher than girls on the variable of Career Indecision. No significant interaction between Personality Traits and Gender on the variable of Career Decidedness and Career Indecision was revealed.

Key Words: *Adolescents, Personality Traits, Gender, Career, Career Decision Making*

Introduction

A person's career is crucial to their existence. Making a job decision is one of the most significant responsibilities for improving one's life. A person's career is the collection of noteworthy positions they have held during their pre-occupational, occupational and post occupational life. It encompasses positions relating to the workplace, such as employee, student, and pensioner, as well as functions that are complementary to those in the home, family, and civil spheres (Super, 1976). A person's career is the culmination of all of their life's work and play (Sears, 1982). According to Arthur et al. (1989), a person's career is the progression of their employment experiences across time. Making a career decision is the most crucial factor in achieving success in life. It's all about getting to know and explore the office. It also entails determining one's values, passions, strengths, and abilities

and combining them together to create a cohesive framework for one's life.

Career decision-making is the process of choosing a vocation. Making a career decision is a challenging process that necessitates taking into account information about the working environment and oneself (Jepsen, 1984). Making career decisions is essential to developing one's career and is probably closely tied to one's goals and expectations for one's career (Betz, 1992).

Since deciding whether to continue their education or study is a challenging decision, adolescents must use a number of skills during the course selection process. While some youth find this decision to be simple and uncomplicated, others face major obstacles (Campbell & Hansen, 1981). There are also students who clearly decided about their career. Osipow et al. (1987) defined career decisiveness as an individual's level of certainty on the choice of career they have chosen. This level of certainty reflects the individual's level of confidence in their ability to make the decision. Conversely, career indecisiveness describes an individual's incapacity to select the job path they wish to pursue. Career indecisiveness has been broadly defined as difficulties a person faces when making career decisions (Leong & Chervinko, 1996; Chartrand et al., 1993; and Gati et al., 1996). Any problem or obstacle that comes up during the career decision-making process is referred to as career indecisiveness (Fuqua et al., 1988).

People now go through more transitions throughout their lifetime due to the increasing rate of change in the workplace. For adolescents, the quality of the professional choices they make during these changes is vital. Making a professional decision appears like a difficult and confusing undertaking during adolescence. While some people have little trouble making decisions, others struggle to deal with both internal issues and a variety of external barriers. Choosing a career path for more education is among the most significant decisions an adolescent must make during their adolescence.

The workplace is changing at an accelerated rate, which means that people go through more transitions in their lifetime. The professional decisions that teens make during these changes must be of the highest calibre. In youth, choosing a career appears like a tough, complex, and demanding undertaking. Making decisions comes naturally to some people, but it can

be difficult for others to overcome both internal and external limitations. A teenager's decision of a job in higher education is among the most important ones they will make during their adolescence.

Today, the impact of personality can be seen on everything. It may be from career interests and goals to identity formation and career maturity. Vocational identity seems to be accelerating. Personality characteristics are important predictors of career performance.

Review of Related Literature

Studies which have direct or indirect link with the present problem and which have helped the investigator in arriving at conclusion and gaining certain directions are presented under the following heads.

Studies related to Career Decidedness and Personality Trait

Costa et al. (1995), Hamer and Bruch (1997), Mastor (2003), Kushwaha and Hasan (2005), Lounsbury et al. (2005), Wang et al. (2006), Browne (2006), Nauta (2007), Pecjak and Kosir (2007), Jones (2008), Jin et al. (2009), Feldt and Woelfel (2009), Fabio and Palazzeschi (2009), Hirschi and Andreas (2010), Bethencourt and Cabrera (2011), Gati et al. (2011), Gadassi et al. (2012), Smith (2011), Al-Kalbani et al. (2012), Kemboi et al. (2016), M'manga and Shuliang (2019) advocated that personality traits played important role in career decision making. They revealed significant relationship between specific personality traits and career decision making and efficient personality is coupled with the more mature process of Career Decision Making. Therefore, significant correlation was found between personality traits and career decidedness.

Studies related to Career Indecision and Personality Traits

Costa et al. (1984), Leong and Chervinko (1996), Haraburda (1998), Lounsbury et al. (1999), Newman et al. (1999), Reed et al. (2004), Bacanli (2006), Saka et al. (2008), Thomas and Feldman (2009), Kelly and Shin (2009), Di Fabio et al. (2013), Fabio et al. (2015) advocated that specific personality traits like neuroticism, pessimistic career thoughts and feelings are the heart of career indecision. Kirdok and Kayadibi (2018) believed that the neurotic personality factor is the best predictor of career indecision and as neuroticism rises, so does career indecision. Personality qualities are strongly associated with career uncertainty. Therefore, Personality traits

are significantly correlated with career indecision.

Emergence of the Problem

Rare exceptions are studies that connect career decision-making and related difficulties to the Personality Traits. The study of Lounsbury et al. (1999) shows that career indecisiveness is positively associated with agreeableness and conscientiousness and negatively to neuroticism. The negative correlation between career decisiveness and neuroticism shows that individuals who experience more worries, tensions and anxiety have more difficulties in career decision-making. With reference to a positive relation between career indecisiveness and conscientiousness, Lounsbury et al. (1999) examined whether career decisiveness can even be the result of an individual's conscientiousness. A positive relation between career indecisiveness and agreeableness is explained in such a way that individuals who are higher on agreeableness are more willing to cope with career planning, more trustful of information related to the career decision, tend to look for and accept advice from other people and, therefore, have fewer difficulties in their career decision-making process. In that study also, a positive relation between career decisiveness and satisfaction with life was established. Studies that offer insight into the dynamics of the career decision making from the aspect of the Personality Traits are very rare nowadays. This is the reason for including those personality dimensions in our research.

The current study was chosen following an evaluation of relevant literature. Upon conducting a literature study, it was discovered that the majority of the studies were limited to foreign nations. Because social conventions and cultural values differ, the results of these research might not be particularly appropriate or helpful in explaining the situation in India. Despite the fact that a great deal of research has already been done on this issue, there are still gaps in our knowledge since there is disagreement over the relationship between personality traits and career decision making.

Objectives

1. To study the significance of difference between career decidedness of adolescents in relation to personality traits.
2. To study the significance of difference between career decidedness of adolescents in relation to gender.
3. To study the interaction between personality traits and gender on the variance of career decidedness

4. To study the significance of difference between career indecision of adolescents in relation to personality traits.

5. To study the significance of difference between career indecision of adolescents in relation to gender.

6. To study the interaction between personality traits and gender on the variance of career indecision

Hypotheses

H1. There is significant difference between Career Decidedness of adolescents with different Personality Traits.

H2. There is significant difference between Career Decidedness of male and female adolescents.

H3. There is significant interaction between Personality Traits and Gender with respect to Career Decidedness.

H4. There is significant difference between Career Indecision of adolescents with different Personality Traits.

H5. There is significant difference between Career Indecision of male and female adolescents.

H6. There is significant interaction between Personality Traits and Gender with respect to Career Indecision.

Delimitation

The study was restricted to only two Personality traits i.e. neuroticism and extraversion.

Method and Procedure

Descriptive survey method was applied. Two 2X2 factorial designs were used to find out the main and interactional effects of Personality Traits and Gender on the variable of Career Decision Making.

Sample

A sample of 200 students was selected randomly from different government senior secondary schools of Jalandhar district of Punjab, India.

Tools

1. Career Decision Making Scale (CDMS) by Singh (2014).
2. Maudsley Personality Inventory (MPI) by Jalota and Kapoor (2000).

Results and discussion

Analysis Related with Scores of Career Decidedness: To evaluate the main effects and interactional effects, 2X2 analysis of variance was used.

Randomness: As far as this assumption of assigning random and mutually exclusive cases in each cell of 2X2 analysis of variance is concerned, the sampling within the sets was done randomly.

Homogeneity: This assumptions stating that the variances of scores in each of the treatment groups should be homogeneous, that is, the variances of the individual groups should be equal were tested with by

applying Levene's Test of Equality of Error Variance as given below:

Table 1: Levene's Test of Equality of Error Variance

(Career Decidedness)

df_1	df_2	F Value
3	196	2.13 (NS)

NS means non significant

Table1 shows that the value of F is 2.13 which is non-significant (p>0.05). This shows that the error variance of the dependent variable i.e. Career Decidedness is equal across the groups. Hence the variance within the cells can be treated as homogeneous.

After having the basic assumptions underlying the analysis of variance satisfied, the calculation of two 2X2 analysis of variance were computed through computer.

Table 2: Summary of 2 X 2 Analysis of Variance on Scores of Career Decidedness in Relation to Personality Traits and Gender

Source of Variation	SS	d_f	MSS	F-Value
Main Effects				
A: Personality Traits	6.845	1	6.845	2.90 (NS)
B: Gender	39.61	1	39.61	16.77*
First Order Interaction				
A X B (Personality Traits X Gender)	4.21	1	4.21	1.78 (NS)
Within Group (Error)	462.70	196	2.36	
Total	513.365	199		

NS means non significant

**Significant at 0.01 level of significance*

Table 2 reveals that the F-ratio for the difference between scores on Career Decidedness of the groups having different Personality Traits came out to be 2.90 which is insignificant (p>0.05). It means that both the groups were not significantly different on the scores of Career Decidedness. Hence, the null hypothesis H1 stating that there exists no significant difference in Career Decidedness among adolescents with different Personality Traits is accepted. It may be inferred that the mean scores of the adolescents belonging to Personality Trait as Extraversion and Neuroticism may be considered equal and are different beyond the contribution of chance. This finding is in line with the result of the study conducted by Smith (2011). Hence the two personality traits extraversion and

neuroticism do not differ on the variable of Career Decidedness.

Table 2 also reveals that the F-ratio for the difference between scores on Career Decidedness came out to be 16.77 which is significant ($p<0.01$). It means that both the groups were significantly different on the scores of Career Decidedness. Hence, the null hypothesis H2 stating that there exist no significant difference in Career Decidedness among boys and girls is rejected. It may be inferred that the mean scores of boys and girls groups may not be considered equal and are different beyond the contribution of chance.

An examination of means of two groups suggests that the girls has higher mean (Mean = 13.32) as compared to boys group (Mean=12.95). It reveals that the girls have more Career Decidedness as compared to boys.

Table 2 reveals that the F-ratio for the difference between scores on Career Decidedness due to interaction between Personality Traits and Gender which came out to be 1.78 which is non-significant (0.05). It means that different groups do not score different means on the variable of Career Decidedness. Hence, the null hypothesis H3 stating that there exists no significant interaction between Personality Traits and Gender on the variable of Career Decidedness is accepted. It may be inferred that the mean scores of different groups may be considered equal and are not different beyond the contribution of chance.

Table 3: Levene's Test of Equality of Error Variance

(Career Indecision)

df_1	df_2	F Value
3	196	0.673 (NS)

NS means non significant

Table 3 shows that the value of F is 0.673 which is non-significant ($p>0.05$).This shows that the error variance of the dependent variable i.e. Career Indecision is equal across the groups. Hence the variance within the cells can be treated as homogeneous.

Table 4: Summary of 2X2 Analysis of Variance on Scores of Career Indecision in Relation to Personality Traits and Gender

Source of Variation	SS	d_f	MSS	F-Value
Main Effects				
A: Personality Traits	36.98	1	36.98	2.24 (NS)
B: Gender	176.72	1	176.72	10.71*
First Order Interaction				
A X B (Personality Traits X Gender)	14.58	1	14.58	0.884 (NS)
Within Group (Error)	3234.04	196	16.50	
Total		199		

NS means non significant **Significant at 0.01 level of significance*

Table 4 reveals that the F-ratio for the difference between scores on Career Indecision of the groups having different Personality Traits came out to be 2.24 which is insignificant ($p>0.05$). It means that both the groups were not significantly different on the scores of Career Indecision. Hence, the null hypothesis H4stating that there exists no significant difference in Career indecision of adolescents with different Personality Traits is accepted. It may be inferred that the mean scores of the adolescents belonging to Personality Trait as Extraversion and Neuroticism may be considered equal and are different beyond the contribution of chance.

Table 4 reveals that the F-ratio for the difference between scores on Career Indecision came out to be 10.71 which is significant ($p<0.01$). It means that both the groups were significantly different on the scores of Career Indecision. Hence, the null hypothesis H5 stating that there exist no significant difference in Career Indecision among boys and girls is rejected. It may be inferred that the mean scores of boys and girls groups may not be considered equal and are different beyond the contribution of chance.

An examination of means of two groups suggests that the boys has higher mean (Mean = 28.21) as compared to girls group (Mean = 27.35). It reveals that the boys has more Career Indecision as compared to girls.

Table 4 reveals that the F-ratio for the difference between scores on Career

Indecision due to interaction between Personality Traits and Gender which came out to be 0.884 which is non-significant ($p>0.05$). It means that different groups do not score different means on the variable of Career Indecision. Hence, the null hypothesis H6 stating that there exist no significant interactions between Personality Traits and Gender on the variable of Career Indecision is accepted. It may be inferred that the mean scores of different groups may be considered equal and are not different beyond the contribution of chance.

Conclusion

The present investigation was undertaken to find out the relationship between Career Decision Making and Personality Traits of adolescents. So, it can be concluded that no significant difference between Career Decidedness of adolescents with Extraversion and Neuroticism Personality Trait and also no significant difference between Career Indecision of adolescents with Extraversion and Neuroticism Personality Trait. Girls were found significantly higher than boys on the variable of Career Decidedness whereas Boys were significantly higher than girls on the variable of Career Indecision. No significant interaction between Personality Traits and Gender on the variable of Career Decidedness and Career Indecision was revealed.

Implications

The findings of this study are helpful for recognizing students' decision-making processes and personality traits. It might also be beneficial for school counsellors who provide individual and group career advice. The pupils who have a less adaptable style of decision-making can be identified by the school counsellor. A counsellor can evaluate the primary impediments to pupils choosing their careers. It makes possible for more specialized career guidance, which creates the possibility for a successful, ideal job choice. Adolescents might be encouraged to understand that choosing a vocation need not be a limiting process by mentors who have been able to develop and use a range of abilities and interests. The results of the current empirical investigation have crucial consequences for the practice of vocational counselling, which is what matters most.

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ATTITUDE TOWARDS SCIENCE AND SCIENCE SELF-EFFICACY AS PREDICTORS OF ACHIEVEMENT IN SCIENCE OF IX GRADE STUDENTS

Dr. Gaganjit Kaur

Principal, Sahizada Zorawar Singh Fateh Singh Khalsa Senior Secondary School, Dhariwal, Punjab, India

Abstract

Present study was undertaken to investigate attitude towards science self-efficacy as predictors of achievement in science. Study was conducted on 204 students of IX class selected randomly from Government Schools of Gurdaspur district of Punjab, India. Achievement Test in Science by Kaur and Singh (2022), Attitude towards Science Scale (2017) by Mishra, and Science Self-Efficacy tool developed by the investigator were used for the collection of data. The result of the study revealed significant positive relationship of attitude towards science and science self-efficacy with achievement in science. Attitude towards science and science self-efficacy were found to be significant predictors of achievement in science.

Key Words: *Attitude towards science, science self-efficacy, achievement in science, IX grade students.*

Introduction

Science has critical and dominant roles in driving technical advancement, fostering national wealth, improving health, and advancing industrialization, all of which help nations develop. It entails the investigation of universal rules as well as the behaviours and interactions of a wide range of physical, chemical, and biological events. Science awakens learners' inherent curiosity and encourages them to unravel the mysteries of the world around them.

The importance of scientific concepts and procedures to all people can be attributed to three basic factors. The first is in their personal lives, for example, so they can genuinely identify what constitutes a healthy lifestyle. The second is in their civic lives, where they must engage in informed societal decisions, such those on potential future power supply alternatives. The third is in their economic lives, where they must be able to adapt favorably to modifications in the scientific facets of their jobs. It could be

argued that young people with a special talent in science should be identified as soon as possible and given a separate, specialized, and highly focused science education if the main goal of science education is to increase the flow of specialized scientists, technologists, and engineers (Das et al., 2014). To assist students in reaching their objectives, educators and parents need to have knowledge about academic achievement, particularly in the field of science.

Academic Achievement

Achievement is typically measured by a student's grades, awards, and marks from their coursework and extracurricular activities. A variety of psychologists and education experts have offered several explanations for achievement. For example, Crow and Crow (1954) defined achievement as the degree to which a student is benefiting from teachings in a particular subject area. Academic achievement, according to Traw (1960), is the capacity or level of proficiency in school tasks that is typically assessed by standardized examinations and expressed in grades or units based on norms that are generated from a large sample of students' performance. According to Good (1973), achievement is defined as the knowledge and abilities acquired in a subject that are typically indicated by test results, or teacher evaluations, or both. Academic achievement, in the opinion of Ladson-Billing (1999), is a sign of the capacity for intellectual participation in the creation of knowledge. According to Megargee (2000), an achievement test assesses how well pupils have understood the material covered in a period of study. Academic achievement, according to Kumari (2001), is the complete amount of knowledge acquired after finishing a course of instruction (in whole or in part) in a given grade that he has received on an achievement test. Achievement, as defined by Merriam-Webster's Collegiate Dictionary (2001), is the act of attaining a result via efforts, and the quality and quantity of students' work. Achievement, according to Ahmad (2008), is the level of proficiency or accomplishment in a certain field, as well as a test score. Academic achievement is a measure of the knowledge acquired via formal education, typically demonstrated by test results, grade point average, and degree, according to Dictionary of Education online Oxford (2008).

Based on the aforementioned definitions, academic achievement can be defined as the entire amount of knowledge

acquired throughout a certain course of instruction, typically represented by test results or grades. The learner's proficiency in the specific subject area for which the achievement test is given is indicated by these scores or grades. Standardized achievement tests or teacher-made examinations are typically used to gauge academic achievement. Put another way, it is the evaluation of a student's knowledge or abilities acquired in a certain class or course, typically represented by scores or grades.

Achievement in Science

Achievement in science means that all those behavioral changes, which take place in individuals as a result of the learning experiences of various kinds; theoretical as well as practical in the field of science. According to Kumar (2010) achievement in science can be taken as knowledge attained or the skill developed as a result of studying science as a subject of study. According to Lalmuanzuali (2019) achievement in science refers to the knowledge attained or skill developed in the school subject usually designated by test scores or marks assigned by the teacher or both.

In the present, achievement in science refers to the acquisition of knowledge by students during their studies. It is taken as measure of performance on the test constructed by the investigator which involved the set of questions from the selected topics of science from Punjab School Education Board science text book.

Attitude

According to Thurstone (1946) attitude can be defined as the degree of positive or negative effect associated with some psychological object which can be any symbol, phrase, slogan, person, institution, ideal or idea. Ahmad (2008) defined attitude as a belief and feeling that predisposes one to respond in a particular way to objects, people and events or a learned predisposition to respond either positively or negatively to persons, situations or things. Attitudes carry a strong emotional component and therefore can never be neutral.

Attitude is defined as a person's perspective and evaluation of something or someone, as well as a predisposition or tendency to respond positively or adversely to a specific idea, item, person, or situation. It has generally been divided into three dimensions: cognitive (perceptions and beliefs), affective (likes and dislikes, sensations or triggered

emotions), and behavioural (actions or declared intentions towards the object based on "cognitive" and "affective" reactions) (Vargas-Sanchez et al., 2016). In view of Baumeister and Finkel (2010), attitude consists of evaluative responses that are affective, cognitive and behavioural. Affective refers to the positive and negative feelings associated with the attitude object, cognition reflects the evaluative beliefs about the attitude object, and behaviour describes the overt evaluative actions and responses to the attitude object.

Attitude can distort the perception of information and affect the degree of their retention. Also, it affirmed that students' attitudes and interest could play substantial role among pupils studying science, and attitude implies a favourable or unfavourable evaluative reactions towards something, events, programs, etc. exhibited in an individual's beliefs, feelings, emotions or intended behaviours. It also shows that students' positive attitudes to science correlate highly with their science achievement.

Attitude towards Science

"Attitudes towards science" are defined as a set of affective behaviours in science education that include the manifestation of positive attitudes towards science and scientists, the acceptance of scientific inquiry as a way of thinking, the adoption of "scientific attitudes," the enjoyment of science learning experiences, the development of interests in science and science-related activities, and the development of an interest in pursuing a career in science (Gardner, 1975; Ramsden, 1998; Archer et al., 2013). It can also be defined as feelings, beliefs and values held about the enterprise of school science, and the impact of the science on society (Osborne et al., 2003; Akcay et al., 2010). Attitude towards science includes three components cognitive, affective and behaviour. these three components are knowledge about subject, beliefs and ideas component (cognitive), feelings about subject, like or dislike component (affective), tendency towards action, or the objective component (behavioural) (Reid, 2006).

So, attitudes toward science can be defined as the ideas and emotions that students gradually come to identify with science as a subject of study. It is a way of thinking that is dictated by one's behavior when learning science and is based on prior experience. This pertains to how students assess any area of science; they are free to react positively or negatively to

any scientific subject. A neutral attitude is impossible because attitude is always accompanied by an emotional or affective component. The way a student feels about science has the potential to impact how they view the material, which in turn can impact how well they comprehend and remember it. According to Charles et al. (1987) the effect of student's attitude toward science is incredibly important, because in problem solving requires patience, persistence, perseverance and willingness to accept risk.

An individual's attitude towards science can be defined as their feelings, beliefs, and action patterns towards the subject of science. The child's willingness to learn science can improve his or her success in the subject. The scores of the Mishra's Attitude towards Science Scale (2017) are taken as attitude towards science.

Self-Efficacy

Self-efficacy is the optimistic self-belief in our competence or chances of successfully accomplishing a task and producing a favourable outcome. Self-efficacy refers to "beliefs in one's capabilities to organize and execute courses of action required to produce given attainments" (Bandura, 1977). Kanfer (1990) referred to it as complex cognitive judgments about one's future capabilities to organize and execute activities requisite for goal attainment, whereas Meyer and Gellatly (1988) defined it as a generalized belief concerning one's task relevant capabilities.

Self-efficacy consists of people's judgments about their ability to perform a task and learners' confidence in their cognitive skills to learn (Pintrich, 1999). Tanner and Jones (2003) defined self-efficacy construct as people's judgment for their capabilities to organize and execute courses of action required to attain designated types of performances; it is concerned not with the skills one has but with the judgments of what one can do with whatever skill one possesses.

Self-efficacy is an individual's assessment of his or her ability to cope with given situation (Eysenck, 2000). Self-efficacy is an impression that one is capable of performing in a certain manner or attaining certain goals (Ormrod, 2006). Science self-efficacy is concerned with persons' belief in their capability to produce given attainments in the subject of science (Thakur, 2018). Although, self-efficacy beliefs are multifaceted, social cognitive theory identifies several conditions under which they may co-vary

even across distinct domains of functioning (Bandura, 1977).

Science Self-efficacy

Science self-efficacy is a sort of academic self-efficacy that pertains to students' beliefs about their capacity to achieve educational goals in science disciplines (Elias & MacDonald, 2007). Science self-efficacy refers to a person's confidence in their capacity to execute specific activities in the field of science (Robnett et al., 2015). Science self-efficacy is defined as an individual's judgments of their capabilities to perform science-related tasks, to solve specific science problems or succeed in science-related courses. It is the belief in one's own capability to study science, in terms of organizing and executing the skills and knowledge needed to manage science content and processes. (Tiwana, 2019).

So it may be stated that science self-efficacy is a self-belief of competency to effectively complete any task linked to science; it is people's assessment of their own ability to do any task or achieve any goal related to science. It is faith in one's own abilities to study science.

Review of Related Literature

A brief review of relevant literature on research is presented below:

Academic Achievement and Attitude towards Science: Significant positive relationship was found between attitude towards science and achievement in science by the studies conducted by Akpinar et al. (2009), Ali and Awan (2013), Ksheerasagar and Kavyakshore (2013), Ahuja (2017), Kumar (2021), and Mao et al. (2021). Whereas Nasr and Soltani (2011), Rattana and Praveena (2018), and Lalmuanzuali et al. (2019) found no significant relationship between attitude towards science and science achievement.

Academic Achievement and Science Self-Efficacy: On examining the studies related to self-efficacy and academic achievement it was found that Diseth (2011); Motlagh et al. (2011); Sadi and Uyar (2012); AlJaser (2017); Fernando et al. (2017); Yılmaz (2018); Nurwendah and Suyanto (2019); Hayat et al. (2020); and Ugwuanyi et al. (2020) showed a significant positive correlation between self-efficacy and academic achievement. On the other hand studies by Kinnedy (1996); Rapoo (2000); Rani (2011); and Gardner (2014), showed no significant

correlation between self-efficacy and academic achievement.

Objectives

1. To investigate the relationship between achievement in science and attitude towards science.
2. To investigate the relationship between achievement in science and science self-efficacy.
3. To study the conjoint effect of attitude towards science and science self-efficacy towards the prediction achievement in science.

Hypotheses

1. There is significant relationship between achievement in science and attitude towards science.
2. There is relationship between achievement in science and science self-efficacy.
3. The conjoint effect of attitude towards science and science self-efficacy towards the prediction achievement in science is significant.

Method

Descriptive survey method was used in the present study.

Sample

For the study, sample of 204 students of IX class of Government Schools were selected through the randomization technique from Gurdaspur district of Punjab, India.

Tools

1. Achievement test in Science developed by Kaur and Singh (2022) developed on the IX class Government Schools of Gurdaspur district of Punjab, India.
2. Attitude towards Science Scale (2017) by Mishra.
3. Science Self-Efficacy tool developed by the investigator.

Result and Discussion

To investigate the significance of relationship between attitude towards science and achievement in science Pearson's coefficient of correlation was worked out and the value is given table 1 below:

Table 1: Relationship between Achievement in Science and Attitude towards Science of IX Grade Students (N=204)

Variables	**r**
Achievement in Science	0.21*
Attitude towards Science	

**Significant at 0.01 level of significance*

Table 1 reveals that the value of correlation between achievement in science and attitude towards science of IX grade students is 0.21, which is significant ($p<0.01$). It indicate that there is significant positive relationship between achievement in science and attitude towards science of IX grade students. Hypothesis 1 which states that 'There is significant relationship between achievement in science and attitude towards science,' is thus not rejected.

This finding is in line with the findings of the studies conducted by Akpinar et al. (2009), Ali and Awan (2013), Ksheerasagar and Kavyakshore (2013), Ahuja (2017), Kumar (2021), and Mao et al. (2021). Students that have a positive attitude towards science also have a positive attitude towards their teacher, educational programmes, and lessons, as well as their school (Mohladoz et al., 2011) this lead to better achievement in science.

To investigate the significance of relationship between science self-efficacy and achievement in science Pearson's coefficient of correlation was worked out and the value is given table 2 below:

Table 2: Relationship between Achievement in Science and Science Self-Efficacy of IX Grade Students (N=204)

Variables	**r**
Achievement in science	0.20*
Science self-efficacy	

**Significant at 0.01 level of significance*

Table 2 shows that the correlation between IX grade students' achievements in science and science self-efficacy is 0.20, which is significant ($p<0.01$). It indicates that there is a significant positive relationship between IX grade students' achievements in science and science self-efficacy. Hypothesis 2 which states that 'There is significant relationship between achievement in science and science self-efficacy,' is thus not rejected.

This finding is well supported by the studies conducted by Diseth (2011);

Motlagh et al. (2011); Sadi and Uyar (2012); AlJaser (2017); Fernando et al. (2017); Yılmaz (2018); Nurwendah and Suyanto (2019); Hayat et al. (2020); and Ugwuanyi et al. (2020). Science self-efficacy, as stated above, refers to students' belief/confidence in their ability to attain educational goals in science disciplines (Elias & MacDonald, 2007; Robnett et al., 2015; Tiwana, 2019). This supports the significant positive relationship between science self-efficacy and achievement in science.

To investigate the conjoint effect of attitude towards science and science self-efficacy towards the prediction of achievement in science R along with R^2 and F ratio were worked out and are given in table 3 below:

Table 3: Conjoint Effect of Attitude towards Science and Science Self-Efficacy towards the prediction Achievement in Science of IX Grade Students (N=204)

Variable	**Degree of freedom**	**R^2**	**R**	**F**	**Step up regression equation**
Attitude towards Science	1, 202	0.05	0.21	9.72*	$Y = 15.89+0.21X_1$
Science Self-Efficacy	1, 202	0.04	0.20	8.22*	$Y = 13.72+0.20X_2$
Attitude towards Science + Science Self-Efficacy	2, 201	0.07	0.27	7.69*	$Y = 6.95+0.18X_1+ 0.16X_2$

**Significant at 0.01 level of significance*

Table 3 reveals that the value of R^2 for attitude towards science is 0.05, thus 5% of achievement in science is predicted by attitude towards science. This prediction is significant (F=9.72, p<0.01). The value of R^2 for science self-efficacy is 0.04, thus 4% of achievement in science is predicted by science self-efficacy. This prediction is significant (F=8.88, p<0.01). The combined R^2 is 0.07, thus 7% of achievement in science is predicted by attitude towards science and science self-efficacy taken together. This prediction is also significant (F=7.69, p<0.01). The remaining 93% of achievement in science is predicted by the variables not included

in the present studies. In the light of above discussion null hypothesis is rejected and the hypothesis 3 which states that "The conjoint effect of attitude towards science and science self-efficacy towards the prediction achievement in science is significant", is thus accepted.

Attitudes towards science and science self-efficacy are major determinants of achievement in science. This may be due to the fact that attitudes are related to a person's mental and emotional state, which impacts their behaviour towards subjects or things (Perloff, 2007) and science self-efficacy is the belief in one's own ability to study science, specifically in terms of organizing and carrying out the skills and knowledge required to manage science content and procedures (Elias & MacDonald, 2007; Robnett et al., 2015; Tiwana, 2019).

Implication

The result of the study reveal that attitude towards science and science self-efficacy are the significant predictors of achievement in science. Developing positive attitude towards science and developing science self-efficacy will help in improving achievement in science. Teachers and administrators are thus advised to create a conducive environment in schools and to utilize appropriate methods and strategies of teaching science in order to establish a positive attitude towards science and promote science self-efficacy. Several context-based teaching approaches (for example, inquiry-based learning, technology-based learning environments, collaborative learning, and extracurricular activities), according to Savelsbergh et al. (2016), can have a significant positive impact on students' general attitude towards science. According to Bandura (1977), an appropriate learning environment and teaching methods can aid in the improvement of self-efficacy.

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GENDER DIFFERENCE IN SECONDARY SCHOOL TEACHERS' JOB SATISFACTION IN THE MOGA DISTRICT OF PUNJAB

Dr. Mandep Kaur,

Assistant Professor, Baba Managal Singh Institute of Education, Moga, Punjab, India

Abstract

The study was conducted to evaluate the significance of gender differences in job satisfaction among secondary school teachers. The study's sample included 160 Government secondary school teachers (with more than 5 years of regular employment) chosen at random from the Moga district of Punjab, giving equal representation to male and female. The Job Satisfaction Scale (JSS) by Dixit (2013) was used to collect data. The study's findings revealed that male secondary school teachers were much more satisfied with their jobs than their female counterparts.

Key Words: *Job satisfaction, male secondary school teachers, female secondary school teachers.*

Introduction

The proper development of a world's educational construct heavily depends on the function that teachers play. A country's teachers are its backbone, and the educational system determines how far they may advance. In addition to these roles, a teacher also serves as a coach, mentor, educator, trainer, and advisor. They are the nation builders. For students to receive a quality education in schools and universities, teachers need to perform their duties effectively. Teachers' performance is associated with their job satisfaction (Wolomasi et al., 2019; Bhat & Arumugam, 2020).

Job Satisfaction

Beginning in the early 1930s, research on job satisfaction was conducted with a great deal of influence from new breakthroughs in attitude measuring as well as the economic and employment crises of the Great Depression (Weiss & Merlo, 2015). It was Hoppock who popularized the term "job satisfaction" (1935). Reviving 35 studies on job satisfaction that were completed before 1933, he notes that environmental, physiological, and psychological factors all contribute to job satisfaction. That makes someone say, "I am satisfied with my job".

Locke (1976) defines job satisfaction as a "pleasurable or positive emotional state resulting from the appraisal of one's job experiences." General job satisfaction can be explained by contentment with aspects of a job that the worker likes or dislikes (Savickas, 2004). The word job satisfaction refers to people's attitudes and feelings towards their jobs. Positive views towards one's employment reflect job satisfaction. Job dissatisfaction is indicated by negative and unfavourable attitudes towards the job (Armstrong, 2006). Job satisfaction is a set of feelings and beliefs regarding one's current job. People's levels of job satisfaction might range from extremely satisfied to extremely dissatisfied. In addition to having attitudes towards their professions in general. People can also have views regarding their jobs, such as the type of work they do, their coworkers, supervisors, or subordinates, and their remuneration (George & Jones, 2008). Job satisfaction is a psychological condition that shows how satisfied a person is with their job. This is a measure of how much a person appreciates their job. It is a person's view regarding what they do for a living (Ertugrul, 2022).

Job happiness motivates all types of excellent outcomes. It provides useful insights into the kind of characteristics that foster engagement, motivation, happiness, effort, outcomes, and a positive work experience (Brower, 2023). For many years, there has been a lot of research on the difficult concept of job contentment. It is defined as the worker's total opinion of their role and is impacted by various factors, including pay, benefits, work-life balance, and relationships with management and other employees. Gender is one factor that has been connected to job satisfaction.

Review of Literature

Vlosky and Aguilar (2009) and Shazali and Karim (2010) conducting a study on professional and managerial, Bönte and Krabel (2014) conducting a study on graduate alumni of German university, Liu et al. (2019) conducting a study on physicians; reported no significant difference in male and female. On the other hand Kim (2005) conducting a study on public sector employees, Tinu and Adenike (2015) conducting a study on college of education lecturers, Miao et al. (2017) conducting a study on doctors, Živčicová et al. (2022) conducting a study on engineers; indicated that female were more satisfied as compared to male. Whereas Bhayana (2022) conducting a

study on university teacher revealed that male have significantly higher level of job satisfaction as compared to female.

Zhang et al. (2023) discovered that Chinese male physicians were more satisfied with their income while female physicians were more satisfied with their work-life balance. According to Riccardi (2023), women were roughly four points behind men in job satisfaction (60.1% of women were satisfied with their jobs, compared to 64% of males). In fact, every component of job satisfaction was lower for women than for males.

A gender comparison revealed that women seek professional satisfaction through work-life balance, whereas males chose a more challenging role. Not surprisingly, the women who reported being content at work said that a shorter commute and a generous yearly leave entitlement contributed to their happiness. Internal characteristics such as a difficult role and a positive business culture, on the other hand, were found to be more essential for men (Goswami, 2020).

The complicated relationship between gender and job satisfaction has led to inconsistent findings in the research on this topic. While some studies have found no noticeable gender difference and others have found that men are more satisfied in their careers than women, still other research have found that women are more satisfied in their jobs.

Objective

To investigate the significance of difference in job satisfaction of male and female secondary school teachers.

Hypothesis

1. There is no significant difference in job satisfaction of male and female secondary school teachers.

Sample

The study's sample consisted of 160 Government secondary school teachers (with more than 5 years of regular experience) drawn at random from the Moga district of Punjab, with equal representation of male and female teachers.

Tool

Job Satisfaction Scale (JSS) by Dixit (2013).

Result and Discussion

The mean, standard deviation, and t-ratio were calculated in order to examine the significance of the difference in job satisfaction between male and female

government senior secondary school teachers. The results are shown in table 1 below:

Table 1: Significance of difference in Job Satisfaction of Male and Female Secondary School Teachers

Group	N	Mean	Standard Deviation	t-ratio
Male secondary school teachers	80	207.1	10.6	3.60*
Female secondary school teachers	80	200.9	11.2	

**Significant at 0.01 level of significance*

Table 1 reveals that the values of mean of male and female secondary school teachers are 207.1 and 200.9 respectively and the values of standard deviation are 7.6 and 11.2 respectively. The value of t-ratio is 3.60, which is significant ($p<0.01$). It indicate that there is significant difference in job satisfaction of male and female secondary school teachers. Male secondary school teachers have significantly better job satisfaction as compared to female secondary school teachers. Hypothesis 1 which states that "There is no significant difference in job satisfaction of male and female secondary school teachers" is thus rejected.

This finding is in line with the results of the studies conducted by Bhayana (2022), and Riccardi (2023).

One cause for the gender disparity in male and female job satisfaction is flexibility. Women, in particular, benefit from flexible workplace policies, whether it is the hours they work or where they work from, because responsibilities at home, such as handling chores, caring for children, and other domestic work, continue to fall disproportionately on them, even when they work full-time (Riccardi, 2023).

Implication

The study's findings show that, in comparison to their male colleagues, female secondary school teachers are less satisfied with their jobs. Families are advised to assist the women, since they always try to have a balance between their career and family obligations. Enhancing job satisfaction among female secondary school teachers can be facilitated by motivation, respect, admiration, and gratitude from both employers and family members.

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ACADEMIC PROCRASTINATION AMONG ADOLESCENTS IN RELATION TO METACOGNITION

Dr. Neeraj Kumar,

Assistant Professor, Malwa Central College of Education for Women, Civil Lines, Ludhiana, Punjab.

Abstract

This study aims to explore the relationship between academic procrastination and metacognition in a sample of 200 adolescents (100 boys and 100 girls) from the Ludhiana districts of Punjab. Academic Procrastination scale by Kalia and Yadav (2015) and Metacognition scale by Singh and Bali (2017) were used for data collection. Major findings revealed that there is a significant negative relationship between academic procrastination and Metacognition in the case of total adolescents, adolescent boys and adolescent girls. No significant difference was found in mean scores of academic procrastination of adolescent boys and girls which indicates that adolescent boys and girls have the same level of academic procrastination. This study would be useful for policymakers, administrators, teachers, parents and students to reduce academic procrastination.

Key Words: *Academic procrastination, metacognition, adolescents*

Introduction

Adolescence is the most important phase of one's life, not merely due to the radical biological and psychological changes that come during this stage. This stage serves as the catalyst for future success and happiness. In this stage, the foundation of future economic and social success is laid down which in turn depends on the hard work and the right efforts put in time. However, many students procrastinate academically because they believe it is superfluous to do so, but this can have a negative impact on their overall functioning because once this practice is established, it will encourage the repetition of this behaviour every time, and then no one can stop it. Individuals' procrastination may prevent them from completing tasks they are capable of, thereby jeopardising their academic performance. It is estimated that 75% of students regularly procrastinate, and some have even claimed it's a problem because they feel incapable to stop themselves from procrastinating

(Rozental et al., 2022). The problem with the current generation is that they do not contemplate the consequences of their actions. Even though it may not be a life-threatening disease or crime, it is a serious issue that must be addressed because it has the potential to negatively impact a person's life.

Academic Procrastination

In keeping with the Latin origins of the term "pro-," meaning "forward, forth, or in favour of," and "-crastinus," meaning "tomorrow," the conceptualizations of procrastination suggest inaction, or postponing, delaying, or putting off a choice (Klein, 1971). Academic procrastination is the delay of academic work (Schouwenburg, 2004). For such delays to be considered procrastination, the student must choose to delay despite knowing that he or she will suffer negative consequences (Steel, 2007). Thus, there is an important distinction between delays that are sensible and rational and those that are not. It is like "I did not prepare for the seminar today; instead, I watched a movie". Academic procrastination is a type of irrational delay because the individual acts against their better judgment.

Academic procrastination is the delay of academic responsibility, such as submitting schoolwork or delayed preparation for an examination (Deniz et al. (2009). Academic procrastination is a special form of procrastination that occurs in academic settings. It involves knowing that one needs to carry out an academic task or undertake an academic activity, such as writing a term paper, studying for examinations, finishing a school-related project, or undertaking weekly reading assignments, but, for one reason or another, failing to motivate oneself to do so within the expected time frame.

Metacognition

The term metacognition first appeared around 1976 in the work of developmental psychologist John Flavell from Stanford University. He used the term to denote: “One’s knowledge concerning one’s own cognitive processes and products or anything related to them and refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes, usually in the service of some concrete goal or objective.” (Flavell, 1976).

According to Flavell (1987), it comprises both metacognitive knowledge and metacognitive experiences. Metacognitive knowledge is about

"anything cognitive" and "anything psychological". Metacognitive experiences (Regulation of Cognition) are concerned with awareness of one's own cognitive and affective process (Flavell, 1979). Metacognitive experiences and retrieved monitoring of one's own mental processes. These experiences can bring about change in one's thought processes in that they can be integrated into, discarded from, or used to justify one's current metacognitive knowledge. Three kinds of knowledge are prominent: (i) knowledge about the world; (ii) knowledge about the person, which includes the individual's cognitive and affective states and processes; (iii) there is knowledge about strategies or strategic knowledge.

Review of Related Literature

Procrastination in relation to Metacognition

Sadeghi (2011) looked into the relationship between procrastination and metacognition views. 275 students from the Islamic Republic of Iran's Tabriiz and Mohagheghe Ardabili Universities were chosen at random. Results indicated that procrastination can be reduced by altering one's metacognition beliefs.

Cikrikci (2016) aimed to investigate at how academic stress and metacognitive awareness related to procrastination in the classroom. 273 high school students participated in the correlation model-based investigation. The findings showed that whereas academic procrastination linked favourably with educational stress, it correlated adversely with metacognitive awareness.

At Zanjan University of Medical Sciences in Iran, Mohammadi et al. (2018) investigated the frequency of academic procrastination and its relationship to metacognitive beliefs. According to the study's findings, 63% of students frequently procrastinate on their academic work. Positive metacognitive beliefs had a factor of B=0.445 (P=0.022) and negative metacognitive beliefs had a factor of B=0.409 (P=0.009) in predicting academic procrastination.

De Palo et al. (2019) examined the relationship between metacognitive ideas regarding procrastination and decisional procrastination. assuming a cognitive standpoint and considering self-regulated learning strategies as potential mediators. Results from the structural equation model supported the hypothesis, suggesting that procrastination-related positive

metacognitive beliefs have a negative effect on interests and concentration. The relationship between decisional procrastination and positive metacognitions is mediated by concentration. The findings provide a foundation for investigating procrastination as a barrier to academic success.

Kumar (2020) investigated the relationship between adolescent internet use, perfectionism, metacognition, and academic procrastination. Academic procrastination and metacognition were found to have a significant but inverse association in the cases of all adolescents, adolescents living in rural and urban areas, and adolescents who were boys of girls adolescents.

Yagan's (2022) goal was to ascertain how college students' academic procrastination and metacognitive awareness (MA) related to each other. On this connection, the moderating influences of grade level and gender were examined. The association between academic procrastination behavior and Metacognitive Awareness was statistically significant and moderately unfavorable; academic procrastination behavior diminished as Metacognitive Awareness raised.

At Prince Sattam Bin Abdulaziz University, Al-Subaie (2022) investigated the relationship between academic procrastination and metacognitive strategies. Significant relationships between academic procrastination and metacognitive strategies were found in the results.

Parray (2023) investigated how academic procrastination affected senior high school students' obsessive beliefs and metacognition. The study's findings validated the substantial correlation between senior secondary school students' metacognition and academic procrastination.

According to an analysis of relevant research, changing one's metacognition beliefs can help one become less of a procrastinator (Sadeghi, 2011). The conclusion is that metacognitive and cognitive techniques are significant and relevant factors to university students' academic procrastination (Sheykholeslami, 2016). According to the results of the multiple linear regression analysis, 20% of the variance in academic procrastination was explained by metacognitive awareness and educational stress (Cikrikci, 2016).

According to Firoozi and Ahmadi (2016), teaching metacognitive techniques can have a major impact on lowering students' procrastination rates.

Gender differences in Procrastination

Gohil (2014) a study on 101 students from Jammu University with age group of 21-24 years. The result of the study revealed no significant difference in procrastination of male and female students.

Kumar (2020) investigated the relationship between adolescent internet use, perfectionism, metacognition, and academic procrastination. The study's findings showed that adolescent girls are more likely than adolescent boys to engage in academic procrastination.

Amoke et al. (2021) conducted a study on 129 SS II students from Udenu Local Government Area of Enugu State. The result of the study indicated that gender did not significantly affect the academic procrastination.

Ruby (2022) conducting a study on 95 college students with age group of 18-25 years concluded that female were likely to be procrastinate than their male counterparts.

On the basis of above studies in can be concluded that Gohil (2014) and Amoke et al. (2021) revealed no significant gender differences in procrastination whereas Kumar (2020) and Ruby (2022) found that female were more procrastinate as compared to male.

Emergence of the Problem

The current study aims to explore the relationship between teenage academic procrastination and metacognition. Deliberately delaying academic work is known as academic procrastination. According to reports, between 40% and 60% of students put off doing their homework these days. The introduction of social media platforms such as YouTube, Facebook, and Instagram is making this problem worse. Students that procrastinate in their academic work suffer enormous losses. In addition to being academic, the loss harms the teenager socially and mentally. The student's future is also in jeopardy.

Metacognition, on the other hand, is the awareness of one's own thinking and the capacity to assess it. Adolescents should be able to manage their thoughts if they can recognize, comprehend, and assess their own thoughts, according to a theory. Since academic procrastination is

essentially a mental game, adolescents who possess a high level of metacognition will be able to control their procrastination. Here, the mind actively and purposefully chooses to watch a movie instead of finishing the schoolwork, and the homework can wait a little while. Making logical decisions and managing this cognitive process may be aided by metacognition. It has to be determined, nevertheless, if it is effective and how much it can reduce academic procrastination.

Objectives

The present study was undertaken to fulfil the following objectives:

1. (a) To investigate the relationship between academic procrastination and metacognition among adolescents.

(b) To investigate the relationship between academic procrastination and metacognition among adolescent boys.

(c) To investigate the relationship between academic procrastination and metacognition among adolescent girls.

2. To study and compare academic procrastination among adolescent boys and girls.

Hypotheses

$H_0$1 (a) There exists no significant relationship between academic procrastination and metacognition among adolescents.

$H_0$1 (b) There exists no significant relationship between academic procrastination and metacognition among adolescent boys.

$H_0$1 (c) There exists no significant relationship between academic procrastination and metacognition among adolescent girls.

$H_0$2 There exists no significant difference between academic procrastination among adolescent boys and girls.

Method of Research

Descriptive survey method of research was used in the study.

Sample

The study was conducted on sample consists of 200 students (100 boys and 100 girls) studying in 9th class selected randomly from the Ludhiana district of Punjab, India.

Tools

1. Academic Procrastination scale by Kalia and Yadav (2015).

2. Metacognition scale by Singh and Bali (2017)

Result and Discussion

To investigate the relationship between academic procrastination and metacognition among adolescents Pearson's co-efficient of correlation was worked out and the values are given in table 1 below:

Table 1: Relationship between Academic Procrastination and Metacognition among Adolescents

Variables	**Groups**	**N**	**r**
Academic Procrastination and Metacognition	Adolescents	200	-0.46*
Academic Procrastination and Metacognition	Adolescents boys	100	-0.51*
Academic Procrastination and Metacognition	Adolescents girls	100	-0.40*

**Significant at 0.01 level of significance*

Table 1 reveals that the value of correlation between academic procrastination and metacognition for adolescents is -0.46 which is negative and significant ($p<0.01$). This indicates that there exists a significant negative relationship between academic procrastination and metacognition among adolescents. Hence the hypothesis $H_0$1 (a) stating, "There exists no significant relationship between academic procrastination and metacognition among adolescents" stands rejected.

Table 1 also shows that the value of correlation between academic procrastination and metacognition for adolescent boys is -0.51 which is negative and significant ($p<0.01$). This indicates that there exists a significant negative relationship between academic procrastination and metacognition among adolescent boys. Therefore Hypothesis $H_0$1 (b) stating, "There exists no significant relationship between academic procrastination and metacognition among adolescent boys" stands rejected.

Table 1 also indicates that the value of correlation between academic procrastination and metacognition among adolescent girls is -0.40 which is negative and significant ($p<0.01$). This indicates that there exists a significant negative relationship between academic procrastination and metacognition among adolescent girls. Hence Hypothesis $H_0$1 (c) stating, "There exists no significant relationship between academic procrastination and metacognition among adolescent girls" stands rejected.

Above discussion reveals significant negative relationship between academic procrastination and metacognition among adolescents, this finding is in line with the studies conducted by Cikrikci (2016), Firoozi and Ahmadi (2016), De Palo et al. (2019), Yagan's (2022).

To investigate the significance of the difference in academic procrastination and metacognition of adolescent boys and girls, t-test was employed and the values are given in table 2 below:

Table 2: Significance of Difference Academic Procrastination of Adolescent Boys and Girls

Groups	N	Mean	Standard Deviation	t-ratio
Adolescent boys	100	69.01	12.92	1.58 (NS)
Adolescent girls	100	66.03	13.67	

NS means non-significant

Table 2 revealed that the mean scores of academic procrastination of adolescent boys and girls as 69.01 and 66.03 respectively. The t-ratio is calculated as 1.58 which is non-significant ($p>0.05$). This revealed that no significant difference exists between mean scores of academic procrastination of adolescent boys and girls.

As no significant difference was found in mean scores of academic procrastination of adolescent boys and girls, therefore hypothesis $H_0$2 stating, "There exists no significant difference between academic procrastination among adolescent boys and girls", stands accepted. This finding is supported by the studies conducted by Gohil (2014) and Amoke et al. (2021).

Implications

Academic procrastination has a significant but negative relationship with metacognition, according to the findings of this study. The relationship is negative for adolescents as a whole and both adolescent boys and girls. The more aware students are of their cognitive processes as they learn, the more they are able to exert control over goals, dispositions, and focus. By understanding when and why to implement different cognitive strategies, students can better regulate their learning. Teaching students about metacognitive strategies can significantly reduce academic procrastination. They must be made aware of cognitive knowledge, cognitive regulation, and a variety of metacognitive experiences. The more students are aware of their thinking process as they learn, the more they can control such matters as goals, dispositions, and attention. Self-awareness promotes self-regulation. If students are aware of how committed (or uncommitted) they are to reaching goals, attention to thinking or writing tasks, they can regulate their commitment, dispositions, and attention. For example, if students are aware of their commitment to writing a long research assignment, noticed that they were procrastinating, and were aware that they were distracted by more appealing ways to spend their time, they could then take action to get started on the assignment. But until they are aware of their procrastination and take control by making a plan for doing the assignment, they will blissfully continue to neglect the assignment.

The study found no statistically significant difference in academic procrastination between adolescent boys and girls. This emphasises a serious scenario in which adolescents, regardless of gender, are prone to academic procrastination. Girls have typically been regarded to be more punctual and committed to their responsibilities, duties, and employment. They have a habit of completing tasks on time. Boys and girls are now treated equally, and there are no gender inequalities in the eyes of parents. Girls also hang out with their friends, skip school, and participate in dangerous behaviours that contribute to procrastination in academics and daily routine activities. Based on the study's findings, it is suggested that similar strategies can be utilised to lessen academic procrastination in both boys and girls.

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