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Social Intelligence and Students' Academic Performance at Postgraduate Level

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Abstract

This research study was conducted to investigate the social intelligence and students' academic performance at postgraduate level. The specific objectives of the study were: 1) 1) To find out the effect of social-intelligence on students' academic performance at postgraduate level.2) To ascertain the difference between social-intelligence and students' academic performance at postgraduate level on the basis of demographics i.e. gender, locality.3) To compare social intelligence and academic performance at postgraduate level on the basis of the public and private universities. 4) To compare social intelligence and academic performance at postgraduate level on the basis of science and arts students of public and private universities. The researcher employed the descriptive survey design. A questionnaire (5-point likert scale) with reliability coefficient (Cronbach Alpha) 0.8 was the study's primary resource. Nine hundred and two (902) students from public and private universities in the sample, with 365 male students and 537 female students were chosen for this study. Results revealed that the students with low GPA have lower Mean value of social intelligence and students with high GPA have higher Mean value of social intelligence. It was also concluded that academic performance is influenced by social intelligence irrespective of gender, locality and faculty. But private universities as compared to public stated increased level of social-intelligence. It is recommended that the University students may participate in extracurricular activities, seminars, group discussions, and social media to boost their confidence and broaden their knowledge of general themes. It is further recommended that teachers should help their students to understand their various intelligence preferences and make use of such to develop life-long learning. Their social intelligence will increase as a result.

Keywords: Social Intelligence, Academic Performance, Postgraduate Students

1. Introduction

The growth, progress, and development of advanced nations throughout history demonstrate that they have prioritized and promoted higher education and that this has been a major factor in all of their development. The majority of individuals have unique profiles of traits and skills that are the products of genetics, education, and development. Generally speaking, intelligence refers to mental faculties that allow one to reason clearly, pick up new information quickly, act purposefully, and interact with one's surroundings in a positive way. It is a phrase that in psychological testing has been assigned a variety of technical interpretations pertaining to mental faculties like verbal reasoning, numerical thinking, abstract analysis, manipulation of geometric shapes, and awareness of similarities and differences between imaged objects.(OBILOR & IKPA, 2020)

Since the birth of written language, man has been impressed with the topic of intelligence. It has long been believed that individuals are more or less intellectual bright, dull, perceptive, smart, thick-headed, etc. To investigate intelligence, assess it, and study how it relates to other aspects of behavior is a scientific discipline, even though it only began in the first decade of the 20th century. Intelligence is a key element of having a prosperous life. It demonstrates how easily or difficultly individuals can learn and perform a variety of tasks. Cyril Burt (1955) claimed that the word "intelligentia," first used by Cicero (Sheeran andWebb, 2016),(Burt, 1955)). The ability to learn and use knowledge is intelligence, according to the Oxford Dictionary. Stern (1914) defined intelligence as "universal mental adaptation to future problems and conditions of life."(Stern, 1914)

According to Von Stumm intelligence is "the capacity to think logically" "Intelligence is the ability to govern association rather than just simple association." From the perspective of factual content, it is the potency of a good response ("Intelligence consists of two factors: the potential for knowledge and the knowledge possessed," (Von Stumm andAckerman, 2013).

Social intelligence, according to Dewey and Dennett, is the capacity to recognize and understand social interactions. And Thorndike popularized the term in his book Moral Principles in Education. The George Washington Test of Social Intelligence (GWTSI) was used to determine social intelligence until 1960, when Cronbach admitted that it solely tested verbal ability. Social intelligence has been articulated in a variety of ways, making it easier for future scholars to appreciate its multidimensional nature. The emotional aspect of social intelligence was added as empathy was identified as a component of it, emphasizing the importance of this affective component.(Lievens andChan, 2017).

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Goleman (2006) claimed that there are three distinct types of intelligence: abstract, mechanical, and social. He defined mechanical intelligence as the capacity to comprehend how engineering and scientific mechanisms and processes work, while abstract intelligence was the capacity to apply knowledge in solving complex problems by considering the problem as a whole rather than just its individual, constituent elements. Goleman went on to say that successful managers and marketers had a type of intelligence known as social intelligence. They are adept at standing out in a crowd and are constantly prepared with appropriate answers to any questions. They are adept at being a people person, in other terms. Because it also examines a person's capacity to recognize differences between him and others, social intelligence is also known as interpersonal intelligence. Social intelligence is not an inherent characteristic, according to Goleman, it is not something that is either there at birth or not. In fact, a lot of people who were introverted from birth went on to excel as entertainers and speakers (Goleman, 2006).

Intelligent activity" is defined as "understanding the basics of a situation and effectively responding to them." In conclusion, intelligence is believed to be an innate talent that influences how people accomplish all activities and varies in quality from person to person. Social intelligence was successful in establishing a separate domain by framing it in terms of behavioral outcomes. They described it as "one's capacity to achieve pertinent goals in particular social contexts. (Pandey, 2023).

Social intelligence and social competence were compared by Ang and Van Dyne; it is a factor that greatly influences several aspects of educational outcomes. An individual's successes, adaptations, and occupational efficiency are determined by their intelligence, or intelligence quotient (IQ). It is viewed as having potential. This potential capability is most likely a result of genetics, harmonious development, and growth. Therefore, as a potential, it is just as susceptible to alteration by illness or stimulation as are the person's other physical characteristics (Ang andVan Dyne, 2015).

Social-intelligence is affected by a number of variables, such as culture, values, and norms; the social environment; social roles and responsibilities; child-rearing practices; and gender. The patterned social structure or organization in society is referred to as the social setup, whereas the atmosphere on and around the school campus is referred to as the school environment. Social roles and responsibilities are expected of someone with a high social standing, and a moral or ethical framework known as "social responsibility" compels everyone to act in the interests of society. Gender is also a factor in determining social intelligence, as female pupils possess greater social intelligence than male pupils. (Habib et al., 2013)

Social intelligence is essential for enhancing human welfare, strengthening the sense of community, deepening dedication to fellow humans, and bringing about constructive social change. It predicts adolescent perceived popularity with high accuracy, and high peer status is correlated with social intelligence. Steinberg (2011) found that while kids with low social status are more likely to experience behavioral issues, students with high social status are predicted to be happier. As neuroscience makes progress in mapping the parts of the brain that govern interpersonal dynamics, the concept of "has become amenable to revision. According to experts, social intelligence has four important aspects. These skills include the listening capacity carefully, the comprehension of spoken words and their emotional consequences, successful interpersonal communication, the representation of thoughts and emotions in a clear and concise manner, and tact in communication with others (Avlaev, 2020).

1.1. Aspects of social intelligence

According to experts, social intelligence has four important aspects.

1.2. Communication Skills

These skills include the capacity for listening carefully, comprehension of spoken words and their emotional consequences, successful interpersonal communication, representation of thoughts and emotions in a clear and concise manner, and tact in communication with others.

1.2.1. Social Roles and Rules

These require understanding the many, generally unwritten laws of various interactions and circumstances as well as recognizing how to play an appropriate role in a variety of situations. In a board meeting, you would not really typically behave the same way that you would if you were with college buddies a football game.

1.2.2. Understanding the Motivation of Others

This means understanding a conversation's context and figuring out the reasons behind what someone is saying or doing. Imagine someone telling you everything is alright while tears are running down their face. Even though this is a straightforward situation to understand, someone with strong social intelligence can assess even the most complex ones.

1.2.3. Impression Management

Understanding how other people will react to us and acting in a manner to give the sense that we want something are two components of this ability.(T.Kanimozhi, 2018)

Academic performance is defined as how successfully a student, educator, or organization has achieved their immediate or long-term learning targets. Academic performance in this study refers to the overall grade that learners receive on their half-yearly exams.

Academic success has been described in a number of ways, ranging from a student's competency level in academic work to formally acquiring knowledge of a subject, which is frequently reflected by the proportion of marks they receive on exams. The information and abilities that students have gained in their academic fields are referred to as academic achievement. Academic success is defined as a student's performance in academic topics as measured by their cognitive learning ability or level of proficiency in school-related tasks, which is typically evaluated by standardized examinations and recorded in grades or units according to the student's performance (Tabassum andSheela, 2020) .

According to Sinha (1970), the term "successful candidates" refers to learners whose academic achievement is exceptional in character as assessed by a high proportion of marks. On the contrary hand, pupils who failed their preceding exam and received low divisions on it are regarded as having failed in their academic efforts (Bhat andKhandai, 2016).

According to (Arghode, 2013), academic performance is commonly viewed as the demonstration of acquired knowledge or capabilities honed in the subject being studied. It is a vital tool for teaching teens about their talents, skills, and competences, which are essential for establishing a sense of career choice. Achievement is the result of a learning experience. Every parent, guardian, and teacher wants their kids, wards, and pupils to achieve a high level of academic achievement. According to their learners' performances, schools and teachers are typically rated qualitatively by achievement.

The education system has gone through a significant transformation due to altering circumstances and the stress on modern materialistic achievement. A person's level of education is now used to determine his social standing. Exam grades determine a person's level of intelligence, but education is related to life chances, wealth, and health.(Battle andLewis, 2002). Academic performance is viewed in contemporary society as a crucial predictor of one's overall aptitude and ability. As a result, academic accomplishment plays a crucial role in both education and the learning process. Studies continue to demonstrate a correlation between IQ test results and academic success .(Chandra andAzimmudin, 2013)

Social intelligence is favorably linked to academic success of students. According to studies conducted by Panigrahi utilizing the friendship evaluation technique on fifth grade children, social intelligence (peer acceptance) varies with academic performance. The social intelligence of higher achievers is higher than that of lower achievers. (Panigrahi, 2005).

Self-awareness, self-motivation, empathy, managing emotions, and resilience are the five (5) novel social intelligence dimensions proposed by Ruisel (2004). Self-awareness, in his viewpoint, is the potential to be aware of one's emotions and grasp how they impact one's performance and behavior. It assists humans in comprehending the impression they leave on others. An individual who is self-conscious is aware of his limitations while yet being confident in his own talents. On the other hand, emotional regulation requires the people who are capable of controlling their feelings and remain composed when under extreme emotional stress. This is crucial to creating a professional worker who takes responsibility for the team's performance and abstains from making impulsive judgments they could later regret**.**

Ruisel (2004) went on to say that empathy is the potential to put oneself in another person's shoes and comprehend where the shoe pinches. Self-motivation, on the other hand, is the capacity to encourage oneself in the face of difficulties, which is the mark of perseverant people who can provide a positive outlook on their negative feelings and end up as performers that are highly regarded in institutions. In addition to helping one gain the admiration of others, thinking of others as oneself will help one understand their concerns and help one make ethical judgments. He arrived at the conclusion that a resilient person is somebody who, with persistence, can overcome any challenges and emerge as the winner. An adaptable individual can change with the environment and has a broad perspective to anticipate recent developments. Such a person is a source of admiration for any company (Ruisel, 2004).

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1.3. Statement of The Problem

The purpose of this research is to study social-intelligence and students' academic performance at postgraduate level. Social intelligence is defined by Ang and Dyne as "one's capacity to achieve pertinent goals in particular social contexts, "Social intelligence and social competence were compared by (Ang andVan Dyne, 2015).A typical educational setting with direct interaction with teachers and peers can be thought of as a setting for students' academic performance and social -intelligence. This research was bridge this knowledge vacuum by assessing social-intelligence and postgraduate student academic performance.

1.4. Objectives of the Study

The objectives of the study were:

i. To find out the effect of social intelligence on students' academic performance at postgraduate level
ii. To ascertain the difference between social intelligence and students' academic performance at postgraduate level on the basis of demographics i.e. gender, locality.
iii. To compare social intelligence and academic performance at postgraduate level on the basis of the public and private universities.
iv. To compare social intelligence and academic performance at postgraduate level on the basis of science and arts students.

1.5. Research Questions

i. What is the effect of social intelligence on students' academic performance at postgraduate level?
ii. What is the difference between social intelligence and students' academic performance at postgraduate level on the basis of demographics i.e. gender, locality?
iii. How would you compare social intelligence and academic performance at postgraduate level on the basis of the public and private universities?
iv. Is there comparison between social intelligence and academic performance at postgraduate level on the basis of science and arts students?

1.6. Design of the study

Descriptive research is most suited for analyzing actual and accessible situations since it requires understanding of the objectives, comprehension of the problem, and comprehension of the research questions (Ary et al., 2013). The researcher thought descriptive research was a good technique to weed out pertinent information from the target group. Questionnaires were the most commonly used method (Baumert et al., 2010). This study used a descriptive survey method to find out the effect of social-intelligence on the academic performance of students at the postgraduate level.

1.7. Population of the Study

The population for the present study consisted of 1744 respondents of BS. Honors of the 7th semester enrolled in public universities (Bahuddin Zakariya University, Women University, and Emerson University), and private universities (ISP Multan, Times Institute, and NCBA&E) of District Multan Pakistan. Among them there were 1092 students from public universities and 652 students were from private universities.

1.8. Sample of study

The researchers employed a stratified sampling approach. The technique of statistical sampling involves categorizing the population according to certain characteristics. When a large population needs to be well represented, stratified sampling is employed (Cresswell, 2012). There were 902 students from public and private universities in the sample, with 365 male and 537 female students.

1.9. Development of Research Tool

The two questionnaires (MESI Frankovsk & Birknerová, 2013 and TSIS Silvera et al., 2001) were merged, adapted and used in this study.

1.9.1. TSIS Methodology (Tromso Social Intelligence Scale)

The TSIS-Tromso Social Intelligence Scale, consists of three factors and 21 self-evaluation items (seven items under each factor) developed by Silvera et al. (2001). The response categories of the TSIS were never, hardly ever, sometimes, often, and very often. Scores for numerical analyses were given out as 1, 2, 3, 4, and 5, respectively.

1.9.2. MESI Methodology (Manipulation, Empathy and Social Irritability)

The PESI methodology was developed by the authors Kaukiainen, Björkqvist, Osterman, Lagerspetz, and Forsblom, and it served as a model for the EMESI methodology (Frankovsk & Birknerová, 2013). This served as inspiration

for the presented MESI methodology, which was designed to identifying social-intelligence using a psychometric approach (1995). The degree to which social intelligence was perceived as a performance trait was determined using a methodology created for the peers or their professors. It has 10 items and a 0.90 internal consistency score (Cronbach's alpha). 21 items are examined in the MESI approach using a 5-point scale (1-never, 5-very often). According to Frankovsk and Birknerová (2013), Each items were designed and chosen based on previous EMESI methods, which included interviews with respondents, Cronbach's alpha test results, and a discriminant item analysis.

1.9.3. Adaptation of Research Tool

This study was conducted by using an adapted questionnaire of Silvera et al., 2001(TSIS*)* and Kaukiainen et al; (MESI*)* to gather information about the respondents' fundamental socio-demographic features and their level of social intelligence for research study. The questionnaire consisted of six factors and forty items evaluated on 5-points likert scale. The response category of the questionnaire was never, hardly ever, sometimes, often, and very often. Scores for numerical analyses were given out as 1, 2, 3, 4, and 5, respectively. The questionnaire was developed by merging the TSIS-Tromso Social Intelligence Scale, consists of three factors and 21 self-evaluation items (seven items under each factor) developed by Silvera et al. (2001) and the psychometrically based MESI methodology, which was created to identify social intelligence (1995). Also, 21 items are evaluated using a 5-point Likert scale as part of the MESI technique.

Following adaptation has been made in the original tool

- The original tool is generalized for people we specify it for students by replacing the word people for students i.e. 'I can predict other people behavior' replaced by 'you predict other students behavior'.
- The total statements in both tools were 42, we skipped 2 statements due to similarity index.
- We used 5-point likert scale instead of 7- point likert scale by Tromoso social intelligence scale, 1 described extremely poor, 2,3,4,5,6 and 7=describe extremely well.

1.10. Validation of Research Tool

Expert consultation and a pilot study conducted to verify the validity of the research tool by assessing the appropriateness, adequacy, and relevancy of the items.

1.10.1. Expert opinion

The study instrument (questionnaires) passed through a series of selections and rejections criteria before to finalization. To get meaningful information from the respondents, every effort was made to fit each item in the correct area. The questionnaire was consulted by a panel of ISP specialists before the compilation. They assessed each item separately and validated the questionnaire's structure and language.

1.10.2. Pilot Testing

A pilot study was done by the researcher that documented and validated all stages involved in developing the study design. Pilot testing is a term used in research investigations to describe feasibility tests of certain research instruments undertaken prior to the main inquiry. It was done to evaluate the items' validity, appropriateness, and reliability; to identify and revise problematic questions; and to uncover issues with sample size, the non-response rate, and administration expenses. The data was collected from the 60 students of BS program for pilot testing, after experts' review. The respondents of the pilot testing were not included in sample of the study.

1.10.3. Cronbach's Alpha Reliability statistics

Reliability testing is critical since it examines the consistency of assessment equipment and materials (Huck, 2007). The scale is deemed to have strong internal consistency and dependability when its elements "hang together" and assess the same notion (Huck, 2007; Robinson, 2009). The Cronbach Alpha coefficient is the most widely employed to measure the internal consistency of the scale and considered the most reliable indication of dependability when utilizing Likert scales (Whitley, 2002; Robinson, 2009). SPSS was used to determine the reliability of the research instruments (questionnaires) in relation to the study subject. To establish the reliability of questionnaire, the cronbach's alpha is calculated to determine the internal consistency of the items. The value of Cronbach's Alpha (.8) showed high reliability of items.

1.11. Data collection

During the study's design, the researcher must decide whether to use quantitative, qualitative or a combination of methodologies for data gathering. A quantitative research survey instrument was used to collect data in this study. The duration of data collection process estimated about two months.

Before administering the questionnaire to students, the researcher took permission from respective Director of Students Affair (DSA) of concerned department of universities as well as from Head of department (HOD). The researcher collected the data by using various sources i.e.WhatsApp, Google doc, Email and manually. The significance of research was explained to the students before the research instrument was given out, and they were reassured that their responses would be kept confidential and used solely for research. Total 1055 questionnaires were distributed to students of 7th semester and 902 questionnaires were received; so, the response rate was 85%.

1.12. Analysis of Data

Data analysis is a procedure of cleaning, transforming and modeling data to discover useful information for the study, which aims to extract information that can be used for research. In quantitative research, the data analysis procedure involves scoring the data, determining the types of scores, choosing computer software, entering the data for analysis, and clearing the data. Descriptive and inferential analysis is the two most prevalent methods of quantitative analysis. Descriptive statistics include the range of scores (variance, standard deviation, and range) and a comparison of how one score compares to all others (t test score or ANNOVA) (Creswell, 2015). By sampling, inferential statistics derive population characteristics (Johnson and Christensen, 2014). On the basis of six key factors, all problem statements were arranged: Social Information processing (SP), Social Awareness (SA), Social Skills (SS), Manipulation (M), Social Irritability (SI), and Empathy (E).

2. Results

2.1. Descriptive Analysis of Demographic Variables

This section provides a descriptive analysis of the demographic information for students. Respondents were asked to indicate their background information. Table 1 shows frequency and percentage descriptive statistics that were utilized to examine the demographic statistical profile of students.

Table 1: Analysis of students' demographic data

Variables	Category	Frequency	Percentage
Location	Urban	505	56.0
	Rural	397	44.0
	Total	902	100.0
Gender	Male	365	40.5
	Female	537	59.5
	Total	902	100.0
University	Public	522	57.9
	Private	380	42.1
	Total	902	100.0
University names	BZU	235	26.1
	ISP	132	14.6
	NCBA & E	96	10.6
	Time Institute	144	16.0
	Emerson university	151	16.7
	women university	144	16.0
	Total	902	100.0
Faculty	Arts	358	39.7
	Science	544	60.3
	Total	902	100.0
GPA	2-2.5	102	11.3
	2.6-3	96	10.6
	3.1-3.5	422	46.8
	3.6-4	282	31.3
	Total	902	100.0

Table shows the variable wise distribution of the sample. Regarding the location-wise 505 (56.0%) students were from urban area, while, 397 (44.0%) students were from rural area. Sample of gender was 365 (40.5%) males and 537 (59.5 %) students are female. Regarding the university in which students are studying, 522 (57.9 %) were from public universities, 380 (42.1 %) were from private universities.

Table 1 also reveals that 235 (26.1%) students reported that they are studying in BZU, 132 (14.6%) were from ISP, 96 (10.6%) were reported that they were from NCBA & E, 144 (16%) were from Times Institute, 151 (16.7%) were from Emerson university, and 144 (16%) were from women university. Further, Table 4.1 shows that 358 (39.7%) of the students were belongs to Arts faculty and 544 (60.3%) of the students were belongs to science faculty. 102 (11.3%) got 2-2.5 GPA, 96 (10.6%) got 2.6-3 GPA, 422 (46.8 %) got 3.1-3.5 GPA, and 282 (31.3%) got 3.6-4 GPA,

Objective: To find out the effect of social intelligence on students' academic performance at postgraduate level

Table 2: A descriptive analysis of students' perception on social intelligence

Sr.No	GPA	No.of Students.	Mean of SI
1	2-2.5	102	2.4266
2	2.6-3	96	2.6283
3	3.1-3.5	422	2.8775
4	3.6-4	282	3.2661

- The table 2 shows the effect of social intelligence on students' academic performance at postgraduate level.
- Students (102) with GPA from (02 - 2.5) have below average mean value of social intelligence (2.4266).
- The 96 students having GPA from (2.6-3) has mean value of social intelligence as (2.6283).
- The 422 students with GPA from (3.1 - 3.5) has mean value of social intelligence as (2.8775). The 282 students with GPA from (3.6-4) has mean value of social intelligence as (3.2661).
- From the table, it cleared that the students with low GPA have lower Mean value of social intelligence (2.4266) and students with high GPA have higher Mean value of social intelligence (3.2661).

2.2. Demographic factors and differences in students' perception

The analysis of perception differences among students according to their demographic characteristics is shown in this section. Applying inferential statistics, including the independent samples t-test and ANOVA, allowed for the analysis of students' perception scores.

Objective To ascertain the difference between social intelligence and students' academic performance at postgraduate level on the basis of demographics i.e. gender, locality.

Table 3: Differences in students perceptions based on gender

Factors	Category	N	Mean	SD	df	t-value	Sig. value
Social Information Processing	Male	365	3.186	.6026	900	-2.757	.006
	Female	537	3.297	.5860			
Social Awareness	Male	365	2.783	.5878	900	-1.215	.225
	Female	537	2.833	.5997			
Social Skills	Male	365	3.033	.5433	900	-.658	.511
	Female	537	3.057	.5482			
Manipulation	Male	365	2.765	.7167	900	2.257	.024
	Female	537	2.653	.7435			
Social Irritability	Male	365	2.862	.9159	900	.514	.607
	Female	537	2.864	.8667			
Empathy	Male	365	3.259	.6744	900	-.058	.954
	Female	537	3.261	.6761			
Total	Male	365	2.997	.4539	900	-.343	.213
	Female	537	3.007	. 4279			

- Table 3 showed that female (M = 3.297, SD = .5860), with a higher mean score, excel over male (M = 3.186, SD = .6026). The data also demonstrated a t-value = -2.757 and a p-value= .006. The study found a statistically significant difference in social intelligence in Multan District with respect to social information processing.
- Table 3 showed that female (M = 2.833, SD = .5997), with a higher mean score, excel over male (M = 2.783, SD = .5878). The data also demonstrated a t-value = -1.215 and a p-value = .225. The study found a statistically less significant difference in social intelligence in Multan District with respect to social awareness.
- Table 3 showed that female (M = 3.057, SD = .5482), with a higher mean score, excel over male (M = 3.033, SD = .5433). The data also demonstrated a t-value = -.658 and a p-value = .511. The study found a statistically insignificant difference in social intelligence in District Multan with respect to social skills.

- Table 3 showed that male (M = 2.765, SD = .7167), with a higher mean score, excel over female (M = 2.653, SD = .7435). The data also demonstrated a t-value = 2.257 and a p-value = .024. The study found a statistically significant difference in social intelligence in Multan District with respect to manipulation.
- Male (M = 2.862, SD = .9159), with a higher mean score, excel over female (M = 2.864, SD = .8667).The data also demonstrated a t-value of .514 and a p-value= .607. The study found a statistically not significant difference in social intelligence in Multan District with respect to social irritability.
- Table 3 showed that female (M = 3.261, SD = .6761), with a higher mean score excel over male (M = 3.259, SD = .6744). The data also demonstrated a t-value of -.058 and a p-value of .954. The study found a statistically insignificant difference in social intelligence in Multan District with respect to empathy.
- Table 3 showed that females (M = 3.007, SD = .4279), and males (M = 2.997, SD = .4539) have near about equal mean scores value. On the whole, the study found insignificant difference in the social intelligence of males and females participants in Multan District as demonstrated by a t-value = -.343 with df = 900 and p-value = .213>0.05.

Table Error! No text of specified style in document.**:** Differences in students' perceptions based on student locality

Factors	Category	N	Mean	SD	df	t-value	Sig. value
Social Information Processing	Urban	505	3.237	.5980	900	-.851	.395
	Rural	397	3.271	.5912			
Social Awareness	Urban	505	2.754	.6051	900	-3.316	.001
	Rural	397	2.887	.5744			
Social Skills	Urban	505	3.032	.5513	900	-.962	.336
	Rural	397	3.067	.5393			
Manipulation	Urban	505	2.656	.7443	900	-1.962	.050
	Rural	397	2.752	.7191			
Social Irritability	Urban	505	2.859	.8568	900	-.033	.974
	Rural	397	2.868	.9239			
Empathy	Urban	505	3.262	.6916	900	.092	.927
	Rural	397	3.258	.6543			
Total	Urban	505	2.988	.4317	900	-1.176	.158
	Rural	397	3.022	.4466			

- Table 4 showed that rural (M = 3.271, SD = .5912), with a higher mean score, excel over urban (M = 3.237, SD = .5980). The data also demonstrated a t-value = -.851 and a p-value= .395. The study found a statistically insignificant difference in social intelligence in Multan District with respect to social information processing.
- Table 4 showed that rural (M = 2.887, SD = .5744), with a higher mean score, excel over urban (M = 2.754, SD = .6051). The data also demonstrated a t-value = -3.316 and a p-value= .001. The study found a statistically significant difference in social intelligence in Multan District with respect to social awareness.
- Table 4 showed that rural (M = 3.067, SD = .5393), with a higher mean score, excel over urban (M = 3.032, SD = .5513). The data also demonstrated a t-value = -.962 and a p-value = .336. The study found a statistically insignificant difference in social intelligence in Multan District with respect to social skills.
- Table 4 showed that rural (M = 2.752, SD = .7191), with a higher mean score, excel over urban (M = 2.656, SD = .7443). The data also demonstrated a t-value = -1.962 and a p-value = .050. The study found a statistically significant difference in social intelligence in Multan District with respect to manipulation.
- Table 4 showed that rural (M = 2.868, SD = .9239), with a higher mean score, excel over urban (M = 2.859, SD = .8568). The data also demonstrated a t-value of -.033 and a p-value= .974. The study found a statistically not significant difference in social intelligence in Multan District with respect to social irritability.
- Table 4 showed that urban (M = 3.262, SD = .6916), with a higher mean score, excel over rural (M = 3.258, SD = .6543). The data also demonstrated a t-value of .092 and a p-value of .927. The study found a statistically insignificant difference in social intelligence in Multan District with respect to empathy.
- Table 4 showed that rural students (M = 3.022, SD = .4466), and urban students (M = 2.988, SD = .4317) have near about equal mean score value. On the whole, the study found insignificant difference in the social

intelligence of rural and urban pupils in Multan District as demonstrated by a t-value = -1.176with df = 900 and p-value = .158>0.05.

Objective: To compare social intelligence and academic performance at postgraduate level on the basis of the public and private universities

Table 5: Differences in students' perceptions based on university

Factors	Category	N	Mean	SD	df	t-value	Sig. value
Social Information Processing	Public	522	3.208	.5972	900	-2.614	.009
	Private	380	3.312	.5871			
Social Awareness	Public	522	2.799	.5998	900	-.749	.454
	Private	380	2.831	.5889			
Social Skills	Public	522	3.008	.5349	900	-2.578	.010
	Private	380	3.102	.5570			
Manipulation	Public	522	2.596	.6913	900	-4.946	.000
	Private	380	2.838	.7692			
Social Irritability	Public	522	2.899	.9165	900	-.620	.536
	Private	380	2.813	.8421			
Empathy	Public	522	3.168	.6582	900	-4.848	.000
	Private	380	3.386	.6785			
Total	Public	365	2.963	.4070	900	-3.209	.002
	Private	537	3.058	.4734			

- Table 5 showed that private universities (M = 3.312, SD = .5871), with a higher mean score, excel over public universities (M = 3.208, SD = .5972). The data also demonstrated a t-value = -2.614 and a p-value= .009. The study found a statistically significant difference in social intelligence in Multan District with respect to social information processing.
- Table 5 showed that private universities (M = 2.831, SD = .5889), with a higher mean score, excel over public universities (M = 2.799, SD = .5998). The data also demonstrated a t-value = -.749 and a p-value= .454. The study found a statistically insignificant difference in social intelligence in Multan District with respect to social awareness.
- Table 5 showed that private universities (M = 3.102, SD = .5570), with a higher mean score, excel over public universities (M = 3.008, SD =.5349). The data also demonstrated a t-value = -2.578 and a p-value= .010. The study found a statistically significant difference in social intelligence in Multan District with respect to social skills.
- Table 5 showed that private universities (M = 2.838, SD = .7692), with a higher mean score, excel over public universities (M = 2.596, SD = .6913). The data also demonstrated a t-value = -4.946 and a p-value= .000. The study found a statistically significant difference in social intelligence in Multan District with respect to manipulation.
- Table 5 showed that private universities (M = 2.813, SD = .8421), with a higher mean score, excel over public universities (M = 2.899, SD = .9165). The data also demonstrated a t-value of -.620 and a p-value= .536. The study found a statistically not significant difference in social intelligence in Multan District with respect to social irritability.
- Table 5 showed that private universities (M = 3.386, SD = .6785), with a higher mean score, excel over public universities (M = 3.168, SD = .6582). The data also demonstrated a t-value of 4.88 and a p-value of 000. The study found a statistically significant difference in social intelligence in Multan District with respect to empathy.
- Table 5 showed that private universities (M = 3.058, SD = .4734), with a little higher mean score excel over public universities (M = 2.963, SD = .4070). On the whole, the study found significant difference in social intelligence of private universities and public universities in Multan District as demonstrated by a t-value = -3.209 with df = 900 and p-value = .002<0.05.The study found that private universities have better social intelligence than public universities.

Objective: To compare social intelligence and academic performance at postgraduate level on the basis of science and arts students.

- Table 6 showed that Arts faculty (M = 3.284, SD = .6078), with a higher mean score, excel over science faculty (M = 3.231, SD = .5859). The data also demonstrated a t-value = 1.304 and a p-value= .193. The study found a

statistically insignificant difference in social intelligence in Multan District with respect to social information processing.

- Table 6 showed that Arts faculty (M = 2.810, SD = .5841), with a lower mean score, science faculty (M = 2.814, SD = .6028), with a higher mean score excel over arts faculty. The data also demonstrated a t-value = -.142 and a p-value= .887. The study found a statistically insignificant difference in social intelligence in Multan District with respect to social awareness.

Table 6: Differences in students' perceptions based on science and arts students

Factors	Category	N	Mean	SD	df	t-value	Sig. value
Social Information Processing	Arts	358	3.284	.6078	900	1.304	.193
	Science	544	3.231	.5859			
Social Awareness	Arts	358	2.810	.5841	900	-.142	.887
	Science	544	2.814	.6028			
Social Skills	Arts	358	3.017	.5372	900	-1.367	.172
	Science	544	3.068	.5514			
Manipulation	Arts	358	2.696	.6989	900	-.081	.936
	Science	544	2.700	.7576			
Social Irritability	Arts	358	2.867	.9373	900	-.668	.504
	Science	544	2.861	.8522			
Empathy	Arts	358	3.256	.6845	900	-.148	.882
	Science	544	3.263	.6694			
Total	Arts	365	3.000	.4305	900	-.185	.951
	Science	537	3.005	.4438			

- Table 6 showed that science faculty (M = 3.068, SD = .5514), with a higher mean score, excel over Arts faculty (M = 3.017, SD = .5372). The data also demonstrated a t-value = -1.367 and a p-value = .172. The study found a statistically insignificant difference in social intelligence in Multan District with respect to social skills.
- Table 6 showed that Arts faculty (M = 2.696, SD = .6989), with a lower mean score, science faculty (M = 2.700, SD = .7576) with a higher mean score excel over arts faculty. The data also demonstrated a t-value = -.081 and a p-value = .936. The study found a statistically insignificant difference in social intelligence in Multan District with respect to manipulation.
- Table 6 showed that science faculty (M = 2.861, SD = .8522), with a higher mean score, excel over Arts faculty (M = 2.867, SD = .9373). The data also demonstrated a t-value of -.668 and a p-value= .504. The study found a statistically not significant difference in social intelligence in Multan District with respect to social irritability.
- Table 6 showed that science faculty (M = 3.263, SD = .6694), with a higher mean score, excel over arts faculty (M = 3.256, SD .6845). The data also demonstrated a t-value of -.148 and a p-value of .882. The study found a statistically insignificant difference in social intelligence in Multan District with respect to empathy**.**
- Table 6 showed that science faculty (M = 3.005, SD = .4438), and Arts faculty (M = 3.000, SD = .4305) have near about equal mean score value. On the whole, the study found insignificant difference in the social intelligence of science faculty and Arts faculty in Multan District as demonstrated by a t-value = -.185with df = 900 and p-value = .951>0.05.

Table 7: One-way ANOVA for differences in students perceptions based on their university names

Factors		Sum of Squares	df	Mean Square	F	Sig.
Social Information Processing	Between groups	604.209	5	120.842	7.207	.000
	Within Groups	15023.433	896	16.767		
	Total	15627.642	901			
Social Awareness	Between groups	284.300	5	56.860	3.327	.006
	Within Groups	15313.910	896	17.091		
	Total	15598.210	901			
Social Skills	Between groups	77.626	5	15.525	1.450	.204
	Within Groups	9595.005	896	10.709		
	Total	9672.631	901			

*P > .05 Level of Significance

- In Table 7, the main students' perceptions based on university names were significantly different in social intelligence in Multan District with respect to social information processing. Analysis of variance (one-way ANOVA), findings show that the sum of squares between groups and within groups is 604.209 and 15023.433 respectively, and the mean squares are 120.842 and 16.767 respectively. At a.05 level of significance, the calculated F = 7.207, p =.000, df = 5, 896.
- Students' perceptions based on university names were significantly different in Multan District with respect to social awareness**.** The results of one-way ANOVA show that the sum of squares between groups and within groups are 284.300 and 15313.910, respectively, and the mean squares are 56.860 and 17.091.At the.05 level of significance, the calculated F = 3.327, p =.006, df = 5, 896.
- Students' perceptions based on university names were not significantly different in social intelligence in Multan District with respect to social skills. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 77.626 and 9595.005, respectively, and the mean squares are 15.525 and 10.709, respectively. At the.05 level of significance, the calculated F = 1.450, p =.204, df = 5, 896.

Table 8 One-way ANOVA for differences in students perceptions based on their university names

Factors		Sum of Squares	df	Mean Square	F	Sig.
Manipulation	Between groups	1705.486	5	341.097	13.820	.000
	Within Groups	22113.866	896	24.681		
	Total	23819.353	901			
Social Irritability	Between groups	753.242	5	150.648	7.808	.000
	Within Groups	17287.513	896	19.294		
	Total	18040.755	901			
Empathy	Between groups	843.803	5	168.761	7.843	.000
	Within Groups	19278.521	896	21.516		
	Total	20122.324	901			

*P > .05 Level of Significance

- In Table 8, the main students' perceptions based on university names were significantly different in Multan District with respect to manipulation. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 1705.486 and 22113.866, respectively, and the mean squares are 341.097 and 24.681, respectively. At a.05 level of significance, the calculated F = 13.820, p =.000, and df = 5, 896.
- Students' perceptions based on university names were significantly different in Multan District with respect to social irritability. The analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 753.242 and 17287.513, respectively, and the mean squares are 150.648 and 19.294, respectively. At a.05 level of significance, the calculated F = 7.808, p =.000, and DF = 5, 896.
- According to Table 8, the main students' perceptions of social intelligence and empathy were significantly different in Multan District based on university names.
- Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 843.803 and 19278.521, respectively, and the mean squares are 168.761 and 21.516, respectively. At the.05 level of significance, the calculated F = 7.843, p =.000, df = 5, 896.

Table 9: One-way ANOVA for differences in students perceptions based on GPA

Factors		Sum of Squares	df	Mean Square	F	Sig.
Social Information Processing	Between groups	79.253	3	26.418	1.526	.206
	Within Groups	15548.389	898	17.314		
	Total	15627.642	901			
Social Awareness	Between groups	40.328	3	13.443	.776	.508
	Within Groups	15557.881	898	17.325		
	Total	15598.210	901			
Social Skills	Between groups	77.626	3	15.525	1.450	.204
	Within Groups	9595.005	896	10.709		
	Total	9672.631	901			

*P > .05 Level of Significance

- In Table 9, the main students' perceptions based on *GPA* were not significantly different in social intelligence in Multan District with respect to social information processing**.** The sum of squares between groups and within groups are 79.253 and 15548.389, respectively, according to analysis of variance (one-way ANOVA), and the mean squares are 26.418 and 17.314 respectively. At a.05 level of significance, the calculated F = 1.526, p =.206, and df 3, 898
- In Table 9, the main students' perceptions based on *GPA* were not significantly different in social intelligence in Multan District with respect to social awareness. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 40.328 and 15557.881 respectively, and the mean squares are 13.443 and 17.325 respectively. The calculated F =.776, p =.508, df = 3, and 898 are all significant at the.05 level.
- The main students' perceptions based on *GPA* were not significantly different in social intelligence in Multan District with respect to social skills. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 77.626 and 9595.005, respectively, and the mean squares are 15.525 and 10.709, respectively. At a.05 level of significance, the calculated F = 1.450, p =.204, df = 3, 898

Table 10: One-way ANOVA for differences in students perceptions based on GPA

Factors		Sum of Squares	Df	Mean Square	F	Sig.
Manipulation	Between groups	228.415	3	76.138	2.898	.034
	Within Groups	23590.938	898	26.271		
	Total	23819.353	901			
Social Irritability	Between groups	47.867	3	15.956	.796	.496
	Within Groups	17992.888	898	20.037		
	Total	18040.755	901			
Empathy	Between groups	96.753	3	32.251	1.446	.228
	Within Groups	20025.570	898	22.300		
	Total	20122.324	901			

*P > .05 Level of Significance

- In Table 10, the main students' perceptions based on *GPA* were significantly different in social intelligence in Multan District with respect to manipulation. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 228.415 and 23590.938, respectively, and the mean squares are 76.138 and 26.271, respectively. At a.05 level of significance, the calculated F = 2.898, p =.034, and DF = 3, 898.
- In Table 10, the main students' perceptions based on *GPA* were not significantly different in social intelligence in Multan District with respect to social irritability. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 47.867 and 17992.888, respectively, and the mean squares are 15.956 and 20.037, respectively. At the.05 level, the calculated F =.796, p =.496 and DF = 898 are significant.
- In Table 10, the main students' perceptions based on *GPA* were not significantly different in social intelligence in Multan District with respect to empathy. Analysis of variance (one-way ANOVA) results show that the sum of squares between groups and within groups are 96.753 and 2002.551, respectively, and the mean squares are 32.251 and 22.300, respectively. At the.05 level of significance, the calculated F = 12.051, p =.228; DF = 3, 898.

2.3. Discussion

The research focused on social intelligence as an indicator of academic performance. The main objectives of this research were, to find out the effect of social intelligence on students' academic- performance at postgraduate level, to ascertain the difference between social intelligence and students' academic-performance at postgraduate level on the basis of demographics i.e. gender, locality, to compare social intelligence and academic performance at postgraduate level on the basis of the public and private universities, to compare social intelligence and academic-performance at postgraduate level on the basis of science and arts students of public and private universities.

This study found that social intelligence has positive effect on academic performance of students. The students have high mean score value of social intelligence have high GPA scores. The finding of this study are consistent with study of (Baggiyam, 2017; Obilor, 2019).They studied that academic achievement is a significant factor in society since it correlates with jobs, career success, and family honor. The findings indicated that a marginally positive relationship between social-intelligence and academic achievement among selected arts group students at the higher

secondary level. Learners with a moderate level of social-intelligence outperform a high level of social-intelligence than the learners with a low level of social-intelligence, according to research (Baggiyam, 2017; Obilor, 2019).
This study found that there was insignificant difference in the perception of male and female students about social intelligence. The conclusions of this study were inconsistent with several studies , (Khandai, 2016; Rahim, 2014) discovered that females have significantly higher social intelligence ratings than males. But the study of (Ahmad Malik, 2018), Using a self-reported social IQ scale, discovered that men had higher overall scores than women. Furthermore, the study discovered no significant difference between rural and urban students' perceptions of their social- intelligence. The results of (Asma Nazir, 2015) oppose those of this study. They discovered that university students in cities have higher social-intelligence than students in rural areas. One probable explanation for this discrepancy is that Punjab has the highest literacy rate in the country, and the disparity between rural and urban populations has narrowed over time. Based on the findings of this study in the factor social- information processing, social-awareness, social-skills, manipulation, social-irritability and empathy private universities are better than public universities. The study found that private universities have better social intelligence than public universities. The possible reason behind these results is due to, in Public universities the students are less exposed to social interaction than students of private universities. This study also found that there is insignificant difference in the opinion of science and Arts faculty regarding social intelligence. The results of this study are contradict with study of (Jain, 2013) ,he found significant in social intelligence difference arts undergraduate students and science students.

3. Conclusion

The study's findings led to the following conclusions, which were made:

i. What is the effect of social intelligence on students' academic performance at postgraduate level?
   - It was concluded that the students with low GPA have lower Mean value of social intelligence (2.4266) and students with high GPA have higher Mean value of social intelligence (3.2661).

ii. What is the difference between social intelligence and students' academic performance at postgraduate level on the basis of demographics i.e. gender, locality?
   - It was concluded that a statistically significant difference regarding gender wise comparison in social intelligence in Multan District with respect to social-information processing, social-awareness, manipulation.
   - It was concluded that a statistically insignificant difference regarding gender wise comparison in social intelligence in Multan District with respect to social-skills, social irritability, and empathy.
   - It was concluded that a statistically insignificant difference regarding gender wise comparison in total social intelligence scale in Multan District.
   - It was concluded that a statistically insignificant difference regarding location wise comparison in social intelligence in Multan District with respect to social-information processing, social-skills, social irritability, and empathy.
   - It was concluded that a statistically significant difference regarding location wise comparison in social intelligence in Multan District with respect to social awareness, and manipulation.
   - It was concluded that a statistically insignificant difference regarding location wise comparison in total social intelligence scale in Multan District.

iii. How would you compare social intelligence and academic performance at postgraduate level on the basis of the public and private universities?
   - It was concluded that a statistically significant difference regarding university wise comparison in social intelligence in Multan District with respect to social-information processing, social-skills, manipulation and empathy.
   - It was concluded that a statistically insignificant difference regarding university wise comparison in social intelligence in Multan District with respect to social awareness, and social irritability.
   - It was concluded that a statistically significant difference regarding university wise comparison in total social intelligence scale in Multan District.
   - It was concluded that a statistically significant difference regarding university name wise comparison in social intelligence in Multan District with respect to social information processing, social awareness, manipulation, social irritability and empathy.
   - It was concluded that a statistically insignificant difference regarding university names wise comparison in social intelligence in Multan District with respect to social skills.

iv. Is there comparison between social intelligence and academic performance at postgraduate level on the basis of science and arts students?
   - It was concluded that a statistically insignificant difference regarding faculty wise comparison in total social intelligence scale in Multan District.

- It was concluded that statistically insignificant difference regarding GPA wise comparison in social intelligence in Multan District.

4. Recommendations

After summarizing the study, findings and conclusion, researcher provides some recommendations as follows:

i. This study provides us a limited knowledge about the concept of SI. While some of the factors are known, they are peculiar to the chosen population, making it impossible to generalize the findings to the entire population of university students in Pakistan.
ii. It is suggested that proper social atmosphere should be provided to the students, so that they may developed proper social intelligence in order to deal with the society more effectively as well as to have better academic achievement.
iii. Teachers in public institutions should receive proper training through a variety of orientation and refresher courses to create a commonality of thought and experience among them. This will help to improve and put to use aspects like social information processing, social awareness, and social skills for the academic and social advancement of students.
iv. It is advised that the arts students should be provided with an appropriate social environment at all stages of education so that they can acquire proper social intelligence and deal with society more successfully in the future, as well as have higher academic results.
v. It is also advised that authorities create various interaction programs, symposiums, workshops, athlete meets, skits, cultural events, and social activities at the inter- and intra-district levels to help pupils acquire social intelligence.

4.1. Suggestions for Future Researchers

In light of the findings of the current research study, the following suggestions were made for future researchers.

i. The current study's sample covered only university students of 7th semester, the further study should also cover university students of other semesters and teachers as well.
ii. The current study used a quantitative procedure, in like manner giving the reaction to "What" questions. Further demands for "Why" questions that will explore social intelligence and students' academic performance at postgraduate level.
iii. University students may be participating in extracurricular activities, seminars, group discussions, and social media to boost their confidence and broaden their knowledge of general themes. Their social intelligence will increase as a result.
iv. In educational institutions the counseling cell should be established to orient students to develop social intelligence.

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