

DATA INTERPRETATION AND ANALYSIS

4.0 Introduction

In the preceding chapter, the researcher provided a detailed overview of the method used to explore the main outline. The data collection process was outlined, and various methods were employed to analyze and interpret the information gathered from various research tools. This chapter will focus on analyzing and interpreting the data about the standardization of scale, demographics, hypotheses, and percentile norms of the scale.

4.1 Conceptual and operational definitions of various constructs of professionalism of 20-item scale

4.1.1 Societal:

4.1.1.1 Teamwork and Collaboration: A team is a unified group working towards a common objective, leveraging individual strengths to achieve collective success. Effective teamwork involves seamless communication, mutual respect, and shared accountability, fostering an environment of trust and collaboration. The capacity of team members to work together and communicate well, foresee each other's requirements, and establish trust is referred to as teamwork. Collaboration, on the other hand, is a formal process where individuals with different areas of expertise come together to solve problems or create something new. This process promotes innovation, efficiency, success, better communication, and problem-solving, ultimately improving teamwork. Sippli et al (2017)

4.1.1.2 Prevention, promotion, and maintenance of public health encompass strategies to empower individuals and communities to make informed health choices, reduce the burden of chronic diseases, and enhance overall well-being. These efforts involve education, advocacy, and community engagement to promote healthy behaviors and improve access to healthcare services. It aims to reduce chronic diseases and improve well-being by empowering individuals and communities with the knowledge and skills to adopt healthy behaviors and practices. These strategies include education, awareness campaigns, and community engagement to promote healthy choices and improve access to healthcare. Chiu et al (2020)

4.1.1.3 Supporting people from all communities through solidarity fosters a sense of unity and mutual support among individuals with shared values and goals. Solidarity promotes empathy, cooperation, and collective action, creating a cohesive and inclusive community that stands together in pursuit of common interests. Psychological unity arises when people come together to pursue a common cause or overcome a shared challenge. Solidarity can be seen as a form of social glue that binds people together and fosters a sense of belonging, unity, and collective identity. It has been a driving force behind many successful social movements, from civil rights to labor rights to environmental justice. Hargreves and Connor (2018)

4.1.1.4 Sustainable living practices focus on conscientious daily choices to preserve natural resources and protect the environment for future generations. By adopting sustainable living habits, individuals reduce their ecological footprint, minimize waste generation, and contribute to a healthier planet for all. It aims to minimize our ecological footprint and reduce negative impacts on the ecosystem while maintaining a healthy balance between human activities and nature. Sustainable practices ensure that our needs are met without harming the environment for future generations. Kuhlman and Farrington (2010)

4.1.1.5 Ethical use of social media demands a profound commitment to upholding individuals' dignity, privacy, and confidentiality in online interactions. Respecting ethical principles involves safeguarding personal information, promoting respectful communication, and fostering a safe and inclusive digital environment for all users. It involves being mindful of how you interact with others online, respecting their opinions, and not engaging in any activity that might harm or offend them. It also means knowing the potential risks of sharing personal information online and safeguarding your and others' privacy. For instance, refrain from sharing sensitive or confidential information, use strong passwords, and be vigilant about who

you connect with on social media. By adopting these ethical principles, we can create a safer, more respectful online environment for everyone. Chretien and Kind (2013) Gurayaet al (2021)

4.1.2 Professional:

4.1.2.1 Good listener and effective communicator: Proficiency in communication is a fundamental skill to augment our relationships in personal and professional domains. It encompasses the act of speaking and the practice of active listening and empathetic understanding. Engaging in active listening means concentrating on both the message being communicated and the deeper intentions behind it while maintaining an open mindset to understand the speaker's viewpoint. Empathetic understanding refers to perceiving and acknowledging the speaker's feelings and emotions. Mastery of these skills is imperative for developing and nurturing long-lasting and productive relationships. Khalifah and Celenza (2019)

4.1.2.2 Compassion is a complex and nuanced emotion that emerges when one is confronted with the distress of another. It is a profound sense of empathy that translates into a deep desire to alleviate the pain that is being experienced. It is a selfless act of kindness driven by a genuine concern for the well-being of others. This emotion is often described as a force that compels individuals to take action and do everything, they can to ease the physical, mental, or emotional suffering of those in need. Demonstrating compassion can bring about a feeling of satisfaction and meaning, as it enables individuals to positively impact the lives of those around them. Sinclair et al (2021)

4.1.2.3 Professional Integrity Demonstrate and promote conduct consistent with professional standards. Professional integrity is a crucial aspect that refers to the unwavering adherence to ethical standards and principles in the workplace. It involves being truthful and transparent in all your dealings, treating everyone with respect, and taking responsibility for your actions, no matter the outcome. A person with professional, solid integrity places the needs of the organization and its stakeholders above personal gain or interests. It is an essential quality that inspires trust, promotes teamwork, and fosters a workplace culture of honesty and accountability. Coverdale et al (2016)

4.1.2.4 Lifelong learning is a continuous and self-directed quest for knowledge that individuals undertake for personal or professional growth. It involves a voluntary commitment

to learning that expands beyond traditional formal education. Pursuing knowledge can lead to personal development, social inclusion, and active citizenship. Furthermore, it can enhance competitiveness and employability in an ever-changing job market. Dunlap and Grabinger (2003)

4.1.2.5 Accountability revolves around owning one's actions and conduct concerning a task or responsibility. It encompasses the impact of one's actions on others and entails a sense of obligation to act truthfully and ethically toward others. On the other hand, responsibility is more focused on fulfilling the duties and expectations of a given role or task. Accountability involves acknowledging and accepting responsibility for one's actions and consequences for others and always striving to act ethically and truthfully. Peetet et al (2023)

4.1.3 Ethical:

4.1.3.1 Autonomy: The right for individuals to make decisions based on their values, beliefs, and desires is an essential aspect of personal independence and freedom. It implies that people have the right to live according to their preferences and principles without excessive outside influence or coercion. This right is fundamental in healthcare, education, and religion, where personal choices should be respected and upheld. Campbell (2017)

4.1.3.2 Equitable justice: A just society is built on the principle of meeting the needs of every individual, regardless of status or background. This means that equity is the cornerstone of such a society, where everyone can succeed and excel equally. By striving for equity, we can create a fairer world where individuals are not discriminated against based on their race, gender, orientation, or any other factor. In such a society, everyone has access to the same opportunities, and external factors beyond their control do not limit their success. Therefore, we must work together to create a just society that benefits everyone, not just the majority. Peter (2001)

4.1.3.3 Beneficence Healthcare professionals must ensure positive outcomes, such as maintaining good health and preventing or alleviating detrimental conditions in their patients. This principle emphasizes the importance of actively promoting health, preventing illness, and addressing any existing health issues promptly and effectively. This principle allows healthcare providers to help patients achieve optimal health and well-being. Bester (2020)

4.1.3.4 Nonmaleficence: The principle of non-maleficence is a widely recognized ethical standard in healthcare that demands healthcare professionals abstain from causing injury to

their patients, whether deliberately or unintentionally. This belief requires healthcare providers to exercise due caution, avoid negligence, and prevent any other potential sources of harm that may arise from their actions. Ultimately, the goal is to ensure that patients receive the best care without experiencing harm or adverse effects. Girdler (2019)

4.1.3.5 Confidentiality This principle guarantees that any information the client shares will always be kept strictly confidential. The primary objective is to establish a secure and trustworthy environment where you can freely express yourself without fear of being judged. Your privacy will always be respected and safeguarded. Petronio et al (2004)

4.1.4 Personal:

4.1.4.1 Resilience is a psychological attribute that empowers individuals to navigate challenges and setbacks with fortitude and optimism. It involves cultivating mental strength, perseverance, and adaptive coping strategies to overcome obstacles and thrive in the face of adversity. It entails staying concentrated, driven, and hopeful during difficult times. Conversely, adaptability refers to the capability to modify one's approach in response to evolving situations and maximize outcomes. Individuals need to be flexible and receptive to tackle new challenges and think creatively to resolve issues. Both resilience and adaptability are crucial traits that enable individuals to navigate difficulties and achieve success in different aspects of life. Stoffel and Cain (2018)

4.1.4.2 Work-life balance entails optimizing time and energy allocation between professional responsibilities and personal pursuits. Striking a harmonious balance fosters improved well-being, heightened productivity, and enhanced satisfaction in both the professional and personal domains, leading to a fulfilling and sustainable lifestyle. Balancing both factors leads to a harmonious equilibrium, enhanced productivity, and greater overall satisfaction. This approach enables individuals to prioritize and accomplish their work tasks while having ample time for personal pursuits and well-being. It is essential to maintaining physical and mental health, enhancing productivity, and achieving overall life satisfaction. By striving for a healthy work-life balance, individuals can meet their professional commitments while devoting time to their interests, hobbies, and relationships. Chittenden and Ritchie (2011)

4.1.4.3 Honesty and personal integrity are rooted in ethical principles of transparency, fairness, and sincerity in interpersonal relationships. Upholding these values involves demonstrating integrity, authenticity, and accountability in all actions and fostering trust, respect, and ethical conduct in personal and professional interactions. It involves being open

and candid about your thoughts, feelings, and actions and avoiding any form of deception or manipulation. On the other hand, personal integrity refers to the ethical standards that guide your behavior toward yourself and others. It involves respecting your values and principles and treating everyone with dignity and fairness. Personal integrity also entails taking responsibility for your actions and being accountable for the consequences of your decisions. A fundamental aspect of character shapes your reputation, relationships, and success in life. Weziak et al (2021)

4.1.4.4 Self-discipline: Self-discipline is a quality that enables people to persevere through difficulties and challenges, no matter their current physical or mental condition. It demands that individuals regularly inspire themselves and act towards their objectives, even in the face of hardships. Those who possess self-discipline can focus on the overall vision without allowing momentary obstacles or diversions to distract them. It is an essential ability for anyone looking to fulfill their dreams and realize their full potential. Simsir and Dilmac (2020)

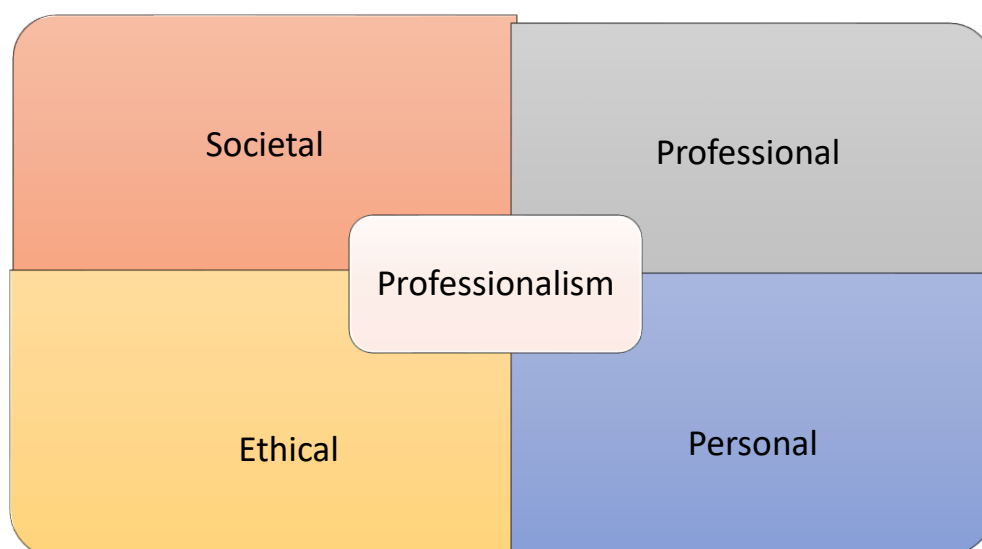
4.1.4.5 Self-Reflection: "Reflection" is a process where learners analyze their past experiences to evaluate their learning outcomes and explore the connections between the knowledge they acquired and their pre-existing ideas. This helps them better understand the subject, develop metacognitive skills, and promote lifelong learning.

The conceptual definition and model of dental professionalism is a comprehensive framework that outlines the key attributes and competencies necessary for dental professionals to possess. This model can effectively enhance dental teaching, learning, and assessment systems. By incorporating this model into the curriculum, dental students can better comprehend professionalism. Additionally, this model can provide a clear roadmap for faculty to design enthralling learning experiences and evaluate students' performance more accurately and fairly. Ultimately, the integration of this model can contribute to developing competent and ethical dental professionals equipped to provide high-quality care to their patients. Lew and Schmidt (2011)

Table 4.1 Constructs of Professionalism

Societal	<ul style="list-style-type: none"> Teamwork and Collaboration. Prevention, promotion, and maintenance of public health Supporting people of all communities (solidarity) Sustainable living Ethical usage of social media
Professional	<ul style="list-style-type: none"> Good listener and effective communicator Compassionate toward patients Professional integrity Lifelong learning Accountability
Ethical	<ul style="list-style-type: none"> Autonomy of patients Equitable justice Beneficence Nonmaleficence Confidentiality
Personal	<ul style="list-style-type: none"> Resiliency/adaptability Work-life balance Personal integrity Self-discipline Self-reflection

Figure: 4.1 Domains of Professionalism



4.2 Quantitative Interpretation of the Content Validity:

The content validity of the final questionnaire is “Acceptable” for all the 20 items/questions included because the CVR value is > 0.42 (critical value based on validation among 25 subject experts). The entire test's Content validity index (CVI) is 1.0, which is also greater than 0.42 (critical value), so all questions are accepted

Table:4.2 Quantitative Interpretation of the Content Validity

Question/Item	Content Validation Ratio (CVR)	Result
Q1	1	Accepted
Q2	1	Accepted
Q3	1	Accepted
Q4	1	Accepted
Q5	1	Accepted
Q6	1	Accepted
Q7	1	Accepted
Q8	1	Accepted
Q9	1	Accepted
Q10	1	Accepted
Q11	1	Accepted
Q12	1	Accepted
Q13	1	Accepted
Q14	1	Accepted
Q15	1	Accepted
Q16	1	Accepted

Q17	1	Accepted
Q18	1	Accepted
Q19	1	Accepted
Q20	1	Accepted

4.3 Test-Retest reliability

Table 4.3 Test-Retest reliability of the scale of professionalism N=30 students

Subscale	Test-retest	95 % CI	Cronbach's alpha	P value
	(ICC) (n =30)			
Total score	0.75	0.476 - 0.881	0.75	0.001
Societal	0.68	0.326 - 0.849	0.68	0.002
Professional / Occupational	0.64	0.234 - 0.827	0.63	0.004
Ethical	0.82	0.633 - 0.916	0.82	0.001
Personal	0.84	0.180 - 0.706	0.85	0.001

If the ICC score is <0.5 poor, 0.5 to 0.75 moderate, 0.75 to 0.9 Good, and above 0.9 excellent

Cronbach's alpha < 0.4 poor, 0.4 to 0.6 moderate, 0.6 to 0.8 good, and above 0.8 excellent

and P value < 0.05

4.4 sample size Adequacy

Table 4. 4 -KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938
Bartlett's Test of Sphericity	Approx. Chi-Square	5.138E3
	df	190
	Sig.	.000

Initially, the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy was determined to be 0.938, indicating that the sample size was appropriate for the Professionalism Scale for Dental Students. This figure is regarded as adequate when it exceeds 0.50 and is categorized as "excellent" within the range of 0.80-0.90. The KMO values for each item were also at their lowest, 0.930, further validating that the sample was adequate. Additionally, Bartlett's Test revealed $\chi^2(190) = 5138$; $P < 0.001$. This result indicated that the correlations among the items were sufficiently significant for the Professionalism scale for dental students.

4.5 Exploratory Factor Analysis: An Exploratory Factor Analysis (EFA) was performed to assess the construct validity of Professionalism among dental students and to uncover the factor structure. In this analysis, principal components and direct oblimin rotation techniques were applied. This choice was made because the principal components method is the most commonly used and efficient approach in practice, while the direct oblimin rotation is employed when factors are believed to be interconnected.

Table: - 4.5.1 Exploratory Factor Analysis

Total Variance Explained							
		Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.624	48.121	48.121	9.624	48.121	48.121	8.78
2	1.78	8.9	57.021	1.78	8.9	57.021	4.636
3	1.117	5.583	62.604	1.117	5.583	62.604	6.683
4	0.88	4.399	67.003				
5	0.736	3.682	70.685				
6	0.722	3.608	74.293				
7	0.631	3.154	77.447				
8	0.567	2.837	80.284				
9	0.526	2.632	82.916				
10	0.475	2.376	85.293				
11	0.412	2.06	87.353				
12	0.389	1.944	89.297				

13	0.35 3	1.765	91.062				
14	0.31 4	1.572	92.634				
15	0.29 5	1.474	94.108				
16	0.29	1.449	95.557				
17	0.27 1	1.353	96.91				
18	0.24 8	1.238	98.147				
19	0.20 3	1.014	99.161				
20	0.16 8	0.839	100				
Extraction Method: Principal Component Analysis.							

Table:4.5.2 Factor analysis results for the scale of Professionalism for Dental students.

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Factor loadings
Societal					
Q1	4.41	0.75	0.514	0.935	0.645
Q2	4.45	0.65	0.66	0.932	0.852
Q3	4.46	0.67	0.643	0.932	0.796
Q4	4.32	0.69	0.591	0.933	0.831
Q5	4.21	0.77	0.483	0.935	0.678
Professional					
Q6	4.37	0.64	0.624	0.932	0.455
Q7	4.42	0.61	0.72	0.931	0.645
Q8	4.35	0.62	0.752	0.930	0.575
Q9	4.56	0.61	0.608	0.933	0.692
Q10	4.48	0.59	0.759	0.930	0.828
Ethical					
Q11	4.45	0.62	0.761	0.930	0.785
Q12	4.47	0.60	0.752	0.930	0.863
Q13	4.42	0.72	0.628	0.932	0.814
Q14	4.62	0.59	0.694	0.931	0.810
Q15	4.56	0.60	0.703	0.931	0.673
Personal					

Q16	4.32	0.65	0.722	0.931	0.464
Q17	3.82	0.96	0.366	0.94	0.869
Q18	4.38	0.65	0.712	0.931	0.537
Q19	4.18	0.74	0.55	0.934	0.812
Q20	4.18	0.68	0.624	0.932	0.685

As an outcome of the EFA, all items had factor loadings above 0.455 (>0.4 were considered significant). Factor analysis extracted five factors that accounted for 62.60 % (> 50% were deemed necessary) of the variance. Cronbach's alpha was more than 0.7, indicating good reliability.

Scree Plot

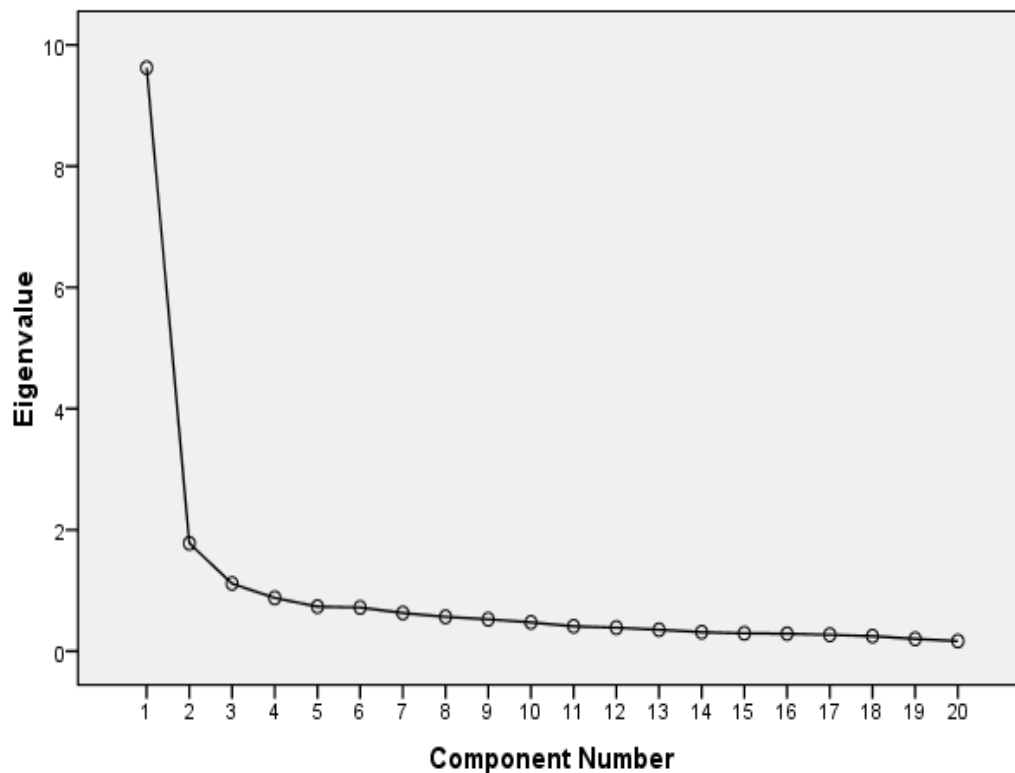


Figure 4.2 Principal component analysis

4.6 Reliability

Cronbach's alpha is the most widely used metric for assessing internal consistency, often referred to as "reliability." It's particularly useful for analyzing multiple rating scale questions in surveys or questionnaires to evaluate the reliability of the scale. In our specific sample, we have a Cronbach's alpha of 0.935, which suggests a high level of internal consistency for our scale.

Table:4.6.1Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.935	.941	20

Table: 4.6.2 Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1	82.9951	74.753	0.514	0.935
Q2	82.9561	74.208	0.66	0.932
Q3	82.9415	74.124	0.643	0.932
Q4	83.0805	74.5	0.591	0.933
Q5	83.1951	74.91	0.483	0.935
Q6	83.0366	74.73	0.624	0.932
Q7	82.9805	74.068	0.72	0.931
Q8	83.0561	73.613	0.752	0.93
Q9	82.8439	75.208	0.608	0.933
Q10	82.9268	73.941	0.759	0.93
Q11	82.9561	73.514	0.761	0.93
Q12	82.9317	73.907	0.752	0.93
Q13	82.9854	73.682	0.628	0.932
Q14	82.7854	74.614	0.694	0.931
Q15	82.8415	74.417	0.703	0.931
Q16	83.0805	73.551	0.722	0.931
Q17	83.5805	74.953	0.366	0.94
Q18	83.022	73.635	0.712	0.931
Q19	83.2244	74.39	0.55	0.934
Q20	83.2268	74.259	0.624	0.932

4.7 Demographic findings

Characteristics		Number	%
Gender	Male	139	33.9
	Female	271	66.1
Marital status	Married	66	16.1
	Unmarried	344	83.9
Post Graduation Year	1 Year	153	37.3
	2 Year	178	43.4
	3 Year	79	19.3
Opted for profession	By Interest	381	92.9
	By Compulsion	29	7.1
Sibling status	Yes	349	85.1
	No	61	14.9
Environment	Rural	89	21.7
	Urban	321	78.3
Family Income	Less than 8 Lakhs	136	33.2
	8 Lakhs to 30 Lakhs	230	56.1
	More than 30 Lakhs	44	10.7
Parents healthcare workers	Yes	70	17.1
	No	340	82.9
	Yes	158	38.5

Attended any formal courses on dental professionalism and ethics	No	252	61.5
<p>* Mean age of participants 26.42 years with SD 2.44 (26.42 ± 2.44) with a range of 22 to 44 years</p> <p>* Mean age of female participants 26.11 years with SD1.99 (26.11 ± 1.99) with a range of 23 to 44 years</p> <p>* Mean age of male participants 27.01 years with SD 3.04 (27.01 ± 3.04) with a range of 22 to 41 years</p>			

Table 4.7 Demographics of Participants (n = 410)

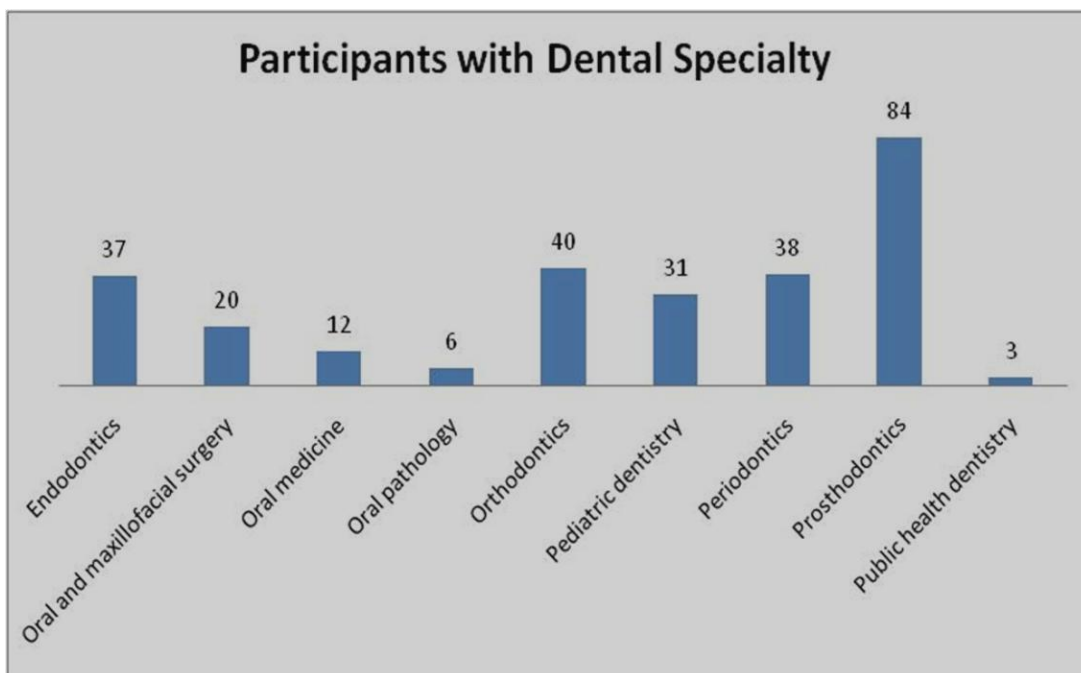


Figure 4.3 Dental Specialties Distribution of Participants

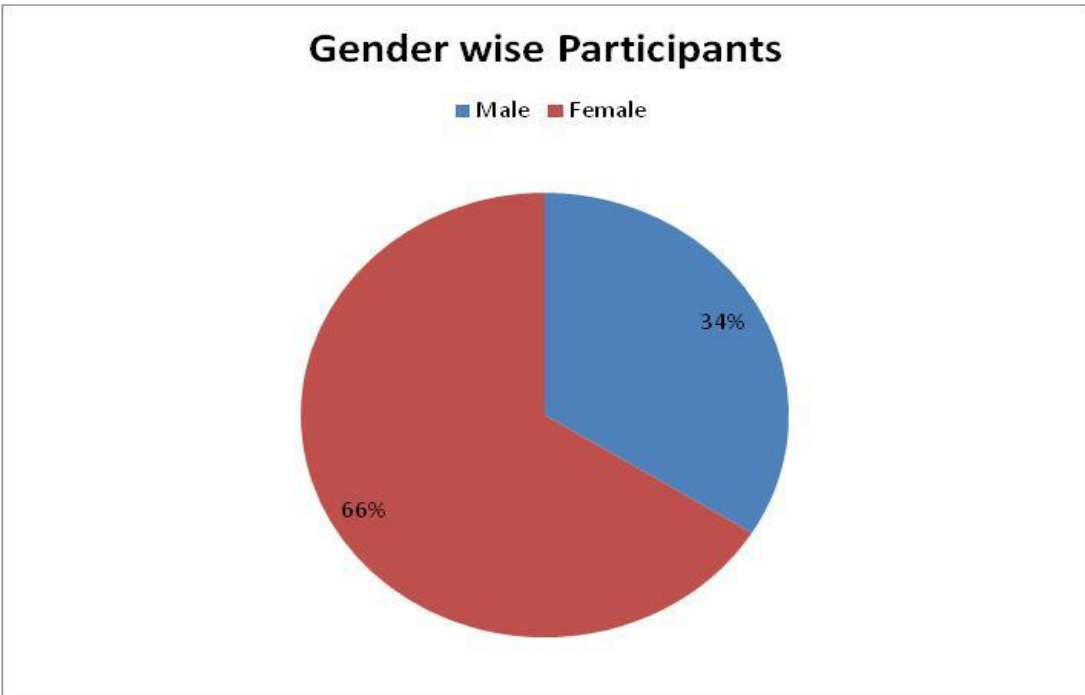


Figure 4.4 Gender Distribution of Participants

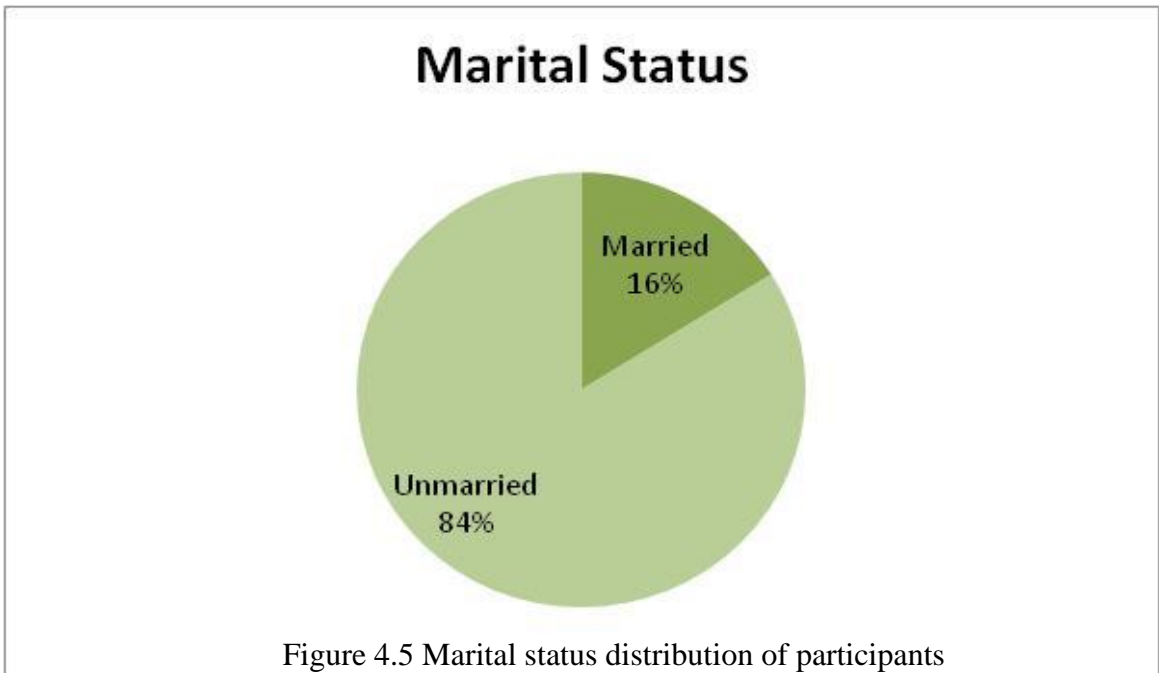


Figure 4.5 Marital status distribution of participants

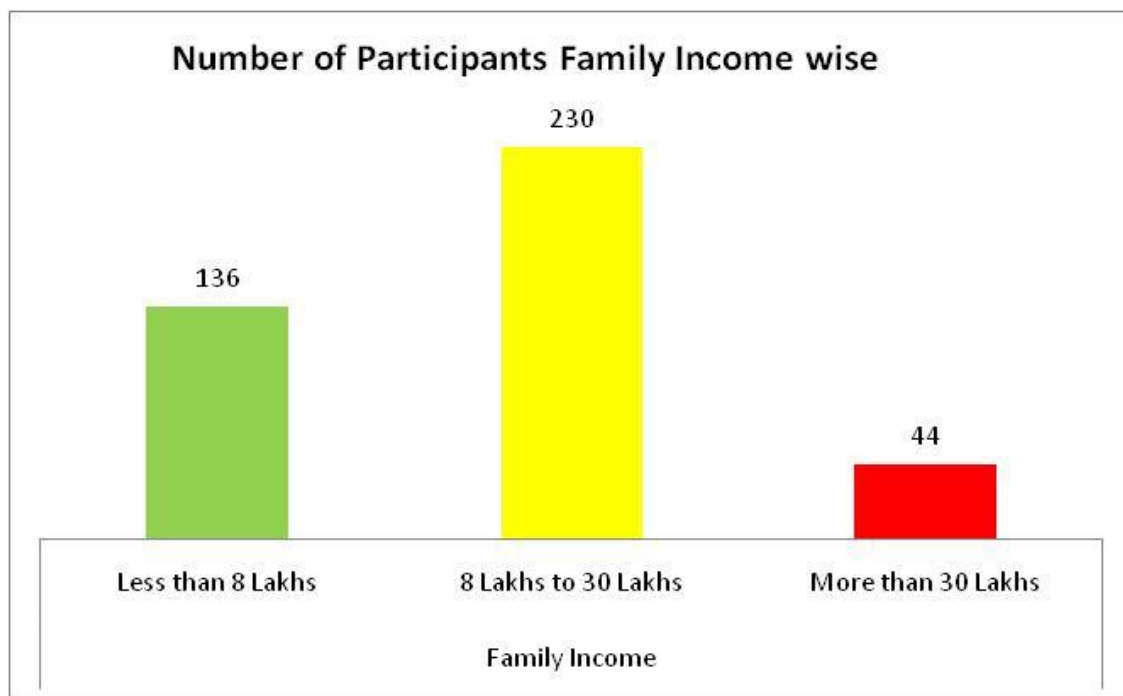


Figure 4.6 Family income Distribution of participants

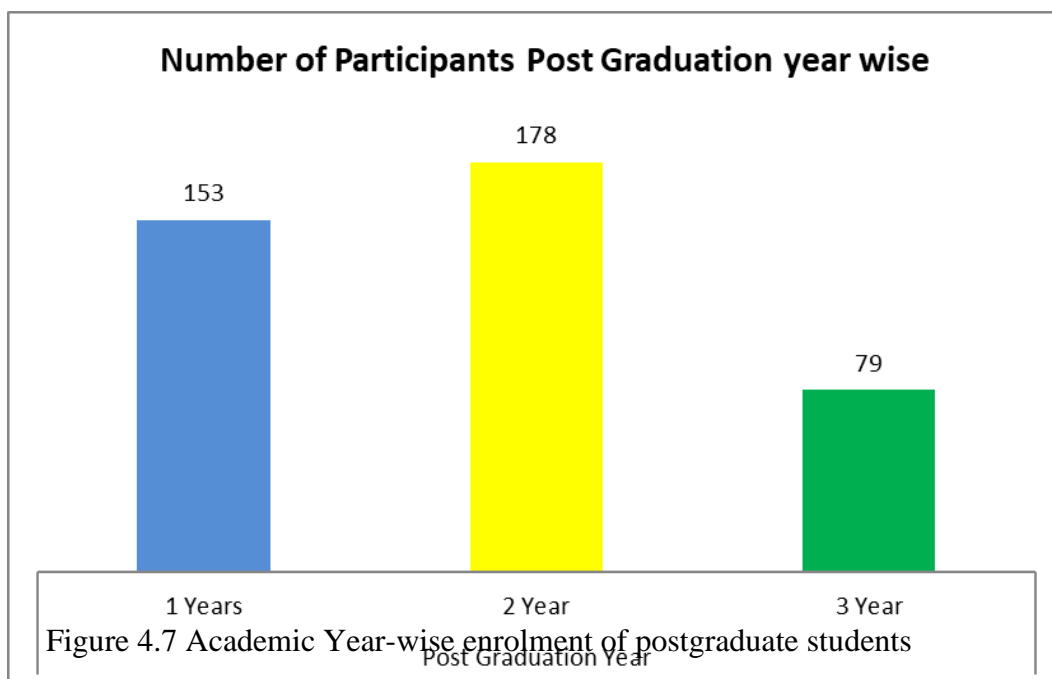


Figure 4.7 Academic Year-wise enrolment of postgraduate students

Environmental status of participants

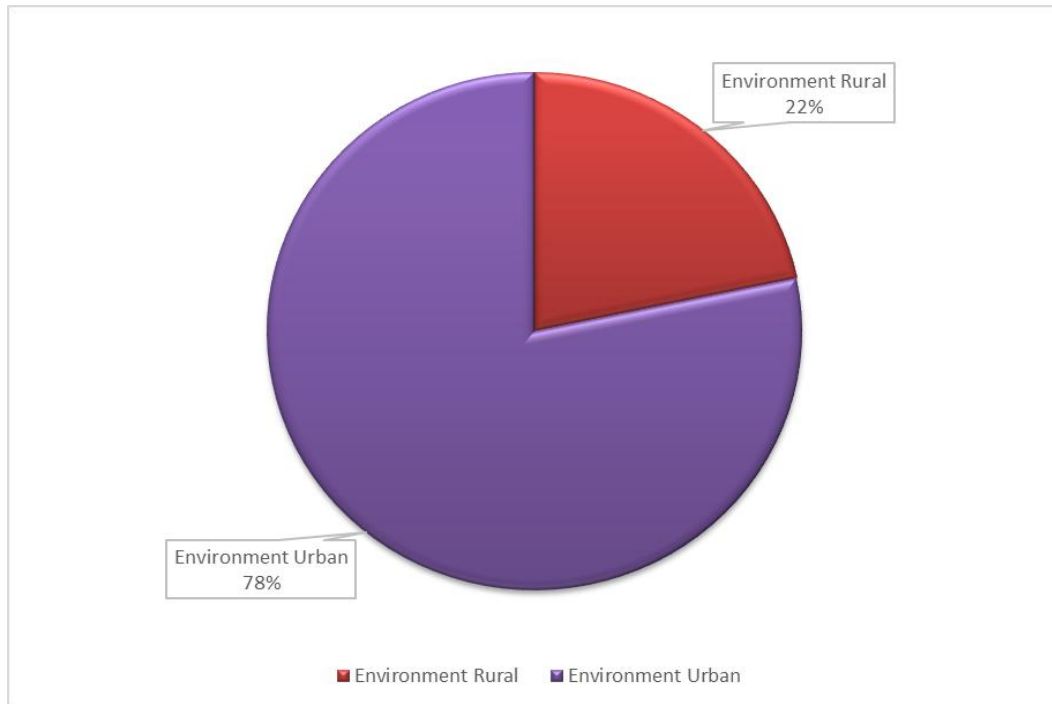


Figure 4.8 Urban and Rural environment status distribution of participants

4.8 Hypotheses

Ho1: There will be no significant difference in the mean professionalism score of male and female students.

H₁1: There will be a significant difference in the mean professionalism score of male and female students

Table 4.8.1: Comparison of Professionalism scores of Male and Female students

Professionalism Scores	Mean	SD	T value	P value
Male	88.15	8.39	1.24	0.21
Female	87.02	9.36		

P value 0.21 which is greater than 0.05 so there is no significant difference in the mean professionalism score of male and female students.

Accepted (Null Hypothesis) H_0 and rejected (Alternative Hypothesis) H_1

H_{02} : There will be no significant difference in the mean professionalism score of married and unmarried students

H_{12} : There will be a significant difference in the mean professionalism score of married and unmarried students

Table4.8.2: Comparison of Professionalism score of Married and Unmarried students'

Professionalism Scores	Mean	SD	T value	P value
Married	88.12	7.2	0.84	0.4
Un-Married	87.26	9.37		

P value 0.4 which is greater than 0.05 so there is no significant difference in the mean professionalism score of married and unmarried students.

Accepted (Null Hypothesis) Ho2 and rejected (Alternative Hypothesis) H₁₂

Ho3: There will be no significant difference in the mean professionalism scores of students' parents with health care and no healthcare backgrounds.

H₁₃: There will be a significant difference in the mean professionalism scores of student's parents with healthcare and no healthcare backgrounds.

Table 4.8.3: Comparison of mean professionalism score of students with healthcare/non-healthcare background

Professionalism Scores	Mean	SD	T value	P value
Healthcare backgrounds	87.17	8.75	0.24	0.81
No -Healthcare background	87.45	9.13		

P value 0.81 which is greater than 0.05 so there is no significant difference in the mean professionalism scores of student's parents with health care and no healthcare backgrounds.

Accepted (Null Hypothesis) Ho3 and rejected (Alternative Hypothesis) H₁₃

Ho4: There will be no significant difference in the mean professionalism score between students who opted by interest or by compulsion.

H₁₄: There will be a significant difference in the mean professionalism score between students who opted by interest or by compulsion.

Table 4.8.4: Comparison of the mean professionalism score between students who opted by interest or by compulsion.

Professionalism Scores	Mean	SD	T value	P value
Compulsion	83.76	7.99	2.52	0.01
Interest	87.67	9.08		

P value 0.01 which is less than 0.05 so there is a significant difference in the mean professionalism score between students who opted by interest or by compulsion.

Accepted (Alternative Hypothesis) H₁₄ and rejected (Null Hypothesis) H₀₄

H₀₅: There will be no significant difference in the mean professionalism score between students having siblings or no siblings

H₁₅: There will be a significant difference in the mean professionalism score between students having siblings or no siblings.

Table 4.8.5: Comparison of the mean professionalism score between students having siblings or no siblings

Professionalism Scores	Mean	SD	T value	P value
Siblings	87.48	9.11	0.46	0.64
No Siblings	86.91	8.75		

P value 0.64 which is greater than 0.05 so there is no significant difference in the mean professionalism score between students having siblings or no siblings.

Accepted (Null Hypothesis) Ho5 and rejected (Alternative Hypothesis) H₁₅

Ho6: There will be no significant difference in the mean professionalism scores of students of urban and rural environments.

H₁₆: There will be a significant difference in the mean professionalism scores of students of urban and rural environments.

Table 4.8.6: Comparison of the mean professionalism score between students having urban and rural environments.

Professionalism Scores	Mean	SD	T value	P value
Urban	87.34	9.36	0.29	0.76
Rural	87.63	7.9		

P value 0.76 which is greater than 0.05 so there is no significant difference in the mean professionalism scores of students of urban and rural environments.

Accepted (Null Hypothesis) Ho6 and rejected (Alternative Hypothesis) H₁₆

Ho7: There will be no significant differences in the mean professionalism scores of students according to I, II, and II years of postgraduation

H₁₇: There will be significant differences in the mean professionalism scores of students according to I, II, and II years of postgraduation.

Table 4.8.7: Comparison of the mean professionalism score among students' years of post-graduation

Professionalism Scores	Mean	SD	F value	P value
1st Year	87.12	9.66	0.343	0.709
2nd Year	87.32	9.13		
3rd Year	88.14	7.63		

P value 0.709 which is greater than 0.05 so there is no significant difference in the mean professionalism scores of student's Years of post-graduation.

Accepted (Null Hypothesis) Ho7 and rejected (Alternative Hypothesis) H₁₇

Ho8: There will be no significant difference in the mean professionalism scores of students according to various Family incomes.

H₁₈: There will be a significant difference in the mean professionalism scores of students according to various Family incomes.

Table 4.8.8: Comparison of the mean professionalism score among students' Family income.

Professionalism Scores	Mean	SD	F value	P value
Less than 8 Lakes per annum	87.50	9.82	0.145	0.865
8 to 30 Lakes per annum	87.23	7.78		
More than 30 Lakes per annum	88.00	12.44		

P value 0.865 which is greater than 0.05 so there is no significant difference in the mean professionalism scores of student's Family income.

Accepted (Null Hypothesis) Ho8 and rejected (Alternative Hypothesis) H18

Ho9: There will be no significant difference in the mean professionalism scores of students according to whether they attended any formal training /courses on professionalism and ethics or not

H19: There will be significant differences in the mean professionalism scores of students according to whether they attended any formal training /courses on professionalism and ethics or not

Table 4.8.9: Comparison of the mean professionalism score between students who attended/did not attend any formal courses on dental professionalism and ethics.

Professionalism Scores	Mean	SD	T value	P value
Students attended formal courses on dental professionalism and ethics	87.36	9.59	0.07	0.94
Students not attended formal courses on dental professionalism and ethics	87.43	8.72		

P value 0.94 which is greater than 0.05 so there is no significant difference in the mean professionalism scores of students who attended any formal courses on dental professionalism and ethics.

Accepted (Null Hypothesis) H_0 and rejected (Alternative Hypothesis) H_1

Table 4.9 The mean score of the Professionalism scale

S. No.	Questions/items (Response out of 410 Participants)	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		N	%	N	%	N	%	N	%	N	%
1	Question 1	7	1.7	2	0.5	18	4.4	173	42.2	210	51.2
2	Question 2	3	0.7	3	0.7	8	2.0	190	46.3	206	50.2
3	Question 3	3	0.7	3	0.7	14	3.4	172	42.0	218	53.2
4	Question 4	5	1.2	2	0.5	16	3.9	220	53.7	167	40.7

5	Question 5	5	1.2	4	1.0	47	11.5	199	48.5	155	37.8
6	Question 6	2	0.5	3	0.7	14	3.4	215	52.4	176	42.9
7	Question 7	2	0.5	0	0.0	14	3.4	201	49.0	193	47.1
8	Question 8	2	0.5	0	0.0	20	4.9	220	53.7	168	41.0
9	Question 9	2	0.5	2	0.5	7	1.7	153	37.3	246	60.0
10	Question 10	2	0.5	1	0.2	5	1.2	194	47.3	208	50.7
11	Question 11	2	0.5	1	0.2	13	3.2	190	46.3	204	49.8
12	Question 12	2	0.5	0	0.0	10	2.4	189	46.1	209	51.0
13	Question 13	3	0.7	10	2.4	9	2.2	179	43.7	209	51.0
14	Question 14	3	0.7	0	0.0	4	1.0	137	33.4	266	64.9
15	Question 15	2	0.5	2	0.5	4	1.0	158	38.5	244	59.5
16	Question 16	2	0.5	1	0.2	26	6.3	215	52.4	166	40.5
17	Question 17	12	2.9	19	4.6	104	25.4	170	41.5	105	25.6
18	Question 18	2	0.5	3	0.7	17	4.1	203	49.5	185	45.1
19	Question 19	2	0.5	7	1.7	50	12.2	208	50.7	143	34.9
20	Question 20	1	0.2	3	0.7	49	12.0	227	55.4	130	31.7

4.9 Percentile Norms: To derive the Percentile Norms in this study, we calculated the Mean, Standard Deviation, Median, Percentiles, Skewness, and Kurtosis for the full sample (N=410).

Table: 4.10 Percentile Norms of Professionalism Scale

Descriptive Statistics of Samples	
Mean	87.40
Std. Deviation (SD)	9.06
Median	88
P10	78
P20	80
P30	81
P40	84
P50	88
P60	91
P70	93
P80	96
P90	99
Skewness	-1.73
Kurtosis	10.75

After implementing the scale on 410 students, the minimal score on the Professional Scale was 20, while the maximal score was 100. It was observed that 200 students (48.78%) exhibited low professional commitment, meaning their scores were less than or equal to 87. Additionally, the professional scores of 13 students (3.17%) were categorized as average, with their professional commitment scoring 88. Finally, the professional commitment of 197 students (48.05%) was deemed high, as their scores were equal to or greater than 89.