

Original Article

A Study of Professional Commitment in Specialized Dental Assistants

Delyse Leadbeatter^{1*}, Karen Cynthia Tjaya¹, Perline Li¹, Henry Stephen Ma¹, Aaron Jay Phan¹, Christopher Peck¹

¹Faculty of Medicine and Health, Sydney School of Dentistry, The University of Sydney, Sydney, Australia.

*E-mail ✉ delyse.leadbeatter@sydney.edu.au

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ABSTRACT

Compliance with the principles and methods of professional commitment affects the therapist-patient relationship and is of great importance. This study was conducted to investigate professional commitment in dental students and assistants. In this descriptive cross-sectional study, 101 final-year students and 52 specialized assistants participated in the available sample method. The data collection tool was a researcher-made questionnaire taken from the ADEA Tool for Action on Professionalism in Dental Education. After designing the tool, its face and content validity and reliability were evaluated and confirmed. Kruskal-Wallis and Mann-Whitney tests were used for data analysis with $P < 0.05$. The average score of students' views on professional commitment was 115.61 ± 12.23 (out of a total of 145 scores) and that of assistants was 120.17 ± 7.00 ($P = 0.04$ and $Z = 2.02$). The scores under the adequacy and responsibility scales were higher in assistants than in students. The average adequacy score of students was 27.45 ± 2.93 , and assistants were 28.69 ± 1.76 ($P = 0.006$ and $Z = 2.7$), and the average responsibility score of students was 19.22 ± 2.82 , and assistants was 20.42 ± 1.78 ($P = 0.008$ and $Z = 0.51$). Female assistants had higher scores than male assistants in the total score and responsibility subscale. According to the obtained results, both groups of general students and specialized dental assistants had a high mean score in the perspective of professional commitment. Because in some areas students have obtained a lower grade, to improve the quality of education and evaluation, professional commitment should be considered in the course plan.

Keywords: Professional commitment, Dental assistants, Dental students, Education

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Introduction

Professional commitment or the ability to deal with the patient's legal expectations means acquiring the necessary skills to perform the profession and at the same time the ability to pay attention to others and decisively manage the situation in line with their interests [1-4]. In dental education, professional commitment is defined based on six principles: adequacy, professional perspective, justice, honesty, responsibility, respect for the values of others, and attention to the interests of the patient and society [5]. Based on evidence-based studies, the best time to learn the principles and methods of applying professional commitment is during the student period, so that the

views created at this time will largely determine the professional behavior of people in their future professional lives [6-8]. Considering that there is a need to measure it after every type of training, various methods such as self-evaluation, peer evaluation interview, direct observation, patient report, OSCE (Objective Structured Clinical Examination), and Mini Evaluation Exercise have been used to evaluate the viewpoint [9-11].

One of the best assessment methods in dental education is self-assessment, which is an efficient way to engage the learner in an interactive process to increase his responsibility in achieving learning goals. The Commission on Dental Accreditation states that

graduates should acquire self-assessment skills that include advancing professional competencies and demonstrating professional values related to lifelong self-directed learning [12-14]. Different results have been reported in the field of students' self-evaluation of professional commitment. Iguchi *et al.* in Japan, students' evaluation of themselves in how to communicate with patients was higher than professors' opinion. Also, girls had a better evaluation of themselves than boys. Despite this difference, researchers emphasized the importance of self-evaluation in increasing students' ability in self-directed learning and also helping professors teach students effectively [14, 15]. Amritha *et al.* in India, in self-assessment of professional commitment of dental students and assistants, reported a good level in more than 78% of the respondents [16].

Habib *et al.*'s study in Saudi Arabia showed that most dental students have a good knowledge and view of the importance of professional commitment in maintaining the academic values of this field [17]. Based on the Mini-Evaluation Exercise, Kazemipoor *et al.*'s study reported that professional commitment in dental assistants was lower than expected [18]. Similar results were obtained in specialized medical assistants by Mianehsaz *et al.* with the self-assessment method [11]. Farah-Franco *et al.* refer to the combined use of several methods to assess professional commitment in dental students, which includes a triangulation of faculty peer opinions and self-assessment [2]. Due to the need to consider and measure professional commitment in the lesson plan for the promotion of students and dentists, this study investigated professional commitment in dental students and specialized assistants and related factors.

Materials and Methods

This cross-sectional descriptive study was conducted using an available sampling method (170 people census), including final-year dental students and assistants of various specialized fields in the Faculty of Dentistry. The number of final year students was 112 people and assistants of different specialized fields were 58 people. The inclusion criterion for students was to study in the last year, and for assistants to study in the second and third year. General students with more than 12 semesters of education were not included in the study.

A researcher-made questionnaire using the ADEA Tool for Action on Professionalism in Dental Education was designed based on the purpose of the research [19]. After removing the questions related to professors, the content validity index (CVT: Content

Validity Index) was measured for 29 questions related to students, which was equal to 0.845, and therefore the content validity of the questionnaire questions was confirmed. The reliability was measured by Cronbach's alpha test and it was 0.88. The reliability of the questions was done in the entire study population. This questionnaire in the student's section had 29 items in 6 fields. The domains were adequacy (7 items, questions 1 to 7), justice (3 items, questions 8 to 10), honesty (6 items, questions 11 to 16), responsibility (5 items, questions 17 to 21), Respect (5 items, questions 22 to 26), and willingness to serve (3 items, questions 27 to 29), which were rated on a five-point Likert scale (always (5), often (4), sometimes (3), rarely (2), and were never investigated (1)). The range of questionnaire scores was from 29 to 145. A higher score indicated a higher level of professional commitment.

To comply with ethics in the research, at the beginning, explanations were given to the participants about the objectives of the research and how to complete the questionnaire forms and to guarantee the confidentiality of the information, and then they were asked to fill out the personal social profile form, which includes contextual variables as well as intervening factors (age, gender, place of birth, marital status, parents' education, and dental work experience outside the university) and then answer the self-assessment questionnaire from their point of view regarding professional commitment. Finally, the questionnaires were collected confidentially and anonymously by the researcher.

Data analysis was done with SPSS-26 (Armoni, NY, USA). First, the Shapiro-Wilk test was performed to determine the normality of the data. Due to the lack of normal distribution, Mann-Vinty non-parametric tests to compare professional commitment scores between two groups and Kruskal-Wallis and then Post Hoc test (pairwise comparison using the Bonferroni method) to investigate the relationship between professional commitment and background factors and The interventionist was used. At the end of the study, the power was calculated again by PASS 15.0.5 software.

Results and Discussion

A total of 170 questionnaires were distributed, and finally, 153 questionnaires (90%) were statistically analyzed. Out of 112 general students, 101 people (90.1%), and out of 58 specialized students, 52 people (89.6%) answered the questionnaire completely. The average age of general students was 25.2 ± 6.16 years (minimum 23 and maximum 34 years) and specialized students were 28.2 ± 54.81 years (minimum 24 and

maximum 39 years). In total, 26.7% of the participants were male and 73.3% were female. In terms of marital status, 127 (83%) people were single. Parents' education in 52 participants (34%) was in the field of health, and 57 people (37.3%) had dental work outside the university.

The comparison of the average and standard deviation of students' and assistants' scores is presented in **Table 1**. Based on the findings of this table, assistants had significantly higher scores than students in the total score and the areas of sufficiency and responsibility (**Table 1**).

Table 1. Comparison of the mean and standard deviation of the professional commitment score between dental students and assistants by area.

Area	General student (Mean $\pm$ SD)	Specialist assistant (Mean $\pm$ SD)	P-value	Z statistic
Sufficiency	27.45 $\pm$ 2.93	28.69 $\pm$ 1.76	0.006	2.7
Justice	11.37 $\pm$ 2.00	11.50 $\pm$ 1.48	0.776	0.28
Honesty	25.50 $\pm$ 2.88	26.04 $\pm$ 1.85	0.558	0.54
Accountability	19.22 $\pm$ 2.82	20.42 $\pm$ 1.78	0.008	0.51
Respect	20.49 $\pm$ 2.76	21.27 $\pm$ 1.67	0.101	1.63
Willingness to serve	11.60 $\pm$ 2.10	12.25 $\pm$ 1.64	0.053	1.93
Total score	115.61 $\pm$ 12.23	120.17 $\pm$ 7.00	0.043	2.02

Regarding the relationship between contextual and intervening variables with the total score of professional commitment based on the Kruskal-Wallis test, the total score of the attitude towards professional commitment in women participating in the study was higher than men ($P = 0.03$, $\chi^2_{(2)} = 11.40$). In comparison Paired with the Post Hoc test (using the Bonferroni method), the general view of students was similar in women and men ($P = 0.14$), but in assistants, women in the total score ($P = 0.02$, $\chi^2_{(2)} = 11.46$) and in the area of responsibility acceptability ($P = 0.009$, $\chi^2_{(2)} = 11.86$), obtained higher scores than men. There was no significant correlation between the total score and other variables, including age, place of birth, marital status of parents, and employment in dentistry outside the university ($P > 0.05$).

The total score of general students was equal to 73.79% and that of assistants was 87.82% of the maximum total score, and the scores of different fields in both groups were more than 75% of the maximum score.

The statistical power of the study was re-checked at the end of the work, based on the participation of 90.1% of final year general students and 89.6% of all specialized students and according to the sample size of 101 general students and 52 specialized students with an average score of 115.61 and 120.17, with a significance level of 0.05 equal to 83% was obtained.

This study investigated the views of final-year students and specialized dental assistants on professional commitment. The results of the study showed that both groups obtained high grades so the total grade of students was 79.73% and assistants 82.87% of the maximum total grade. The assistants were better than the students in the overall score and also in the two subscales of adequacy and responsibility. According to

the definition provided by the American Dental Education Association (ADEA) [5], the subscale of competence in dental professional engagement means acquiring and obtaining a high level of specialized information, technical skills and professional behavior necessary to prepare treatments, and clinical care for patients and an effective perspective in the dental education environment, which includes the science of oral health care, lifelong commitment to acquiring and maintaining skills, improving communication skills to communicate effectively with patients, peers, colleagues and Other professions are awareness and identification of their scientific and skill limitations, awareness and cooperation with other colleagues and people working in other health sectors, and ensuring evidence-based treatment. Another sub-scale, that is, responsibility in dental professional commitment, means being accountable for one's actions and fulfilling the special obligations that a person has towards others when dealing with a specific profession, and includes the concept of dutiful and accountable commitment.

The higher average score of the total score and the average score of the sub-scales of adequacy and responsibility in assistants compared to students can be attributed to the fact that the specialization of the degree may be associated with more experiences in clinical practice. As a result, the professional behavior of students towards patients should be improved. It can also be said that the occurrence of more interactions with patients at higher levels increases students' sense of responsibility. Similar results regarding changes in the perspective of professional commitment with increasing levels of academic education were obtained in the studies of Amritha *et al.* in India [16]. However,

in Amritha's study, final-year students scored higher in empathy, philanthropy, and professional communication than the other two groups (i.e. lower-year students and specialist assistants) [16]. In the study of Nadoushan *et al.* students of higher semesters obtained higher grades, but this difference was not significant [20].

Based on our findings, the overall score of professional commitment and responsibility in female assistants was higher than that of men, which could be due to the higher sense of empathy and responsibility in women while increasing their social participation [21, 22]. Similar results were obtained by Mianehsaz *et al.* in medical assistants [11]. The lack of difference in the views of male and female general education students is similar to our findings in the study of Amritha *et al.* [16].

In the context of other variables, the view of professional commitment had no significant relationship with age, being native or non-native, marital status, parents' education, and employment in dental work outside the university. Considering that professional commitment includes individual, interpersonal, and social dimensions [21], the non-relationship of the total score of professional commitment with the above variables in the present study can indicate that the major and essential part of students' information about commitment to Professionalism and how to practice it is limited to the education during the university studies. Educational packages related to professional ethics in dentistry educational planning do not exist independently as part of the lesson plan, but these structures exist in an invisible form (hidden curriculum) that can be based on the example of professors or the educational environment. Many researchers believe that observing the behavior of other students is more effective in the formation of their professional behavior compared to the theoretical content they learn in the classroom [3]. In the present study, data was collected through a self-assessment questionnaire. Self-evaluation or self-evaluation is defined as a wide range of mechanisms and techniques through which students describe themselves (evaluation) and determine the merit or value of their learning processes and results [23-26]. This method, if implemented correctly, enables students to direct their learning and internalize the success criteria. However, studies based on closed questionnaires like the present study have their limitations. One of the problems is limiting the respondent in providing the appropriate answer [27, 28]. Also, attracting the participation of the target group to complete the questionnaire was another limitation of the study. One of the other problems of

the questionnaire is answering the questions quickly and sometimes carelessly, which was tried to motivate the students to complete them correctly by pointing out the importance of the student's answers and mentioning the positive effect that their answers can have on the process of revising the future educational programs. The questionnaire should be increased as much as possible. Another problem that exists in questionnaire research is the collection of data in the form of self-report. This method increases the probability of providing favorable answers from the society's point of view by the participants, which researchers refer to as social desirability [29, 30]. Also, one of the weaknesses of the study was the lack of separation of students in terms of GPA. It seems that the accuracy of answering the questionnaire is higher in students with higher grades than in weaker students [31].

One of the strengths of the current study is its acceptable statistical power at the end of the study, which was 83%, which can indicate the generalizability of the results among students with similar conditions. Finally, it seems that a combination of different methods is necessary to evaluate the professional commitment program. This can be done through collecting peer views, self-report measures, and evaluating faculty members from a clinical perspective that is designed with a focus on measuring self-awareness and self-evaluation, which is referred to as triangulation and can cover the deficiencies in the evaluation of professional commitment [2].

Conclusion

Based on the results of the present study, in both groups of final-year students and specialized dental assistants, the total score of students' views on professional commitment was at a high level. The total score and areas of sufficiency and responsibility in assistants were higher than in general students. Female assistants obtained higher scores than males in terms of professional commitment and responsibility.

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References

1. Khalaf K, El-Kishawi M, Al Kawas S. Exploring professionalism among final year dental students

- and new graduates: Translating knowledge to practice. *Eur J Dent*. 2023;17(2):365-73.
2. Farah-Franco S, Singer-Chang G, Deoghare H. Advancing the measurement of dental students' professionalism. *J Dent Educ*. 2017;81(11):1338-44.
 3. Azmand S, Ebrahimi S, Iman M, Asemani O. Learning professionalism through hidden curriculum: Iranian medical students' perspective. *J Med Ethics Hist Med*. 2018;11:10.
 4. Burr S, Neve H, Leung Y. Evaluating your professionalism. *Br J Hosp Med (Lond)*. 2016;77(11):634-7.
 5. ADEA Statement on Professionalism in Dental Education: (As approved by the 2009 ADEA House of Delegates). American Dental Education Association; 2009. [cited 2023 Feb 8]. Available from: [https://www.adea.org/documents/Section3/\(3.2.5\)-ADEA-Statement-on-Professionalism-in-Dental-Education.Pdf](https://www.adea.org/documents/Section3/(3.2.5)-ADEA-Statement-on-Professionalism-in-Dental-Education.Pdf)
 6. Zijlstra-Shaw S, Robinson PG, Roberts T. Assessing professionalism within dental education; The need for a definition. *Eur J Dent Educ*. 2012;16(1):e128-36.
 7. Trathen A, Scambler S, Gallagher JE. Professionalism in dentistry: Deconstructing common terminology. *BDJ Open*. 2022;8(1):21. doi:10.1038/s41405-022-00105-9
 8. Alcota M, Manríquez JM, Cornejo-Ovalle M, Salinas JC, Catano VM, Ruiz de Gauna P, et al. Values related to professionalism in dental education at the University of Chile: Student and faculty perceptions. *Eur J Dent Educ*. 2019;23(2):190-8.
 9. Hong DZ, Goh JL, Ong ZY, Ting JJ, Mun Kit Wong MK, et al. Postgraduate ethics training programs: A systematic scoping review. *BMC Med Educ*. 2021;21(1):338.
 10. Ting JJQ, Phua GLG, Hong DZ, Lam BKY, Lim AJS, Chong EJX, et al. Evidence-guided approach to portfolio-guided teaching and assessing communications, ethics, and professionalism for medical students and physicians: A systematic scoping review. *BMJ Open*. 2023;13(3):e067048. doi:10.1136/bmjopen-2022-067048.
 11. Mianehsaz E, Tabatabaee SMR, Sharif MR, Gilasi HR, Shojaei Far HR, Nejad Tabrizi B. Professionalism among medical residents in a young second-level university in Iran: A cross-sectional study. *J Med Ethics Hist Med*. 2020;13:1.
 12. Mays KA, Branch-Mays GL. A systematic review of the use of self-assessment in preclinical and clinical dental education. *J Dent Educ*. 2016;80(8):902-13.
 13. Burrows RS. Understanding self-assessment in undergraduate dental education. *Br Dent J*. 2018;224(11):897-900. doi:10.1038/sj.bdj.2018.437
 14. Ramlogan S, Raman V. An educational approach for early student self-assessment in clinical periodontology. *BMC Med Educ*. 2022;22:33. doi:10.1186/s12909-021-03078-9
 15. Iguchi A, Hasegawa Y, Fujii K. Student potential for self-assessment in a clinical dentistry practical training course on communication skills. *Med Sci Educ*. 2020;30(4):1503-13.
 16. Amritha N, Vanishree M, Chandra KM, Babu P. Assessment of dental students' attitudes and perceptions toward professionalism. *J Indian Assoc Public Health Dent*. 2019;17(1):19-24.
 17. Habib SR, Sattar K, Ahmad T, Barakah RM, Alshehri AM, Andejani AF, et al. An insightful evaluation of professionalism among dentistry students. *Saudi Dent J*. 2021;33(7):753-60.
 18. Kazemipoor M, Keshmiri F, Owlia F, Rashidi Maybodi F. Assessment of dental residents' professionalism through Professionalism Mini-Evaluation Exercise (P-MEX). *J Dent Educ*. 2021;85(4):456-62.
 19. ADEA tool for action on professionalism in dental education. ADA. Principles of ethics and code of professional conduct [cited 2023 Feb 11]. Available from: https://www.adea.org/policy_advocacy/ethics_professionalism/Documents/ADEA%20Tool%20for%20Action.Pdf
 20. Nadoushan ZJ, Mirza AMS, Nadoushan KA, Mahdipour A, Mohebi S, Aghaali M, et al. Evaluation of professional behavior among dental students: A case study on Shahid Sadoughi university of medical sciences in Yazd and Qom university of medical sciences in Qom, Iran. *Health Spiritual Med Ethics*. 2018;5(4):22-7.
 21. Haque M, Zulkifli Z, Haque SZ, Kamal ZM, Salam A, Bhagat V, et al. Professionalism perspectives among medical students of a novel medical graduate school in Malaysia. *Adv Med Educ Pract*. 2016;7:407-22.
 22. Findyartini A, Sudarsono NC. Remediating lapses in professionalism among undergraduate pre-clinical medical students in an Asian Institution: A multimodal approach. *BMC Med Educ*. 2018;18:88. doi:10.1186/s12909-018-1206-2
 23. Nejad Shamsi P, Zaker-Jafari HR, Basirat M, Zaker-Jafari A. Self-assessment of senior dental students about acquired skills based on the

- educational program. *Res Med Educ.* 2017;9(3):73-8.
24. Ramaswamy V. The patient management and professionalism scale to assess dental students' behavior in clinic. *J Dent Educ.* 2019;83(1):94-102.
25. Panadero E, Jonsson A, Botella J. Effects of self-assessment on self-regulated learning and self-efficacy: Four meta-analyses. *Educ Res Rev.* 2017;22:74-98.
26. Bagherzadeh R, Rabiei Z, Tahmasebi R, Haginejad F, Akaberian S. The investigation of relationship between self-esteem and clinical self-assessment among paramedical students of Bushehr university of medical sciences in 2014. *Educ Dev Judishapur.* 2018;9(3):166-75.
27. McMillan JH, Hearn J. Student self-assessment: The key to stronger student motivation and higher achievement. *Educ Horiz.* 2008;87(1):40-9.
28. Safabakhsh L, Atashpanjeh A, Moulaei N, Ayubi E, Chahabdar Z. Medical students' clinical skills compared to educational standards at universities of medical sciences: A self-assessment study. *Zahedan J Res Med Sci.* 2022;24(4):e127526. doi:10.5812/zjrms-127526
29. Lamprecht R, Guse J, Schimmel M, Müller F, Heydecke G, Reissmann DR. Benefits of combined quantitative and qualitative evaluation of learning experience in a gerodontology course for dental students. *BMC Med Educ.* 2020;20:1-2. doi:10.1186/s12909-020-02196-0
30. Ji YA, Seol YJ, Ihm J. Dental students' self-evaluation comparison between dual dental education systems in Korea. *BMC Med Educ.* 2022;22(1):433. doi:10.1186/s12909-022-03504-6
31. El-Kishawi M, Khalaf K, Al-Najjar D, Seraj Z, Al Kawas S. Rethinking assessment concepts in dental education. *Int J Dent.* 2020;2020(1):8672303.