ORIGINAL ARTICLE

Career choice and the influencing factors of bachelor and dental profession students: an observational study

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Received: 27 July 2023
Revised: 11 January 2024
Accepted: 23 March 2024
Published: 30 March 2024
DOI: 10.24198/pjd.vol36no1.48690

p-ISSN 1979-0201
e-ISSN 2549-6212

Citation:
Davavilana FA;. Putri FM;. Suryanti N;. Career choice of bachelor and dental profession students: an observational study. Padj J Dent, March. 2024; 36(1): 77-91.

ABSTRACT

Introduction: Career choice in dentistry can provide an overview of the number of dental graduates who will pursue careers as clinicians and non-clinicians. This study aimed to describe the career choices and the influencing factors of the selected career choice of the Bachelor and profession program students. **Methods**: The method used was a descriptive observational study with a cross-sectional approach. The research population consists of all Bachelor and professional students at the Faculty of Dentistry, Padjadjaran University. Purposive sampling technique was used, with the inclusion criteria of active Bachelor and Profession students. The sample size was determined using the proportion estimation formula with a final sample of 286 respondents. The research instrument was an online questionnaire. Furthermore, the data obtained were analyzed using descriptive statistical analysis. **Results**: Clinician careers (64.6%) were the most preferred, followed by combined careers (34.6%), and non-clinician careers (0.8%). The most preferred clinician career was being a specialist (27,6%) rather than a general practice dentist (25,9%). Orthodontics specialist was the most chosen. Factors that influenced career preferences were intrinsic and extrinsic. The intrinsic factor was a great opportunity to obtain in-depth knowledge. The extrinsic factors were high earning potential, sufficient earnings to fulfill needs, and flexible working time. The majority of chosen work institutions were private hospitals (30%). Most respondents chose to work in urban areas (91%) due to accessibility and strategic reasons. **Conclusion**: The most preferred career choice was as clinician. Career as a specialist dentist was most desirable among those who chose to be a clinician, with the most chosen as orthodontist. The main intrinsic and extrinsic factors were a great opportunity to obtain in-depth knowledge and a high salary. Most respondents selected private hospitals and urban areas as the work location.

KEYWORDS

career choice, bachelor students, profession students

INTRODUCTION

The programs in the Faculty of Dentistry in Indonesia start with the Bachelor's degree in Dentistry or the Bachelor of Dental Surgery (BDS), which takes 3.5–4 years to complete, continued with the profession program or the Doctor of Dental Surgery (DDS) for 2–4 years to implement the dental science that has been learned and to conduct the dental health simulation properly and professionally.[1,2] Dental education has the objective of yielding graduates who are excellent in the Oral Health-Related Quality of Life field, innovative, professional, virtuous, and internationally competitive; hence, they can provide positive impacts to the community in the form of dental services that can increase the life quality of individuals, families, and community.[3] The execution of dental education requires various knowledge and specific skills that need

to be mastered in the clinical fields, *i.e.*, clinical medicine, basic dental science, clinical dental science, psychological medicine, and biomedical science involving anatomy, physiology, histology, microbiology, biochemistry, biology, and pharmacology. Not only does it concentrate on the clinical field, but dental education also concerns and further studies the non-clinical fields, *i.e.*, bioethics, health communication, and community dental science.[4]

The Dental Profession Standards state that the professional program of dentistry is the professional education that directs to the mastery and application of knowledge to the community in the dental field. Therefore, the graduates should consider the community's demands and needs, the industrial revolution era, the global, national, and regional considerations.[5,6]

The Dentist Competency Standards also state that the graduates of the dentistry profession program must meet the six domains of competency, *i.e.*, professionalism, expertise in the science and technology, physical and stomatognathic system examination, rehabilitation of the stomatognathic system's function, community dental and oral health, and dental practice management.[7] The Indonesian Faculty of Dentistry Association (Asosiasi Fakultas Kedokteran Gigi Indonesia [Afdokgi]) set that the Indonesian dentist graduates must embody eight profiles, *i.e.*, dental healthcare provider, decision maker, communicator, community leader, manager, educator, innovator, and collaborator.[6]

The common career chosen by healthcare students, both medical and dental students, is divided into clinical and non-clinical categories.[8] The career as a clinician consists of general clinical practice and specialist clinical practice.[9] The career choices as a dental specialist clinician in Indonesia are various, *i.e.*, dental surgeon, orthodontist, oral medicine, periodontist, prosthodontist, endodontist, pedodontist, and others.[10–12] The non-clinical careers that can be pursued are hospital administration and management, community medicine, and medical education.[13] Some students choose careers that utterly do not relate to the medical field, such as entrepreneur, artist, model, politician, and others.[14,15]

A study conducted by Andarwati *et al.* in 2016 mentioned the underlying factors of one's career choice, *i.e.*, intrinsic and extrinsic factors. The intrinsic factors influencing career choice are perception, expectation, income needs, and developing interests in a particular field of knowledge. The extrinsic factors motivating someone's career path are professional service revenue and work-life balance.[13]

Career choice is essential to observe since it can provide an idea of the number of dental education graduates with careers as clinicians or non-clinicians.[16,17] Having a career as a dentist is not limited to only completing the Bachelor's and professional degrees. After graduation, career choice is crucial since it impacts the future life of the dentists themselves.[18] This information is expected to be utilized as supporting data for the program of accelerating the fulfillment of the number of health workers in Indonesia and as evaluation materials towards the factors that might affect the learning process of students' career choices.[18,19] To date, studies on healthcare students' career choices have been conducted in various countries.

A research conducted in Bahrain revealed that the majority of participants expressed a preference for careers in surgery and internal medicine within the medical field.[20] Additionally, a European study showed that dental students aspire to become practitioners and establish their practices.[21] In Indonesia, the study of career choice was conducted on final-year medical students.[13] However, survey research conducted on students of the faculty of dentistry has not been made yet. Therefore, the authors conducted this study and aimed to determine the career choice and the influencing factors of the selected career choice of the Bachelor and profession program students.

METHODS

This study was a descriptive observational study with an approach of cross-sectional study. The population was the active students of the bachelor and profession program at the Faculty of Dentistry, Padjadjaran University in 2023. The sampling technique was purposive sampling. The inclusion criteria of this study were the active students of the bachelor program of the Faculty of Dentistry Unpad (regular students batch of 2017–2022 and International Undergraduate Program (IUP) students batch of 2022) and the professional program batch of 2015–2022. The exclusion criteria were the students who did not fill out the questionnaire. 286 students were selected as the research respondents.

This study utilized an instrument in the format of a questionnaire arranged by Andarwati et al. in their study titled "Motivation in Choosing Career Choice: Study in Final-Year Students of Medical Faculty, University of Airlangga, Surabaya" which was later modified.[13] The questionnaire consists of nine items: (1) the plan of preferred career choice, (2) the influencing factors of choosing a career, (3) for bachelor students, whether to continue to a profession program, (4) the least preferred career choice, (5) the reason for choosing a least preferred career choice, (6) the favorite subjects, (7) the workplace or the institution, (8) the work location, (9) the factors in choosing work location.

Furthermore, the validity and reliability tests were performed on the questionnaire. The validity test involved assessing and evaluating the content's validity, conducted by three community dentistry experts (FMP, NS, ASS). The experts evaluated each item using the 4-point scales; 1=irrelevant, 2=less relevant, 3=relevant, 4=most relevant. The score was calculated using the Content Validity Index (CVI).

The S-CVI was calculated using the mean I-CVI score, with the minimal recommended S-CVI score to be claimed as valid was 1.00. The content validity test of the questionnaire showed a mean I-CVI score of 1,00, and the I-CVI score of each item was 1.00. Face validity was conducted on ten respondents, and based on the test, the questionnaire was understandable, the time frame for filling out the questionnaire was adequate, and the use of Google Form as the media was also convenient for the respondents, signifying that all items in the questionnaire were consistent with the study's objective.

The conducted reliability test was a test-retest on 30 people; the calculation used Cohen's kappa consistency test to observe the consistency of two measurements. The test result showed a mean kappa score of 0.921 and was interpreted as perfect agreement. This result indicated that the questionnaire items were reliable for the study instrument. The study procedure was conducted by collecting primary data based on the inclusion and exclusion criteria by deploying an online questionnaire form. The data acquired from the study were statistically analyzed using Microsoft Excel. The data distribution was presented in the chart and frequency table of the measured variable.

RESULTS

The number of questionnaire responses from May to June 2023 was 286 (182 bachelor and 104 profession students). Table 1 shows that the proportion of female respondents was higher (81.5%) compared to the male respondents. The majority of respondents were 21–23 years old (64.5%), with a mean age of 22. Most respondents were from Java-Bali islands (89.9%) and cities (74.5%). The majority of bachelor respondents were from batch 2019 or the 4th year students (56%), and the majority of professional program respondents were from batch 2022 or the 2nd year students (46.2%).

Most of the respondents' parents had a high educational background, both the mother (84.3%) and the father (89.5%). According to the parents' occupational background, it was found that only 10.6% of the respondents had parents working in the medical field. Most of the respondents' fathers, whose occupation was in the

medical field (n=21), worked as general practitioners (52.3%), and the mothers whose occupation was in the medical field (n=40) worked as dentists (40%).

Table 1. The characteristics of respondents (*n=286*)

Respondents' characteristics	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Sex				
Female	152	81	233	81.5
Male	30	23	53	18.5
Age (years)				
24–26	2	56	58	20
21–23	136	48	184	64.5
18–20	44	0	44	15.5
Place of origin				
Regency	45	28	73	25.5
City	137	76	213	74.5
Island of origin				
Sumatera	14	5	19	6.6
Java-Bali	162	95	257	89.9
Nusa Tenggara	2	0	2	0.7
Borneo	2	1	3	1.1
Sulawesi	2	2	4	1.4
Moluccas	0	1	1	0.3
Papua	0	0	0	0
Year of the Bachelor's degree students				
1st	16	0	16	8.8
2nd	29	0	29	16
3rd	33	0	33	18.2
4th	102	0	102	56
5th	2	0	2	1
Year of the professional degree students				
1st	0	6	6	5.8
2nd	0	48	48	46.2
3rd	0	38	38	36.5
4th	0	12	12	11.5
Tuition funding sources				
Parents	171	101	272	95
Scholarships	9	0	9	3.2
Others (aside from parents and scholarships)	2	2	4	1.4
Independent	0	1	1	0.4
Father's occupation				
Medical field	15	6	21	7.3
Non-medical field	167	98	265	92.7
Father's occupation in the medical field (n=21)				
General practitioner	8	3	11	52.3
Dentist	4	3	7	33.3
Nursing lecturer	1	0	1	4.8
Epidemiologist	1	0	1	4.8
Nurse	1	0	1	4.8

Respondents' characteristics	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Mother's occupation				
Medical field	35	5	40	14
Non-medical field	147	99	246	86
Mother's occupation in the medical field (n=40)				
Pharmacist	2	0	2	5
Midwife	4	2	6	15
General practitioner	7	0	7	17.5
Dentist	14	2	16	40
Nursing lecturer	2	0	2	5
Nurse	3	1	4	10
Medical civil servant	3	0	3	7.5
Father's education				
Low (Elementary school)	1	0	1	0.4
Moderate (Middle school, high school)	20	9	29	10.1
High (diploma, Bachelor, postgraduate)	161	95	256	89.5
Mother's education				
Low (Elementary school)	0	0	0	0
Moderate (Middle school, high school)	27	18	45	15.7
High (diploma, Bachelor, postgraduate)	155	86	241	84.3
GPA score				
Satisfactory (2–2.75)	0	0	0	0
Very satisfactory (2.76–3.5)	96	54	150	52.4
Excellent (3.51–4)	86	50	136	47.6
Organizational experience				
Available	123	57	180	63
Not available	59	47	106	37
Internship experience				
Available	16	8	24	8.4
Not available	166	96	262	91.6
Committee experience				
Available	81	55	136	47.5
Not available	101	49	150	52.5

Table 2 shows that the most preferred career choice was clinician (64.6%), followed by the combination of clinical and non-clinical (34.6%), and the least preferred career was non-clinical (0.8%).

Table 2. The career choice of the Bachelor and profession students (*n*=286)

Career Choice	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Clinician				
General Dentist	28	46	74	25.9
Specialist Dentist	53	26	79	27.6
Undecided	22	10	32	11.1
Non-clinician				
Lecturer	0	1	1	0.4
Hospital administration and management	0	1	1	0.4
Clinician and non-clinician				
Clinician and lecturer	31	5	36	12.6
Clinician and researcher	2	0	2	0.7
Clinician and hospital administration and management	31	8	39	13.6
Clinician and clinic administration and management	10	7	17	5.9
Clinician and community dentistry	5	0	5	1.8

Most preferred career was a clinician who practices dental specialties (27.6%), followed by general dentists (25.9%). Of the 99 respondents who chose the combination career, 13.6% chose clinical and hospital administration and management, and 12.6% chose clinician and lecturer.

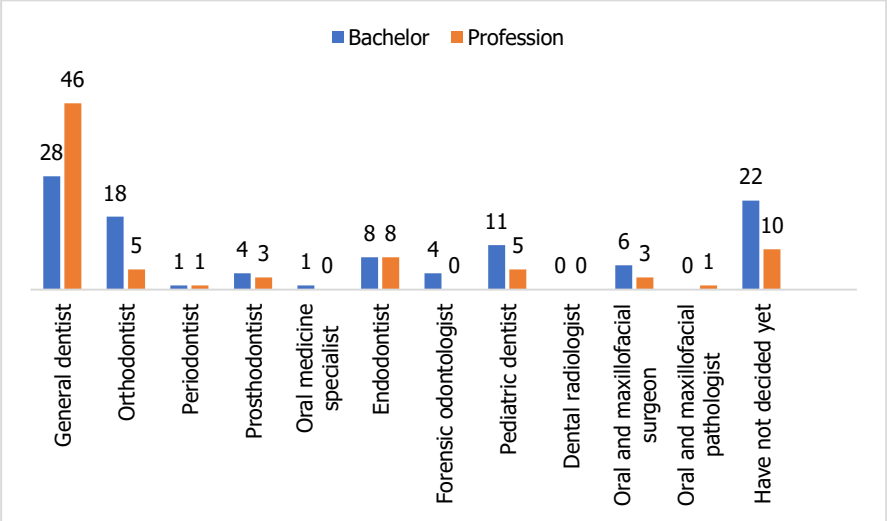

Figure 1. The career choice of the Bachelor and profession students as clinicians (*n*=185)

Figure 1 presents the most preferred clinician career of the respondents. Of the 185 respondents who chose clinicians, 79 chose to practice as dental specialists, 74 chose to practice as dentists, and 32 had not yet decided between a dentist or a dental specialist. The dental specialties of the respondents who chose the career as dental specialist were orthodontist (12.4%), followed by endodontist (8.6%) and pediatric dentist (8.6%). Meanwhile, the least preferred dental specialty was dental radiologist.

Table 3 presents the respondents' career choice combination of clinician and non-clinician. The most preferred career choice combination were oral and maxillofacial surgeon and hospital administration and management (3.5%), oral and maxillofacial surgeon and lecturer (2.8%), orthodontist and lecturer (2.5%), and general dentist and hospital management (2.5%).

Table 3. The career choice of the Bachelor and profession students as clinician and non-clinician (*n*=99)

Combination of career choice		Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Clinician	**Non-clinician**				
Oral and maxillofacial surgeon	Clinic administration and management	2	2	4	1.4
Oral and maxillofacial surgeon	Hospital administration and management	10	0	10	3.5
Oral and maxillofacial surgeon	Lecturer	8	0	8	2.8
Oral and maxillofacial surgeon	Community Dentistry	2	0	2	0.7
Pediatric dentist	Clinic administration and management	0	2	2	0.7
Pediatric dentist	Hospital administration and management	5	1	6	2.1
Pediatric dentist	Lecturer	5	0	5	1.7
Pediatric dentist	Community Dentistry	3	0	3	1
Pediatric dentist	Researcher	1	0	1	0.3
Endodontist	Clinic administration and management	4	2	6	2.1
Endodontist	Hospital administration and management	2	4	6	2.1
Endodontist	Lecturer	3	0	3	1
Forensic odontologist	Lecturer	1	0	1	0.3
Orthodontist	Clinic administration and management	2	0	2	0.7
Orthodontist	Hospital administration and management	3	1	4	1.4
Orthodontist	Lecturer	4	3	7	2.5
Periodontist	Hospital administration and management	1	0	1	0.3
Periodontist	Lecturer	4	0	4	1.4
Prosthodontist	Hospital administration and management	4	0	4	1.4
Prosthodontist	Lecturer	1	0	1	0.3
Prosthodontist	Researcher	1	0	1	0.3
Oral medicine specialist	Lecturer	0	1	1	0.3
Dental radiologist	Hospital administration and management	1	0	1	0.3
Dental radiologist	Lecturer	2	0	2	0.7
General dentist	Clinic administration and management	2	1	3	1
General dentist	Hospital administration and management	5	2	7	2.5
General dentist	Lecturer	3	1	4	1.4

Table 4 represents the factors that influence the respondents' career choices. The question regarding the influencing factors was given in the type of multiple answers, enabling the respondents to select several answer choices, with the total number of answers being 939. Fifty-four respondents selected only 1 answer choice, 69 selected 2 answer choices, 52 selected 3 answer choices, 34 selected 4 answer

choices, 39 selected 5 answer choices, 14 selected 6 answer choices, 20 selected 7 answer choices, and 4 selected 8 answer choices. Of 286 respondents, 107 selected "High earning potential" and "Great opportunity to obtain in-depth knowledge" as the reasons to pick the career choice with the same percentage of 11.4%.

Table 4. The factors influencing career choice (*n*=286)

Factors influencing career choice	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Intrinsic factors				
Great opportunity to obtain in-depth knowledge	58	49	107	11.4
Interesting experience in a particular field during college	57	24	81	8.6
Wider chance to become an expert in the particular field	39	8	47	5
Supporting academic capability in the particular field	18	5	23	2.5
Interested in community medicine	19	2	21	2.2
Wider chance to conduct research	16	4	20	2.1
Higher chance of becoming an educator	13	2	15	1.6
Uninteresting experience in a particular field during college (*e.g.*, feeling less skilled)	3	1	4	0.5
Extrinsic factors				
High earning potential	83	24	107	11.4
Flexible working time	70	28	98	10.4
Sufficient earnings to fulfill needs	70	28	98	10.4
Fix-scheduled working time	58	14	72	7.7
Easiness to balance between work and life	52	10	62	6.6
Honorable status in the community	27	20	47	5
Tolerable number of working hours	37	7	44	4.7
Existence of a role model in the career path	27	7	34	3.6
Influence from family and/or friend	27	6	33	3.6
Honorable status among colleagues	16	5	21	2.2
Easiness of admission to the particular program	5	0	5	0.5

Table 5 presents the careers that respondents would not select. The questions in the questionnaire were open-ended, which exhibited that the least preferred career choices were lecturer (18%), researcher (17.8%), and oral and maxillofacial pathologist (4.6%). 26.2% of the respondents had not decided yet. The results from Table 5 also show that the respondents did not choose certain careers due to a lack of interest in the particular field.

Table 5. The career choice unchosen by respondents and the reasonings (*n*=286)

The unchosen career choice and the reasonings	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Dental specialist				
Do not want to be overly busy	1	0	1	20
Require much time, energy, and cost	0	2	2	40
Feel underprivileged	1	0	1	20
Oral and maxillofacial surgeon				
Difficult	2	0	2	11.1
High cost and takes many years	2	3	5	27.7
Prolonged years of education	4	1	5	27.7
Uninterested	4	0	4	22.3
Feel less skilled	1	0	1	5.6
Less flexible working hours	1	0	1	5.6

The unchosen career choice and the reasonings	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Pediatric dentist				
Do not like children	5	3	8	72.7
Feel impatient	1	0	1	9.1
Uninterested	2	0	2	18.2
Orthodontist				
Uninterested	2	0	2	50
Feel less skilled	2	0	2	50
Dental radiologist				
Uninterested	1	6	7	100
Prosthodontist				
Uninterested	2	1	3	37.5
Difficult	1	1	2	25
Feel less skilled	2	1	3	37.5
Oral and maxillofacial pathologists				
Uninterested	4	8	12	100
Forensic odontologist				
Relate with corpses	1	0	1	20
Too afraid	2	0	2	40
Uninterested	0	2	2	40
Endodontist				
Uninterested	1	1	2	50
Feel less skilled	2	0	2	50
Military dentist				
Uninterested	2	1	3	100
Dental civil servant				
Do not want to be attached to a contract	2	1	3	100
Non-clinician				
Uninterested	2	1	3	50
Want to work as a clinician	0	2	2	33.3
Lack of easiness to balance between work and life	1	0	1	16.7
Administration and management				
Uninterested	7	0	7	77.8
Complicated	1	1	2	22.2
Hospital administration and management				
Complicated	1	0	1	14.3
Uninterested	4	2	6	85.7
Public health center administration and management				
Uninterested	3	0	3	100
Clinic administration and management				
Uninterested	1	0	1	100
Lecturer				
Flexible working time	5	1	6	10.9
Uninterested	20	9	29	52.7
Feel less skilled	9	2	11	20
Too stilted and structural	3	0	3	5.5
Less confident	2	2	4	7.3
Want to work as a clinician	1	1	2	3.6
Researcher				
Low curiousness	1	0	1	1.9
Uninterested	23	19	42	79.2
Feel incapable	3	1	4	7.6
Want to work as a clinician	1	1	2	3.8
Require prolonged dedication and time	4	0	4	7.5
Community Dentistry				
Uninterested	3	1	4	100
Non-healthcare field				
Uninterested	1	0	1	33.3
Wasting time	0	2	2	66.7
Have not decided yet	38	28	66	100

Table 6 shows that most respondents wanted to work at private hospitals (30%), and almost all wanted their workplace to be in an urban area (91%). The questions for the factor influencing the work location were made as open-ended questions. Most respondents who chose to work in urban area stated that their reasons were accessibility (38.3%) and strategic place (10.3%). Meanwhile, the majority of respondents chose to work in rural areas because they desired to return to their hometowns (25%). Some respondents selected isolated area because they wanted to aid the equal distribution of healthcare (50%). One respondent selected a very isolated area because of wanting to seek a new area to help.

Table 6. The work institution, location, and factors influencing work location choice (*n*=286)

Variable	Bachelor (*n*)	Profession (*n*)	Total (*n*)	Percentage (%)
Work institution				
Private practice	64	14	78	27.3
Utama clinic	23	40	63	22
Pratama clinic	6	3	9	3.1
Public health center	0	1	1	0.4
Private hospital	67	17	84	29.4
Government hospital	22	29	51	17.8
Work location				
Urban area	165	96	261	91
Rural area	12	8	20	7
Isolated area	4	0	4	1.5
Very isolated area	1	0	1	0.5
Factors influencing the choosing of an urban area				
Accessible place	65	35	100	38.3
Adequate facility	10	4	14	5.3
Higher salary	9	17	26	10
Strategic	12	15	27	10.3
Easy to develop a career	13	3	16	6.1
Higher market and opportunity	12	3	15	5.8
Society is more aware of oral health	9	2	11	4.2
Family	18	8	26	10
Nearby to domicile	17	9	26	10
Factors influencing the choosing of a rural area				
Desire to return to hometown	1	4	5	25
More quiet and comfortable environment	2	3	5	25
Seek interesting experiences	0	1	1	5
Conduct community services	3	0	3	15
Aid equal healthcare distribution	3	0	3	15
Dentists are still more common in the city	3	0	3	15
Factors influencing the choosing of an isolated area				
Conduct community services	1	0	1	25
Aid equal healthcare distribution	2	0	2	50
Lacking dentists in isolated areas	1	0	1	25
Factors influencing the choosing of a very isolated area				
Seek a new area to help	1	0	1	100

DISCUSSION

The dental education program consists of two stages, *i.e.*, the Bachelor's degree or the preclinical stage and the profession degree or the clinical stage.[22,23] Dental students enrolling for the Bachelor's degree are educated to be ready to conduct healthcare services in terms of knowledge and skill. The knowledge that must be

attained in terms of clinical and non-clinical involves clinical medicine, basic dentistry, clinical dentistry, psychological medicine, dental radiology, community dentistry, medical management, medical practice management, and others.[4] The skills that must be mastered involve anamnesis, physical examination, intraoral and extra oral examination, drug prescribing, and providing dental treatments that are trained at skills lab without involving patients.[3]

The dental profession education program continues after the students hold a Bachelor's degree in dentistry. Profession students are more responsible for providing treatments to the patients and directly involve themselves in their treatments. Profession students are responsible for controlling and checking the development of a patient's condition and discussing the patient's condition with the doctor in-charge. Following the dental education sequences of the Bachelor and professional degree, the students who are dentists can perform in their careers meeting their expectations.[13,24,25]

The study results in Table 1 show that 81.5% of the respondents participating in the study were females. Females have a higher interest in entering the dentistry field, as mentioned in a study conducted in Turkey in 2017.[18,26] The majority of respondents' domicile was in an urban area (74.5%); the same occurrence happened in studies by Cetthakrikul, et al. and Venturelli, et al. which exhibited that most of the dental students were from the urban area.[27,28] Almost all respondents' (95%) source of tuition funding was from the parents, and most of the respondents' parents had a high education level, both the mother (84.3%) and the father (89.5%). These findings were identical to the results from two studies conducted in Turkey and Brazil which stated that the majority of dental students were well-born in a higher social status and economic class.[18,29] A few of the parents worked in the healthcare field, with a percentage of 7.3% for the father and 14% for the mother. This finding was parallel with a study by Khami, *et al.* which mentioned that only a few dental students whose parents worked in the medical field.[30] In a study by Shaikh, *et al.* showed that dental students with relatives in medical fields tended to be driven by a greater inspiration from human interaction, in this case their parent's aspects compared to students without family members in these professions.[31]

The study results in Table 2 provide the career choice selected by the respondents, and 64.6% of them desired a career as a clinician. This finding was parallel with a study by Yan X, et al. in 2014 which mentioned that healthcare students, including dental students, tended to work as clinicians rather than non-clinicians because they wanted to implement the clinical knowledge they gained during college.[32] Some studies showed that most of the graduates from healthcare programs preferred to choose clinical specialties compared to general dentist, non-clinical, and non-medical.[17,30,33] The number of respondents who chose clinician was high (42.7%); 79 respondents chose to practice as dental specialists compared to general dentists. This finding was identical to a study by Fajrin et al. in 2022 which stated that most dental school graduates decided to continue their studies in the specialty programs; thus, they could work as dental specialists and open a clinic.[17]

The results depicted in Figure 1 shows that the respondents' most preferred specialties were orthodontist (8.1%), followed by endodontist (5.7%), and pediatric dentist (5.7%). Meanwhile, the least preferred specialty was dental radiologist (0%). These findings aligned with a study conducted at the Harvard School of Dental Medicine which stated that the orthodontic specialty was the most favorable program after completing clinical education as a dentist.[34] Table 2 shows that the non-clinician career was the least preferred (0.8%). One respondent chose a career as a lecturer, and one chose to work in hospital administration and management. The low career interest as a non-clinician might be due to the poor presumption that a non-clinician does not work as a practitioner who treats patients, and the less prestige gained compared to the career as a clinician.[8,35]

The results in Table 3 indicate that the respondents' most preferred combination careers were working as clinicians and in the hospital administration and management field (39.3%), followed by the combination of clinician and lecturer (36.3%), of all 99

respondents who chose combination careers. The clinician and educator or lecturer's role is to be the education provider in college and clinical education, role model, facilitator, and mentor in the learning process in accordance with their experiences as clinicians.[36,37] This combination career was found to be quite favorable to the respondents, as seen by the percentage of 36.3% of the respondents who chose a combination career.

The results in Table 4 show that the dominant factors influencing the respondents to choose certain careers were due to high earning potential, a great opportunity to obtain in-depth knowledge, flexible working time, sufficient earning to fulfill needs, interesting experiences in the particular field during college, fix-scheduled working time, easiness to balance between work and life, and influence from family and/or friend. These findings were parallel with a theory given by Winkel, which stated that an individual's career choice is affected by intrinsic and extrinsic factors.[38] The intrinsic factors influencing career choices are perception, expectation, the need to develop interests in a particular field, the life value of each person, intelligence level (*i.e.*, individual ability in achieving accomplishment), knowledge, and individual talent.[13,39,40] The most protruding intrinsic factors influencing this study's respondents to choose a career were interesting experiences during college and great opportunities to obtain in-depth knowledge.

The extrinsic factors motivating an individual to choose a career are occupation's salary, work-life balance feasibility, family's economic status, influence from family or friends, surrounding society, and demands.[13,39] The extrinsic factors influencing the career choice in this study were high earning potential, flexible working time, sufficient earnings to fulfill needs, fixed-scheduled working time, easiness of balancing work and life, and influence from family and/or friends. As observed from the questionnaire's results, the external factors dominated why respondents chose their careers. These findings aligned with a study by Al-Nomay, et al. in 2020 which stated that the primary factors influencing career choice were financial benefit, flexibility of working hours, safety in the workplace, and support from family and friends.[41,42]

The results in Table 5 show that the respondents' least preferred careers after completing their studies were lecturer, researcher, and oral and maxillofacial pathologist. The primary reasons were lacking interest in the particular fields, feeling less capable, and the desire to work as a clinician. These findings are similar to another study's results that stated that there was an insufficiency of dental medicine lecturers considering the high number of new Dentistry Faculty in Indonesia.[43]

After completing their studies, the workplace or institution chosen by the respondents was a private hospital, private clinic, and 'utama' clinic, as shown in Table 6. This finding was identical to a study by Prince and Weiner at Wits University that reported medical graduates tended to work in private hospitals because of the potential of getting higher revenue, preferable healthcare conditions, and more comfortable state of working in the private sector.[26,44,45] Table 6 also shows that only one respondent wanted to work in a public health center. This finding indicates that students have less interest in working in a public health center, as mentioned by a study by Irfan, et al., which reported that recently many public health centers lack dentists because of dentists' disinterest in working there.[46]

The results in Table 6 show that almost all respondents (91%) wanted to work in urban areas, and the other 7% wanted to work in rural areas. The major factors influencing the work location were the accessible place, adequate facility, and parents' advice as well as nearby parents' residence. The factors influencing the work location in rural areas were the desire to return to their hometown and conduct community service. Only 1.5% of respondents wanted to be located in an isolated area, and 0.5% wanted to be located in a very isolated area. The cause factors were the desire to conduct community service and aid equal healthcare distribution since dentists are still lacking in isolated and very isolated areas. These findings are identical to a study by Sapkota, et al. in 2015 which mentioned that the urban area still became the first option for students to work after graduation compared to rural, isolated, and very isolated areas, especially the students who were raised in the urban area their whole

life; meanwhile, the students who have been exposed to rural life tended to be more positive to have a career in the rural, isolated, or very isolated area.[45,47]

Some limitations were discovered in this study, *i.e.*, the data from the questionnaire were based on the respondent's perception; therefore, the conclusion was arranged only based on the data collected from the questionnaire responses using Google Forms, without data collected from the interview. Future studies are expected to collect more data from various faculties of Dentistry in Indonesia to depict a more comprehensive career choice. Future studies are also expected to identify specific differences between Bachelor's and profession career choice in terms of the knowledge and experience related to the specializations acquired by the students. Future studies are also expected to identify further the causing factors of why certain careers are least preferred; hence, the data can be utilized to improve the quality of Bachelor and professional programs in the Faculty of Dentistry, Padjadjaran University, particularly some related courses.

CONCLUSION

The most preferred career choice was as clinician. Career as a specialist dentist was most desirable among those who chose to be a clinician, with the most chosen as orthodontist. The main intrinsic and extrinsic factors were the great opportunity to obtain in-depth knowledge and the high salary. Most respondents selected private hospitals and urban areas as the work location. Implications of this research, help undergraduate dental students at the Faculty of Dentistry to be more informed about career choices aligned with their interests and goals, also for the study program to identify any gaps or areas where the curriculum or any experiences could be improved to better align with students' career interests and aspirations such as establish programs where students can connect with alumni in various fields.

Author Contributions: Conceptualization, F.M.P.; methodology, F.M.P.; validation, F.M.P., N.S.; formal analysis, F.A.D.; investigation, F.A.D.; resources, F.A.D.; data curation, F.A.D., F.M.P.; writing original draft preparation, F.A.D.; writing review and editing, F.A.D., F.M.P., N.S.; visualization, F.A.D.; supervision, F.M.P., N.S.; project administration, F.A.D.; funding acquisition, F.A.D., F.M.P., N.S.
Funding: This research received no external funding.
Institutional Review Board Statement: The research permit was obtained from the Padjadjaran University Research Ethics Commission No. 304/UN6.KEP/EC/2023 dated March, 2023.
Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.
Data Availability Statement: No data is available due to privacy restrictions.
Conflicts of Interest: The authors declare no conflict of interest.

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