



## First-year Australian dental students' reasons for career choice: a three-year perspective

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### ABSTRACT

The objective was to determine whether Australian dental students had different reasons for choosing dentistry over a three-year period.

**Methods:** A cross-sectional analytical study design was used and first year dental students enrolled from 2011 to 2014 participated. Data was collected using a self-administered questionnaire comprising of 51 items. Students selected one or more items for choosing dentistry.

**Results:** There were 361 students and 270 responded (75%). Of these 50% were female and the mean age was 21.6 ( $\pm 5.16$ ) years. The most common reasons for choosing dentistry were "time for family life" (54%) and "can be my own boss" (47%). In 2012, students perceived dentistry as a secure profession ( $p < 0.001$ ); in 2013 they felt dentistry would allow them more time for their families ( $p < 0.001$ ) and in 2014 they thought it was an interesting career ( $p = 0.003$ ). More females chose dentistry due to their dentist inspiring them ( $p = 0.02$ ) while most males chose dentistry expecting financial rewards ( $p = 0.004$ ).

**Conclusion:** The reasons for choosing dentistry varied according to the year of enrollment, age and gender. Fewer students chose dentistry as a secure profession and for having sufficient family time in the later years.

**MESH Terms:** Career choice, dental students

**Running Title:** Career choice dental students

**Key words:** Career choice, dental students

### INTRODUCTION

Studies have reported that students have various reasons for wanting to study dentistry including social status and wealth; <sup>1-3</sup> being self-employed; <sup>3, 4</sup> using ones hands to do work and to apply theory in practice <sup>2, 5, 6</sup> and due to altruism. <sup>2, 3, 5, 7</sup> These studies have reported differences in the students' motives related to background factors such as gender, race and parents' level of education. <sup>8-10</sup> Other factors including personal characteristics play a vital role in the career choice and as such, each student's reason may vary according to their gender, culture and country. <sup>11</sup> Studies have shown that males and females choose dentistry for different reasons. <sup>12</sup> Females tended to choose dentistry thinking that it would allow them to have a balanced lifestyle while males chose dentistry thinking that it was economically viable. <sup>12</sup>

Studies done in the same country at different times have also shown variations in the reasons for choosing dentistry. <sup>13</sup> Two studies carried out in Iran over a one-year period reported that students had different reasons for choosing dentistry even though the groups were similar to each other. <sup>14, 15</sup> Studies from Japan have also confirmed that over a two-year period, the reasons why students chose dentistry as a career had changed. <sup>16, 17</sup> These changes confirm that students born in different years are exposed to different environmental and social factors. As a result, each group of students who choose dentistry, irrespective of social, cultural and economic differences, is also influenced by factors prevalent at that time.

This study sought to determine whether Australian dental students have different reasons for choosing dentistry over a three-year period. This is the first study of its kind in Australia and allows for comparisons between the years of enrolment, age and gender.

This study was carried out at Griffith University between 2012 and 2014. Griffith University was established in 2004 and was the first new dental school in almost 60 years. It offers a unique suite of oral health degree programs including the Bachelor of Dental Sciences, Bachelor of Oral Health in Dental Science and Australia's first Dental Technology program at a university level. In Australia, an undergraduate dentistry program includes a five-year training program. This study was the first to identify the most common reasons for choosing dentistry amongst first year dental students over three years and to identify whether age and gender influence their reasons for choosing dentistry.



## METHODS

This was a cross-sectional analytical study and extended from 2012 until 2014. All first year dental students enrolled from 2012 to 2014 were invited to participate in the study. Inclusion criteria were students of all ages, gender and race. Students who had worked previously or studied prior to being enrolled in the dentistry programme were included.

Exclusion criteria included any student who had failed first year and those who were in their second or more senior years of study.

A standardized self-administered questionnaire the 'Du Toit Questionnaire Instrument for Health Workers and Students' developed by Du Toit et al<sup>13</sup> was used to collect the data. It comprised of two sections; the first collected information on demographics while the second included the possible reasons for choosing dentistry as a career. The second section consisted of 47 closed-ended statements and students selected all those statements relevant for them choosing dentistry. They could select more than one reason for choosing dentistry as a career. The last question, which was open-ended, allowed students to add any other reasons for choosing dentistry that were not included on the list.

Participation was voluntary and anonymous and all data was strictly confidential. Ethical clearance was obtained after an independent review and approval by the Griffith University Human Research and Ethics Committee Review Board. The research was conducted in full accordance with the World Medical Association Declaration of Helsinki. All participants provided signed consent on the cover letter of the questionnaire. None of the participants were below 18 years old.

The data was entered and analyzed using the SPSS version 15 software package. Descriptive statistics, chi-square and Fisher exact tests were used to identify the common reasons for choosing dentistry and for comparisons between the variables. All p-values less than 0.05 were considered statistically significant.

## RESULTS

There were 361 students enrolled during the study period; 129 in 2012; 108 in 2013 and 124 in 2014 and 270 responded (response rate of 75%). The response rates were 83%, 78% and 65% in 2012, 2013 and 2014 respectively. Of these 50% were female and 43% male. The remaining 7% did not state their gender. The mean age was 21.6 ( $\pm 5.16$ ) years and 53% were under twenty years old. The students were categorized into three age groups; 18 to 20, 21 to 25 and 26 to 40 years for ease of analyses. Figure 1 lists the most common reasons for choosing dentistry as reported by the total sample. Slightly more than half of the sample (54%) felt that dentistry would allow them to have time for their family commitments.

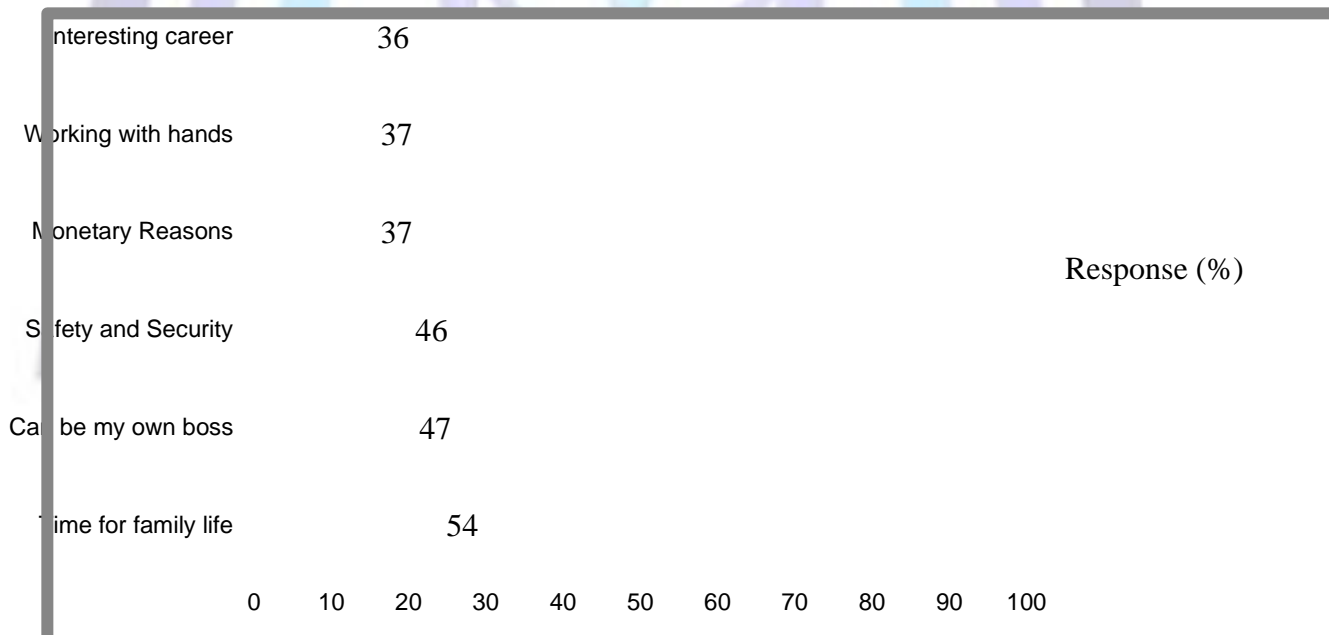


Figure 1. The most common reasons for choosing dentistry amongst the total sample (N=270).

The reasons for choosing dentistry did not change much over the three-year period (Table 1). Three specific items had statistically significant changes. There was a significant decrease in the number of students who chose "dentistry is a safe and secure profession" ( $p < 0.001$ ) and "I will have time for family life" ( $p < 0.001$ ) between 2012 and 2014.

Table 1. The most common reasons for choosing dentistry according to year of registration (N=270)

	2012 (n=107)	N (%)	2013 (n=84)	N (%)	2014(n=79)	N (%)
	Reason		Reason		Reason	
1	Time for family life	65 (61)	Time for family life	54 (64)	Interesting career	40 (51)
2	Safety and security	62 (58)	Monetary reasons	42 (50)	Challenging career	29 (37)
3	Can be my own boss	48 (45)	Safety and security	39 (46)	Lots of opportunities in dentistry	29 (37)
4	Challenging career	41 (38)	Working with hands	34 (41)	Time for family life	28 (35)
5	Working with hands	38 (36)	Can be my own boss	30 (36)	Working with hands	27 (34)

A significant number of students chose “dentistry is an interesting career” in 2014 compared to the previous years ( $p < 0.001$ ) (Table 2).

Table 2. Significant association between the year of registration and reasons for choosing dentistry (N=270)

Reason	2012 n (%)	2013 n (%)	2014 n (%)	P-Value
Safety and security	62 (58)	29 (46)	33 (29)	<0.001
Time for family life	65 (61)	54 (64)	28 (35)	<0.001
Interesting career	37 (35)	21 (25)	40 (50)	0.003
Dentist inspired me	23 (22)	14 (17)	28 (35)	0.014
Monetary reasons	37 (35)	42 (50)	22 (28)	0.010
Inspired by parents	14 (13)	8 (10)	2 (3)	0.043

Using Chi-Square

The males and females choose dentistry for different reasons as depicted in Figure 2.

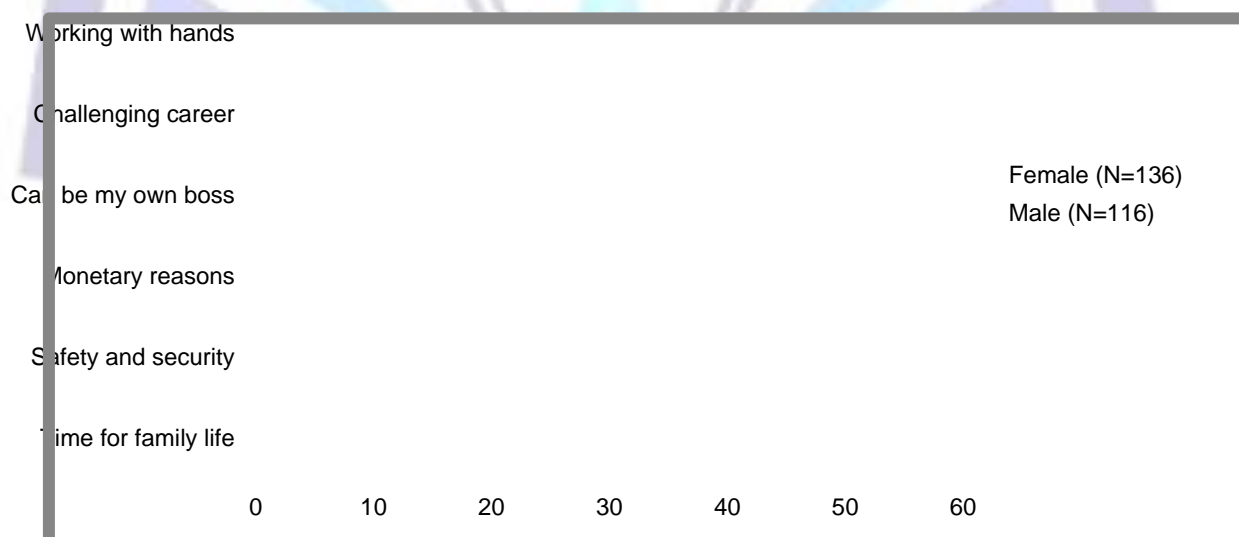


Figure 2. Most common reasons for choosing dentistry according to gender (N=252)

Five items had a statistically significant difference between the males and females (Table 3). Females chose dentistry, as their dentist inspired them ( $p = 0.002$ ), they felt it was interesting ( $p = 0.002$ ) and due to personal experiences ( $p = 0.002$ ) while a significant number of males perceived dentistry to be financially lucrative ( $p = 0.004$ ).



Table 3. Significant associations between gender and reasons for choosing dentistry (N=252)

Reasons	Male n (%)	Female n (%)	P Value *
My dentist inspired me	19 (16)	41 (30)	0.002
I wasn't interested in anything else	16 (14)	40 (29)	0.004
Interesting career	29 (25)	60 (44)	0.002
Motivation from personal experience	15 (13)	40 (29)	0.002
Monetary reasons	55 (47)	40 (29)	0.004

\*Using Fisher Exact

The reasons for choosing dentistry across the different age categories were similar; however, the two older categories had more similarities compared to the younger group. A significant number of older students had studied previously and felt they wanted to work with their hands while the younger group chose dentistry due to peer pressure or as a second choice to medicine (Table 4).

Table 4. Significant differences between the age categories and reasons for choosing dentistry (N=249)

Reason	18-20 years n (%)	21-25 years n (%)	26-40 years n (%)	P Value
Studied previously	9 (6)	26 (55)	25 (59)	<0.001
Working with hands	38 (26)	25 (53)	34 (54)	<0.001
My parents wanted me to be a dentist	36 (25)	5 (11)	1 (2)	0.001
Couldn't get into medicine	37 (26)	5 (11)	2 (5)	0.002
Not interested in anything else	40 (28)	10 (21)	4 (9)	0.034

Using Chi-Square

None of the students added any additional reasons for choosing dentistry in the open-ended question.

## DISCUSSION

The response rate in 2012 was 83 %, in 2013 78% and in 2014 65%. The survey was completed at a curricular course lecture session. The decrease in the response rate could be due to the University policy of lecture attendance not being compulsory and given that participation was voluntary, fewer students chose to participate in 2014.

The gender distribution of the students is consistent with other studies that reported more females registered in the dentistry course compared to males.<sup>13</sup>

Almost half (47%) were older than twenty years. Many students completed other degrees or diplomas and/or had been working before enrolling into dentistry and this could be responsible for the large number of relatively older students in the sample.

Just over half (54%) of all the participants were of the opinion that dentistry as a career, would allow them to have time for their family commitments. However, it must be noted, the number of students who selected this statement as a reason for choosing dentistry decreased significantly from 2012 to 2014. This could be due to the increasing number of dentists entering the dental field in Australia. On an annual basis, approximately 580 dentists will graduate from Australian dental universities.<sup>18</sup> Furthermore, based on the number of foreign-trained dentists entering the Australian workforce each year through the Australian Dental Council (ADC) pathway, these numbers are likely to be supplemented by an additional 200 overseas-trained dentists. This equates to approximately 780 new dentists entering the workforce annually.<sup>18</sup> This may be a reason for students enrolled in 2014 realizing that they would have to work longer hours for financial stability compared to students registered in 2012 and 2013.

In addition, the Australian Dental Association Victoria Branch (ADAVB) reported that there was an oversupply of dentists in 2014.<sup>19</sup> The ADAVB concluded that there had been a major increase in the number of dentists entering the workforce, which was the major contributing factor to this oversupply. As a result, many new graduate dentists were either unemployed or had insufficient work. The dental economy also slowed down and many dentists reported 'gaps' in their appointment books throughout the day.<sup>19</sup> Some of the factors contributing to the oversupply included: an increase in the number of dental schools, this resulted in the doubling of dental graduates compared to 2005. Dentists were also included on the Skilled Occupation List and this could have encouraged foreign dentists to migrate to Australia. This resulted in an increase of overseas-trained dentists from 110 in 2005 to about 230 in 2013. In addition, poor government funding for public dental schemes during 2012-2014 caused dentists to reduce their hours of practice or become redundant. There was also a decrease in patient spending on dental care due to a weakening of the economy that may have caused





patients to delay their regular dental check-ups. Some patients also view dental care as discretionary spending and have cut back on these costs. Lastly, some private health insurance providers are encouraging patients to go overseas to receive dental care as this may be cheaper.<sup>19</sup> In the ADAVB report, the key workforce issues identified by new graduates were that they were having difficulty finding work and a decrease in their earnings. These graduates reported that practices hiring new dentists required previous experience and they complained about quiet appointment books.<sup>19</sup> These factors could be responsible for the significant decrease in the number of students who chose dentistry as being a safe and secure career in 2014 compared to 2012. Further, this was confirmed by the significantly low number of students who perceived that dentistry would give them sufficient time for their family life in 2014. The 2014 cohort probably assumed that they would have to work longer hours and this would affect their family time.

Overall, the five most important motivations for pursuing a career in dentistry were similar to that reported by Du Toit et al.<sup>13</sup> It showed that in general, all of the students, irrespective of the year or country had similar reasons for wanting to pursue a career in dentistry. The main reasons reported in this study were 'time for family life', 'can be my own boss', 'safety and security', 'monetary reasons' and 'working with their hands'. Having sufficient family time was identified as the most important reason. This implied that students perceived a career in dentistry would allow them more 'flexibility' in choosing working hours and the opportunity to enjoy a better 'quality of life'. A survey of dental students in India found that 44.4% of students pursued dentistry because they could determine their own hours of work and 36.6% said that they would like to be their own boss.<sup>20</sup> In 2008, Gallagher et al reported similar findings, with the emphasis being 'professional status', 'financial benefits', 'job security', 'flexibility', 'independence' and 'good quality of life'.<sup>21</sup> A cross-cultural study by Karibe et al reported that 74% Canadian, 33% of Thai and 12% of Japanese responded to the economic/social category of motive factors.<sup>17</sup> The "economic/social" reasons included financial and job security, self-employment, status and prestige, control of time and working with hands. In the same study one of the primary motivations for Japanese and Swedish students was money which is similar to the reports in this study. Due to the high cost of dental care in Australia, dentistry is perceived as a lucrative profession. The government funding for public dental care is limited for primary dental services. This forces patients to seek dental care from private and specialist dental professionals. In Australia, common areas of specialty dental care include orthodontics, prosthodontics, implants and periodontics. The females were inclined to be inspired by their dentist and by their past dental experiences when compared to the males. This could be because females tend to visit dental facilities more than males and as a result had more interactions with their dentist.<sup>22</sup> These visits could have inspired them and given them the self-motivation to study dentistry. The dentist could have discussed dentistry as a career and portrayed it as an interesting career to pursue. A significant proportion of males chose dentistry thinking it was lucrative. This confirmed results from other studies, which reported that males were more likely to choose dentistry for financial reasons and were more concerned about working conditions compared to females.<sup>23, 24</sup> These working conditions included being autonomous, financial gains and sufficient time for their families. Females however, were more likely to choose dentistry for human needs such as inspiration from their dentist or being self-motivated which confirmed the results reported by Bourzgui et al.<sup>24</sup>

Most of the older students had studied previously and felt they wanted to work with their hands and be artistic. Younger students were more likely to feel pressurized by their peers and parents to study dentistry compared to the older ones. As students develop scholastically, they become more confident and are less likely to be influenced by peer pressure than younger students may be. Very few older students chose dentistry because of them not being accepted into medicine. This was understandable, as many of the older students had worked or studied previously and would be more mindful of the career path that they wanted to pursue.

## CONCLUSION

The reasons for choosing dentistry as a career changed with time, age and gender. There was a significant decrease in the number of students who felt that dentistry was "safe and secure" and that there would be "sufficient time for family life". This could be explained by the significant changes in the dental industry in Australia over the three-year study period. Females were more likely inspired by their dentist and thought dentistry was interesting while males were more concerned about the financial rewards. The older students were less likely to be pressurized by peers or parents compared to the younger students.

## RECOMMENDATIONS

This study was done at one dental school in Australia and might not represent all Australian first year dental students. Future studies are required in other Australian dental schools to compare student choices interstate.

## LIMITATIONS

The results are limited to one Australian dental school and might not represent all Australian dental students.

The questionnaire did not include questions on parent's educational level and profession. Many studies showed a strong correlation between the parent's educational level and profession and choosing dentistry as a career.

## ACKNOWLEDGEMENT AND COMPETING INTEREST



There are no competing interests. There is no conflict of interest and this research has received no funding.

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