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 (±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; 1-3 being self-employed; 1-3, 4 using one's hands to do work and to apply theory in practice; 1-3, 5, 6 and due to altruism. 1, 2, 3, 7 These studies have reported differences in the students’ motives related to background factors such as gender, race and parents’ level of education. 5-8, 10 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. 1, 11 Studies have shown that males and females choose dentistry for different reasons. 12 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. 12

Studies done in the same country at different times have also shown variations in the reasons for choosing dentistry. 13 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. 8, 11 Studies from Japan have also confirmed that over a two-year period, the reasons why students chose dentistry as a career had changed. 16, 17 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 13 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 (±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.
Table 1. The most common reasons for choosing dentistry according to year of registration (N=270)

<table>
<thead>
<tr>
<th>Reason</th>
<th>2012 (n=107) N (%)</th>
<th>2013 (n=84) N (%)</th>
<th>2014(n=79) N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Time for family life</td>
<td>65 (61)</td>
<td>54 (64)</td>
<td>Interesting career</td>
</tr>
<tr>
<td>2 Safety and security</td>
<td>62 (58)</td>
<td>Monetary reasons</td>
<td>42 (50)</td>
</tr>
<tr>
<td>3 Can be my own boss</td>
<td>48 (45)</td>
<td>Safety and security</td>
<td>39 (46)</td>
</tr>
<tr>
<td>4 Challenging career</td>
<td>41 (38)</td>
<td>Working with hands</td>
<td>34 (41)</td>
</tr>
<tr>
<td>5 Working with hands</td>
<td>38 (36)</td>
<td>Can be my own boss</td>
<td>30 (36)</td>
</tr>
</tbody>
</table>

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)

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

Using Chi-Square

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

- Female (N=136)
- Male (N=116)

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 (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).
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)

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

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. 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. 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. 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 over-supply of dentists in 2014. 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. 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...
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.
REFERENCES


