The Exercise & Sports Science Australia Graduate Destination Report

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September 2017
Acknowledgements

This research was funded by Exercise & Sports Science Australia (ESSA) and undertaken by the School of Health and Human Sciences at Southern Cross University, Coffs Harbour, Australia.

The research team would like to thank Alex Lawrence and Anita Hobson-Powell from ESSA for their guidance and support. We would also like to thank Matt Pluss for his assistance with the project. Most importantly, we thank all of the graduates who took the time to complete the survey.
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EXECUTIVE SUMMARY

The availability and popularity of higher education courses in exercise and sports science in Australia has increased exponentially in the last 20 years. Graduates of these courses may have a wide scope of career possibilities, but the distribution of the occupations and employment conditions has not been well defined. Despite the possibilities, opportunities for employment are thought to be limited. A previous report identified that a third of those working in the high performance sport and sports science workforce are seeking other employment due to a high workload, stagnant progression and poor support from their employers.

Aims of the Project

The research team set out to better understand: 1) the number and demographic of exercise and sports science graduates; 2) the distribution of their occupations and employment conditions; 3) their career progression; 4) satisfaction; and 5) their views on Exercise & Sports Science Australia’s accreditation and membership packages.

Method

This research project was a cross-sectional, quantitative study on graduates of Australian exercise and sports science undergraduate courses. An online survey instrument was used to collect data from graduates and other data was obtained from the Australian Government Department of Education and Training.

Results

GRADUATE DENOMINATOR AND RESPONDENT DEMOGRAPHICS

<table>
<thead>
<tr>
<th></th>
<th>TOTAL DENOMINATOR</th>
<th>SURVEY RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduates</td>
<td>16,671 (2006-2015)</td>
<td>747</td>
</tr>
<tr>
<td>Gender Balance</td>
<td>Female=47%, Male=53%</td>
<td>Female=51%, Male=49%</td>
</tr>
<tr>
<td>Age at Completion</td>
<td>19-21=58%, 22-25=30%, 26-29=6%</td>
<td>19-21=43%, 22-25=43%, 26-29=6%</td>
</tr>
<tr>
<td>Institutions</td>
<td>32</td>
<td>30</td>
</tr>
</tbody>
</table>
OCCUPATION AND EMPLOYMENT

Of the graduates surveyed, 70% were employed in the exercise and sports science workforce. The occupations of those in the workforce were predominantly accredited exercise physiologists (29%), personal trainers/fitness instructors (9%), teaching and/or research academics (8%), occupational rehabilitation consultants (5%), strength and conditioning coaches (4%), exercise scientists (3%) or sports scientists (3%). For those employed in the exercise and sports science workforce, 57% were employed full-time, 25% were employed part-time and 18% were employed on a casual basis. Less than 1% of all graduates were unemployed.

CAREER PROGRESSION

The major factors that enhanced progression were personal skills (31%), gaining experience (20%) and networking (20%). The major barriers to progression were a lack of jobs (29%) and a lack of recognition from employers (16%). A total of 41% of graduates had to volunteer in their current role (in addition to undergraduate course placement requirements) before gaining paid employment in the exercise and sports science workforce. Less than 50% of the workforce agrees that they have clear development opportunities or a clear progression pathway in their profession. A total of 14% of respondents completed an Honours course and 47% of respondents completed a post-graduate course after graduating from their undergraduate course.

CAREER SATISFACTION

For those in the exercise and sports science workforce, 35% were extremely satisfied and 48% were somewhat satisfied with their current work situation. The vast majority of individuals in the exercise and sports science workforce have only had 1-2 employers (74%) and more than 50% of the workforce plans to remain in their current profession for more than 10 years.

VIEWs ON ESSA ACCREDITATION AND MEMBERSHIP

Prior to completing this survey, 15% of respondents were not aware of ESSA. The most important benefits of accreditation are the eligibility to practice (68%) and the eligibility for Medicare, Department of Veterans’ Affairs, private health and workers compensation schemes (65%). The most important benefits of membership are the members only area of the ESSA website (39%) and the professional resources and downloads that are available (39%). The most common reasons for not obtaining accreditation/membership are that these packages are not required (67% and 68% for accreditation and membership, respectively) and that the cost does not justify the return (29% and 34% for accreditation and membership, respectively).
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Acronyms and Abbreviations

AEP = Accredited Exercise Physiologist
AES = Accredited Exercise Scientist
ASCA = Australian Strength and Conditioning Association
ASpS = Accredited Sports Scientist
ESSA = Exercise & Sports Science Australia
NUCAP = National University Course Accreditation Program
PDHPE = Personal Development, Health and Physical Education
1.0 INTRODUCTION AND AIMS

The popularity of higher education courses in exercise and sports science in Australia has increased exponentially in the last 20 years, with 72 courses across 28 universities holding the status of full accreditation under ESSA’s National University Course Accreditation Program (NUCAP). Anecdotally, however, careers in exercise and sports science are thought to be limited, especially without a post-graduate qualification.

Graduates of exercise and sports science undergraduate courses may have a wide scope of career possibilities from health, fitness and sport development through to high performance sports settings. While a career as an accredited exercise physiologist (AEP) may be the most well-defined career pathway, only a small proportion of exercise and sports science graduates are believed to obtain accreditation with ESSA as an AEP. Therefore, the career destination and progression of the remaining graduates is unclear, making it difficult for ESSA to align their services to the rest of the workforce.

A recent investigation into the Australian high performance and sports science workforce demonstrated that their professional development needs were not being met, and one-third of the workforce were dissatisfied with their current employer due to the stress of the high workload and unpaid overtime (Dawson et al., 2013). However, it is unclear if similar challenges exist across the exercise and sports science workforce as a whole. Therefore, the aim of this project was to investigate: 1) the number and demographic of Australian exercise and sports science graduates; 2) the distribution of their occupations and employment conditions; 3) their career progression; 4) satisfaction; and 5) their views on ESSA’s accreditation and membership packages.
## 2.0 THE RESEARCH PROCESS

### 2.1 Design

The project used a cross-sectional, quantitative survey design to collect data on graduates of Australian exercise and sports science undergraduate courses.

### 2.2 Defining the Graduates

For the purposes of this survey, an exercise and sports science course was defined as any course that was accredited by ESSA under the NUCAP, any course that was registered in the Australian Government Department of Education and Training ‘Human Movement’ Field of Education Code (069903), or any course with ‘exercise science’, ‘sports science’ or ‘human movement’ in the course name. An individual was considered eligible for this survey if they had completed one of the above-mentioned courses at the undergraduate level in Australia.

### 2.3 Obtaining the Denominator

Denominator information was obtained through a custom information request to the Australian Government Department of Education and Training. The information that was requested related specifically to the completions of undergraduate courses in Australia registered in the ‘Human Movement’ Field of Education Code (069903) between 2006 and 2015. This information included total completions, and completions by gender, age and education provider institution. Four Australian institutions (University of NSW, Western Sydney University, The University of New England and The University of Tasmania) were identified as not having their exercise and sports science course(s) registered in the ‘Human Movement’ Field of Education Code, and graduates from these institutions could not be included in the total denominator provided in this report.

### 2.4 Producing the Survey

The survey consisted of 65 items across the themes ‘background’, ‘education’, ‘work’ and ‘views on accreditation and membership’. The survey was developed in collaboration with ESSA staff and produced within the Qualtrics survey software system (Qualtrics, Provo, Utah, USA). The survey was piloted (n=30) before being made available online on the 15th March 2017 for a three month period.
2.5 Recruiting the Graduates

Two distinct recruitment strategies were used to obtain an ‘unbiased’ sample for the purpose of describing the distribution of occupations, while maximising total respondent numbers for all other purposes. The ‘unbiased’ sample (n=273) originated from education provider institutions attempting to contact all of their exercise and sports science graduates directly to invite them to complete the survey. The remainder of respondents came from a social media advertising campaign (n=474), which was combined with the sample above to generate the total sample (n=747). Separate web addresses, both with identical surveys, were used to distinguish between the two recruitment strategies.

The ‘unbiased’ sample was used only to describe the distribution of occupations (within section 5.1 subsection ‘Getting the Job’ below) as the total sample was considered somewhat biased towards those engaged online with some of the more specific terms used to identify the target audience of the social media advertising, including ‘exercise physiology’ and ‘personal trainer’.

2.6 Defining the Workforce

For the purpose of this survey, an occupation within the exercise and sports science workforce was defined as any role with a focus on sport or exercise. Exclusions included ‘physiotherapist’ and ‘PDHPE teacher’.

2.7 Cleaning and Analysing the Data

The data was downloaded from the Qualtrics online survey program into a file to allow the data to be cleaned and analysed within Microsoft Excel. The data cleaning process involved correction or deletion of incorrect data points.

For the purposes of the report, descriptive statistics were used to describe the basic features of the data in this research project. Categorical survey items were summarised as frequency distributions (i.e. percentage of respondents), whilst continuous survey items were converted to summary statistics (i.e. means and standard deviations). No inferential statistics were conducted.
3.0 GRADUATE DENOMINATOR

3.1 Total Completions

A total of 16,671 individuals completed an exercise and sports science undergraduate course in Australia between 2006 and 2015, excluding those institutions described in section 2.3. In 2006, there were 1,246 completions and in 2015, there were 2,253 completions. This represents an 81% increase in the number of completions across this 10-year period. Total completions per year are illustrated in Figure 1.

Figure 1: Total completions in exercise and sports science undergraduate courses between 2006 and 2015. Note: This does not include graduates from four Australian institutions as described in section 2.3.

3.2 Completions by Demographic

A total of 7,795 females (47%) and 8,876 males (53%) completed an exercise and sports science degree in Australia between 2006 and 2015. Completions in 2006 were 54% female and 46% male. Completions in 2015 were 42% female and 58% male. Completions by gender per year are illustrated in Figure 2.

Figure 2: Completions by gender in exercise and sports science undergraduate courses between 2006 and 2015. Note: This does not include graduates from four Australian institutions as described in section 2.3.
Age at completion was predominantly 19-21 (58%), or 22-25 (30%). A much smaller number of students were aged 26-29 (6%), 30-34 (3%), 35-39 (1%) or older (1%). A total of 32 education provider institutions offered an undergraduate course in exercise and sports science between 2006 and 2015. Total completions and respondents by education provider institution appear in Table 2.

**Table 2: Completions and respondents by education provider institution**

<table>
<thead>
<tr>
<th>EDUCATION PROVIDER INSTITUTION</th>
<th>COMPLETIONS (2006-2015)</th>
<th>RESPONDENTS</th>
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<tbody>
<tr>
<td>Edith Cowan University</td>
<td>2076</td>
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<td>The University of Notre Dame Australia</td>
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<tr>
<td>La Trobe University</td>
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<tr>
<td>University of New South Wales</td>
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<tr>
<td>Western Sydney University</td>
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<tr>
<td>University of New England</td>
<td>Not available</td>
<td>11</td>
</tr>
<tr>
<td>University of Tasmania</td>
<td>Not available</td>
<td>6</td>
</tr>
</tbody>
</table>
4.0 SURVEY RESPONDENTS

A total of 747 graduates of Australian exercise and sports science undergraduate courses completed the survey. Of the respondents, 41% were members of ESSA (32% full members, 9% student members and <1% academic members) and 38% were accredited with ESSA (21% AEP, 16% AES, 1% ASpS). Hence, more than half of the survey respondents were non-members and non-accredited with ESSA. A total of 467 respondents that graduated between 2006 and 2015 were captured, which represents 3% of the total sample as defined in section 3.1.

The mean age of the respondents was $30 \pm 8$ years (range=21-64 years) with a gender balance of 51% female and 49% male. Mean age at graduation was $21 \pm 5$ years (range=20-51 years) and the mean year of graduation was $2011 \pm 6$ (range=1976-2016). A total of 30 Australian education provider institutions were represented within the sample as per Table 2. Based on the gender, age and education provider institution of respondents, the sample was considered representative of the whole population as described in section 3.2.

Respondents grew up in a capital city (32%), metropolitan area (20%), large regional centre (20%), small regional centre (15%), rural (12%) and remote (2%) areas. Respondents who are currently working in the exercise and sports science industry live in a capital city (46%), metropolitan area (21%), large regional centre (20%), small regional centre (9%), rural (3%) or remote (2%) areas.
5.0 GRADUATE DESTINATION

5.1 Occupation and Employment

GETTING THE JOB

The data presented throughout this section is derived from the ‘unbiased sample’ as described in section 2.5. For these graduates, 70% were employed within the exercise and sports science workforce and 30% were employed elsewhere. The primary occupation of those in the workforce were predominantly accredited exercise physiologists (29% of all graduates), personal trainers/fitness instructors (9% of all graduates), teaching and/or research academics (8% of all graduates), occupational rehabilitation consultants (5% of all graduates), strength and conditioning coaches (4% of all graduates), exercise scientists (3% of all graduates) or sports scientists (3% of all graduates). All other exercise and sports science professionals (including high performance managers, sports administrators, sports coaches, sports trainers and cardiac scientists) had a distribution of ≤2% each.

Of the graduates who were not working in the exercise and sports science workforce (30% of all graduates), 16% were identified as having a ‘skilled’ occupation and 14% were identified as having an ‘unskilled’ occupation according to the Australian and New Zealand Standard Classification of Occupations. The most common skilled occupations included ‘PDHPE teacher’ (3% of all graduates), ‘secondary school teacher (non-PDHPE)’ (2% of all graduates) and ‘physiotherapist’ (2% of all graduates). The most common unskilled occupation included sales representative (4% of all graduates), hospitality worker (2% of all graduates) and administrative assistant (2% of all graduates). Less than 1% of all graduates were unemployed. A summary of the occupation distribution of all graduates is illustrated in Figure 3.

Figure 3: Occupation distribution of exercise and sports science graduates.
Graduates who do not hold ESSA accreditation or membership but work in the exercise and sports science workforce are employed predominantly as an academic (23%), personal trainer/fitness instructor (16%), strength and conditioning coach (14%), workplace injury prevention officer (9%), sports trainer (i.e. injuries and taping; 7%), exercise scientist (5%), sports scientist (5%), high performance manager (5%) occupational rehabilitation consultant (5%), cardiac scientist (5%) and sports coach (5%).

GOING FULL-TIME

For those working in the exercise and sports science workforce, 57% were employed full-time, 25% were employed part-time and 18% were employed on a casual basis. A total of 36% of the exercise and sports science workforce had a second job (with a separate employer), within the workforce. Classification of employment type by occupation appears in Figure 4. For those working in the exercise and sports science workforce part-time or casually, 24% were taking active steps to look for full-time employment. For those not currently in the exercise and sports science workforce, 17% were taking active steps to look for a job in the industry. The strategies that the graduates used to seek employment are illustrated in Figure 5.

Figure 4: Employment type by exercise and sports science occupation. Note: Self-employment was asked exclusive of whether the employment type was full-time, part-time or casual.
The gross income distribution of all graduates employed in the exercise and sports science workforce is illustrated in Figure 6 and the modal gross income by profession for full-time employees is illustrated in Figure 7. The highest paid professions in the industry are high performance managers and academics. While the mode wage of most of the professions was fairly low, at least one individual reported earning $100,000 gross income in every job category.

Figure 5: Strategies used by exercise and sports science graduates to look for employment

Figure 6: Gross income distribution of graduates employed in the exercise and sports science workforce
A total of 41% of graduates had to volunteer in their current role (in addition to undergraduate course placement requirements) before gaining paid employment in the exercise and sports science workforce. Volunteering was required for >12 months (18% of workforce), 7-12 months (6% of workforce), 2-6 months (12% of workforce) or 7-31 days (5% of workforce). As a result of completing the exercise and sports science undergraduate course, only a small percentage of all graduates experienced increased confidence (15%), increased job satisfaction (5%), increased income (3%) or increased respect at work (1%). Those employed in the exercise and sports science workforce overwhelmingly had the ambition to progress their career (87%), while the remainder either had no ambition to progress (3%) or felt neutral about their ambition to progress (10%).

5.3 Career Progression

STARTING OUT

The Exercise & Sports Science Australia Graduate Destination Report

The factors identified by graduates as enhancing and limiting progression are illustrated in Figure 8 and Figure 9, respectively. The major factors that enhanced progression were personal skills (31%), gaining experience (20%), networking (20%) and volunteering (17%). The major barriers to progression were a lack of jobs (29%), a lack of recognition from employers (16%) and a lack of experience (15%).
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FURTHER EDUCATION

A total of 14% of respondents completed an Honours course and 47% of respondents completed a post-graduate course after graduating from their undergraduate course. There were 8% of respondents who had completed another undergraduate course since completing exercise and sports science. A further 30% of graduates were enrolled as a student in further education (e.g., Honours, post-graduate or a different undergraduate course). A total of 22% had obtained Certificate 3 in Fitness and 24% had obtained Certificate 4 in Fitness. Some of the respondents had also obtained ASCA Strength and Conditioning Coach certifications including Level 1 (15%), Level 2 (4%) and Level 3 (0.1%).

DEVELOPMENT AND SUPPORT

A range of questions was asked relating to the development opportunities and the support available for those in the exercise and sports science workforce. The response distribution is illustrated in Figure 10. Less than 50% of the workforce agrees that they have clear development opportunities or a clear progression pathway in their profession.
5.2 Career Satisfaction

For those in the exercise and sports science workforce, 35% were extremely satisfied, 48% were somewhat satisfied, 8% were neither satisfied nor dissatisfied, 7% were somewhat dissatisfied and 2% were extremely dissatisfied with their current work situation. The intentions of those in the exercise and sports science workforce to remain in their current role, in their current profession and in the exercise and sports science workforce is illustrated in Figure 11. A total of 61% of individuals in the workforce have the intention to leave their current role in the next two years or less, while more than 50% of the workforce plans to remain in their current profession for more than 10 years.

Figure 11: The intentions of those in the exercise and sports science workforce to remain in their current role, in their current profession, and in the exercise and sports science workforce

5.4 Views on ESSA Accreditation and Membership

AWARENESS AND RELEVANCE OF ESSA

Prior to completing this survey, 15% of respondents were not aware of ESSA (or its previous name AAESS). The perceived applicability of ESSA to the current and future employment of the graduates is illustrated in Figure 12. A total of 36% of graduates in the exercise and sports science workforce have a professional membership other than ESSA. The distribution of professional memberships obtained by graduates in the exercise and sports science workforce is illustrated in Figure 13. The most common reasons why graduates obtained non-ESSA memberships were because it was a requirement for their work (22%), for professional development opportunities (9%) or for conference attendance/discount (8%).

Figure 12: Perceived applicability of ESSA to the current and future employment of the graduates
The perceived benefits of ESSA accreditation and membership, as described by current affiliates, are illustrated in Figure 14 and Figure 15, respectively. The most important benefits of accreditation are the eligibility to practice (68%) and the eligibility for Medicare, Department of Veterans’ Affairs, private health and workers compensation schemes (65%). The most important benefits of membership are the members only area of the ESSA website (39%) and the professional resources and downloads that are available (39%).
The reasons why graduates have not obtained ESSA accreditation and membership are illustrated in Figure 15. The most common reasons are that these packages are not required in the profession of the graduate (67% and 68% for accreditation and membership, respectively) and that the cost does not justify the return (29% and 34% for accreditation and membership, respectively). More than half of the graduates described the cost of accreditation as somewhat unfair (32%) or extremely unfair (20%).

LIMITATIONS OF ESSA PACKAGES
6.0 DISCUSSION

A major finding of this report was that a relatively high percentage of graduates (70%) have secured employment in the exercise and sports science workforce. However, a high percentage of these graduates are employed on a part-time or casual basis (43%), and many are seeking full-time work (24%). The most common profession in the workforce is an accredited exercise physiologist, and interestingly, another common profession (and the most common profession for those not affiliated with ESSA) was a teaching and/or research academic. With 32 higher education institutions offering exercise and sports science courses across Australia (and several with multiple campus locations), it is not surprising that many graduates are needed to teach these courses. In comparison to these professions, very few graduates are working as an exercise scientist or sports scientist. While the unemployment rate for all graduates is less than 1%, 14% of all graduates are currently working unskilled jobs and a similar number (17%) of those currently working outside of the exercise and sports science industry are seeking employment within the industry.

Opposed to popular belief, high paying jobs do exist within the exercise and sports science industry, with selected graduates reporting that they were paid >$100,000 gross income per annum in all of the major exercise and sports science professions outlined in this report. Further, the majority of graduates who work in academia and high performance management receive a desirable annual wage of $80,000-$89,999 and $110,000-$110,999, respectively. However, due to the number of graduates working part-time, casual and/or unskilled jobs, almost half of the graduates surveyed are earning less than $50,000 gross income per annum. The most common gross salary for full-time accredited exercise physiologists, full-time exercise scientists and full-time sports scientists was $50,000-$59,999 per annum. While accredited exercise physiologists would be expected to earn more than their less qualified counterparts, these figures are likely a result of this survey capturing a high proportion of self-employed workers and/or workers in the early stages of their career.

The exercise and sports science workforce is highly educated considering 47% of graduates had completed a post-graduate degree and a further 30% of graduates were currently enrolled in further education. This is not unexpected considering two of the major professions identified in this report (AEP and academic) generally require a post-graduate qualification. Despite these qualifications, 42% of the workforce was required to volunteer in their current role before being paid, and 18% of the workforce volunteered for a period of greater than 12 months before being paid. Indeed, volunteering was identified as a major factor resulting in progression in the exercise and sports science workforce, alongside gaining experience (which may also include volunteering), networking, and having adequate personal skills. Hence, students and recent graduates are recommended to maximize such factors for increased success in the exercise and sports science workforce.

Exercise and sports science professionals have a high amount of support in the workplace. The majority of those in the industry agreed that they have access to direct formal management, peer support and mentorship. In opposition to the previous report (Dawson et al., 2013), the majority of graduates did state that they have access to adequate training programs, but less than half of the workforce has clear development opportunities or a clear progression pathway in their profession, which may be another contributor to the relatively low wages in some of the professions. Despite these challenges, most of the workforce is satisfied with their job, and has demonstrated commitment to their role with only 1-2 employers to date. While 61% of individuals plan to leave their current role in the next three years, the vast majority plans to remain in their profession and in the exercise and sports science workforce indefinitely.

This report has identified that there are three other professional bodies (aside from ESSA) from which graduates working in the industry obtain membership, including the Australian Strength and Conditioning Association, Fitness Australia and Sports Medicine Australia. However, ESSA membership is about five times more common than these other professional bodies across the industry as a whole. The ESSA affiliates highly value the opportunity to benefit from Medicare, Department of Veterans’ Affairs and other health schemes such as private health and workers compensation. They also value the members only area of the website, downloads, EBSCO journals and job advertisements, while discounted products, the members magazine and the mentorship program are of lower importance. Non-affiliates of ESSA (who are primarily academics, personal trainers and strength and conditioning coaches) either do not see a benefit of ESSA’s available packages, or believe that the benefits are not justified by the cost, and nearly 20% of these graduates identified that the difficult application process was a major reason why they had not obtained ESSA membership or accreditation.
7.0 CONCLUSION

Despite the success of most graduates in obtaining exercise and sports science employment, many are part-time or casual and still seeking full-time work. The most common profession for graduates is an accredited exercise physiologist, whereas very few graduates gain employment as an exercise scientist or sports scientist. The workforce is highly educated, and has attributed their progression to volunteering, networking and their personal skills. While the workforce is well supported, many professions lack development opportunities or a clear progression pathway. Despite these challenges, most of the workforce is satisfied with their job and plans to remain in their profession and in the exercise and sports science industry indefinitely.