

**Running Head: EXPLORING THE OUTCOMES OF PSYCHOLOGY
UNDERGRADUATES**

**Investigating the employment outcomes, student satisfaction, and self-perceived
development of graduate attributes in Adelaide University Psychology Graduates.**

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Abstract

The undergraduate psychology degree has become one of the most popular degrees in tertiary education as of late. In an environment where universities are being increasingly held accountable for the relative success of their students, pedagogical research into the outcomes and development of psychology graduates is critical, especially as psychology graduates tend to fare poorly within the job market. This current study aims to contribute to the growing literature on this population, investigating the self-perceived development of graduate attributes, student satisfaction, and employment outcomes of undergraduate psychology students from the University of Adelaide. Through a sample of 67 psychology graduates (n = 27 bachelor's graduates, n = 40 honours graduates), participants completed a set of Likert scale questions relating to the self-perceived development of the University of Adelaide's established graduate attributes. Their overall satisfaction, employment, and degree relevancy, were also gathered for analysis. Low-levels of employment relevancy, and degree utility, were found in the early employment outcomes of these undergraduates. High levels of self-perceived attribute development and satisfaction were also found, and self-perceived development was strongly correlated with student satisfaction. Differences in self-perceived development, as well as employment outcomes and satisfaction, were also observed between the two graduate types, illustrating a number of advantages that the honours degree provides over the conventional major. Suggestions for future research were made, and the implications of these results were discussed in the context of prior research.

Declaration

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

September 2020

Signature:

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Contributions

In writing this thesis, my supervisor and I collaborated to create the research topic and questions of interest, as well as design the most appropriate methodology to answer these questions. The literature review, ethics applications, and Qualtrics Survey, were each written by myself. Furthermore, all of the recruitment information, data collection, data analysis, including the RStudio code, and thesis write-up, was done by myself.

Signature:

Chapter 1: Introduction

1.1 Background

The psychology undergraduate degree has progressively become one of the most popular undergraduate majors in Australia (McCrimdell, 2014). While the nature of this degree is highly versatile itself, many graduates are often left uncertain of the skills that they have acquired during study, and how these may be used to find employment in psychology, or other allied professions. It is common for students to view a career as a registered psychologist to be the conventional career choice, although this is a highly competitive and often misunderstood tertiary pathway. The Psychology Board of Australia requires a minimum of 6 years of study to become a registered psychologist, comprised of a bachelor's degree (a minimum of 3 years), an honours degree (a minimum of 1 year), and a master's degree (a minimum of 2 years) (APS, 2010). This is one of many career pathways that graduates may choose to pursue however, and the majority of undergraduate psychology students do not proceed past their fourth year of study (Martin, Cranney, & Varcin, 2013). This begs the question: What happens to those who complete an undergraduate degree in psychology, and where do these individuals find work?

1.1.2 The Graduate Outcomes Survey

The Graduate Outcomes Survey, funded by the Australian government, is one of the leading methods by which the outcomes of Australian university students are measured; each year university graduates of varying institutions report their own experiences of tertiary education, and subsequent employment outcomes, through this survey (QILT, 2020a). According to the 2019 Graduate Outcomes Survey, 35% of psychology undergraduates proceeded into the postgraduate stages of psychology, while 63.4% of psychology

undergraduates were in full-time working positions (QILT, 2019a). Full-time rates of employment are often used as a means to assess the relative success of a student post-graduation, and in 2019, psychology was reported as having one of the lowest rates of full-time employment when compared to other disciplines (QILT, 2019a). While this is based upon early employment outcomes, and tends to improve over time (QILT, 2019b), this paints a bleak picture of how useful the psychology degree is in finding full-time work. It may also be argued that full-time employment percentages do not effectively gauge the success of graduates' employment outcomes, as it provides a limited understanding of how relevant their education has been in gaining work (Qenani, MacDougall, & Sexton, 2014). As psychology graduates primarily use tertiary education as a means of securing employment relevant to their learning (Trapp et al., 2011), the Graduate Outcomes Survey does not accurately inform us of how successful psychology students are in finding work within their discipline. When paired with the popularity of a psychology undergraduate degree, it is clear that more detailed research examining the outcomes of these students is necessary.

1.2 Undergraduate Degrees and Their Graduate Outcomes

Undergraduate degrees are becoming an increasingly common post-secondary school qualification amongst Australians. This growth in popularity is reinforced by the 2016 Australian Census, reporting that over 24% of Australians hold a bachelor's degree or higher, which is a significant growth from the 16% a decade prior (ABS, 2017). People choose to pursue tertiary education for a number of reasons, but of the most common is to obtain the qualifications necessary to secure future employment (Menon, Pashourtidou, Polycarpou, & Pashardes, 2012). While this trend is encouraging, as it emphasises that people are becoming more considerate of their future, this creates a highly competitive job market as a result (Jackson, 2016). For those in popular degrees, such as the psychology undergraduate, this has

consequently made gaining employment more difficult due to intense competition amongst fellow graduates (Jackson, 2016). Tertiary degrees must therefore provide students with the ability to successfully navigate the employment options of their discipline, especially in the current climate (Brooks & Everett, 2008).

1.2.1 Quantifying Employability

While pedagogical research has been conducted in the past to examine employment trends in university graduates, this remains an area that is not completely understood (Oliver & Jorre de St Jorre, 2018). Attempts to define employability remains a pertinent aspect of these discussions, as understanding why employment trends differ amongst graduates requires a way to quantify what they have gained from their tertiary education (Ingleby, 2015). As research into this field grows it has become apparent that this is not easily done however, as employability is not effectively reducible to a single factor. This was highlighted in a paper that discussed employability as a “complex mosaic” of different elements, and one of the most prominent “buzzword[s]” in organisational psychology, despite the fact that there is not a clear consensus as to what it means (Forrier & Sels, 2003, p. 102).

Many researchers have suggested that a quantifiable approach to employability is necessary, as while there are many definitions and models, no true agreement amongst academics exists (Römgens, Scoupe, & Beusaert, 2019). A recent literature review sought to solve this, utilising a multi-dimensional model that generated four distinct components of employability: disciplinary knowledge and general skills; social/networking skills; lifelong learning and flexibility; and one’s metacognitive capabilities (Römgens et al., 2019). These were established in a model similar to the capability model proposed by Hinchliffe and Jolly (2011), who believed employability to be a set of holistic attributes present in one’s identity,

rather than a general list of transferable skills. Previous literature concerning Australian undergraduates have supported the use of a capability model, suggesting that it is an effective manner of “conceptualising graduate employability” in research (Jackson, 2016, p.1314).

1.2.2 The Rise of Graduate Attributes

Graduate attributes are a concept that has become well-known amongst Australian tertiary institutions, and refers to a list of broad competencies that students will have after attaining their degree (Oliver & Jorre de St Jorre, 2018). Integrated within a number of university programs, these attributes comprise a list of general learning outcomes that students should expect from their education, ensuring that they are appropriately developed in a range of purposeful areas (Hill, Walkington, & France, 2016). Importantly, these attributes relate not only to the skills that graduates attain from their degree, but their ability to apply these in a range of contexts, similarly to the capability model (Hinchliffe & Jolly, 2011).

Graduate attributes have subsequently become a single term used to describe a range of different concepts, with some researchers suggesting that they are a means to quantify employability itself (Oliver & Jorre de St Jorre, 2018). It is unsurprising then that this concept is becoming a popular means to inform university curriculums, as it offers a “quality assurance” of their graduates (Hill et al., 2016, p. 156). This is particularly vital in a neoliberal climate where universities are held increasingly accountable for the relative success of their students (Ingleby, 2015). Importantly, graduate attributes need to be contextualised to the discipline itself, so to reflect the practice of a subject rather than a general set of skills. This has caused some debate surrounding how effectively universities implement these attributes, with academics suggesting that universities employ them in too broad a manner, much like a glorified list of generic skills (Hill et al., 2016).

1.3 The Undergraduate Psychology Degree

A psychology undergraduate degree is believed to offer a unique set of proficiencies, as it is considered to combine the generalist skills of a liberal arts degree with the academic rigour of its own scientific philosophies (Stoloff, Curtis, Rodgers, Brewster, & McCarthy, 2012). While psychology is not a liberal arts degree itself, the observable overlap in the skills between the two suggests that these students have a greater level of employability than graduates of similar science-based undergraduate programs (Haskell et al., 2012). Gannaway (2010) proposed that this makes psychology students desirable candidates for many workplaces, as they are provided with general skills, such as communicative and critical thinking aptitudes, as well as a strong knowledge of the research practices and discipline itself. As a low number of psychology students enter fields entirely related to psychology itself, such as becoming a clinical psychologist, these graduates should expect to branch into a variety of allied professions as a result, such as social work or research (Landrum, 2001). Ensuring that students recognise how these jobs relate to their learning however, depends heavily on how successfully career preparation has been integrated within their degree (Conroy et al., 2020).

1.3.1 APAC's Graduate Attributes

Both undergraduate and postgraduate psychology courses within Australia adhere to a strict accreditation standard regulated by the Australian Psychology Accreditation Council (APAC). This is done under the Health Regulation National Law Act of 2009, and is enforced to guarantee a common standard amongst accredited psychology programs in Australia (APAC, 2019). This ensures that students complete their degrees equipped with the sufficient means to navigate relevant employment outcomes, or continue onto post-graduate study.

Against the accreditation standards of the APAC, a list of graduate attributes were proposed in the document *Graduate Attributes of the Four-Year Australian Education Program* (2009). This list serves as a set of recommended competencies that individuals completing an undergraduate psychology degree should be capable of demonstrating upon graduation (Table 1). This is distinct from the accreditation standards set by the APAC themselves, though not to say they are mutually exclusive, as these graduate attributes are reflective of the scientist-practitioner model also supporting the accreditation process (APAC, 2019).

Table 1

APAC's List of Graduate Attributes (Cranney et al., 2009)

Attribute	Summary
Knowledge and Understanding of Psychology	The capability of demonstrating major concepts, theoretical perspectives, empirical findings, and historical trends in the core topics of psychology.
Research Methods in Psychology	The capability of understanding, applying, and evaluating the basic research methods found in psychology, inclusive of research design, data analysis and interpretation, and appropriate use of the relevant technologies.
Critical Thinking Skills in Psychology	Respect and use critical and creative thinking, sceptical inquiry, and the scientific approach to solve problems related to behaviour and mental processes.
Values in Psychology	Value empirical evidence; tolerate ambiguity in the search for a greater understanding of behaviour and knowledge structures; act ethically; understand the complexity of sociocultural and international diversity.
Communication Skills in Psychology	Communicate effectively in a variety of formats, and in a variety of contexts.
Learning and the Application of Psychology	Understand and apply psychological principles to personal, social, and organisational issues.

Each of these attributes highlight the expected foundational development of psychology undergraduates, ensuring that they are equipped with a diverse range of applicable competencies (APAC, 2019). Furthermore, these attributes apply to those in any undergraduate psychology program within Australia, though as to be expected are developed in a greater capacity for students completing their honours degree (Cranney et al., 2009).

1.4 The Expectations and Reality of Psychology Degrees

A discrepancy between the perceptions of postgraduate employment, and the reality of the labour market, has been commonly observed amongst psychology undergraduates. This is often attributed to students expecting psychology to embrace a stronger emphasis on practical-based skills rather than research and theory (Hamilton et al., 2018). As a result, psychology graduates may question the usefulness of their qualification, as their expectations of learning outcomes, and the reality of what they are taught, do not align. This leads many to believe they were not adequately prepared for a career in psychology as a result (Meyers, Reid, & Quina, 1998; Haskell et al., 2012). Undergraduate psychology degrees therefore appear to have a difficulty in bridging the gap between the expectations and reality of their discipline, which may ultimately affect the early employment outcomes of these students.

Landrum (2018) believed that addressing this concern is vital in ensuring successful post-graduate outcomes for undergraduate psychology students. This is because possessing a degree itself is no longer considered an “ultimate credential” when finding work, as students and employers alike struggle to understand what it represents in a working context (Landrum, 2018, p. 84). Furthermore, it was suggested that a misalignment between career affordances, which are the opportunities and limitations of a degree, and student alignment, which is how well a student understands their own academic and career goals, places psychology at risk of

producing graduates with an identity crisis (Landrum, 2018). This risk does not stem from the degree itself however, as its flexible nature means graduates may use it to enter a variety of occupational contexts that are in, or relate to, the discipline (Appleby, 2018). Instead, insufficient career planning during the degree places students at risk of not understanding the versatility of their education, which consequently limits their employment outcomes (Conroy et al., 2020). This has been exemplified in psychology undergraduates listing their degree as having a lower relatedness and relevancy in early job acquisition when compared to graduates whose career path is more clearly defined (Borden & Rajecki, 2000). Ensuring that students have been equipped with sufficient career planning, allowing for them to confidently navigate post-graduate employment, is therefore essential in producing successful graduate outcomes (Macera & Cohen, 2006; Haskell et al., 2012).

1.4.1 Undergraduates and Self-Awareness

Being self-aware of one's abilities is especially important for newly graduated students, as to navigate unfamiliar job markets successfully one has to know how they are qualified, and for what jobs they are qualified for (Marais & Perkins, 2012). Murdoch (2016) proposed that for undergraduate psychology programs this self-awareness may be achieved through a focus on creating psychologically literate students. This means that educators should equip students with the ability to successfully apply their psychological skills and knowledge in interpersonal and professional contexts (Murdoch, 2016). Despite the importance of facilitating self-awareness in graduates, it is common for these individuals to struggle with understanding their degree's utility. This is because students fail to recognise the interconnected ways in which coursework develops their competencies and skills, and how these relate to future careers (Scott, Connell, Thomson, & Willison, 2019). This is considered especially prominent in psychology undergraduates however, as psychology itself has very few proficiencies exclusive

to itself, meaning that students do not understand how they are uniquely suitable for particular occupations over others (Murdoch, 2016). Psychology students may therefore struggle with building an identity from their degree, which affects their early employment outcomes in a similar way to those with a liberal arts degree (Rajecki & Borden, 2011). Haskell et al. (2012) advocated that psychology educators therefore have a duty to guide students to “understand how these skills are relevant in the working world” (p. 164).

1.5 Graduate Satisfaction

Measuring the satisfaction of graduates has become a popular means of assessing degree quality within universities, providing insight into how students engage with their education (Bigné, Moliner, & Sánchez, 2003). Previous literature has found that perceived skill acquisition appears to be a significant predictor of student satisfaction, with the assumption being that satisfied graduates are more effectively developed, and subsequently, better equipped in finding future employment (Martínez-Roget, Esparís, & Vázquez-Rozas, 2020). Investigating student satisfaction at a discipline-specific level may therefore provide unique insight into how successfully degrees are preparing students for their post-graduate employment (Green, Hood, & Neumann, 2015).

1.5.1 The Satisfaction of Psychology Undergraduates

Green et al. (2015) suggested that examining the satisfaction of undergraduate psychology students is necessary due to the misunderstood nature of its employment outcomes and postgraduate pathways. This was particularly noted as many students may feel disappointed upon realising that their psychology degree is focused more on scientific method and research, rather than practical-based teachings (Green et al., 2015).

Few studies have focused exclusively on examining the satisfaction of undergraduate psychology students. Sears et al. (2017) recently conducted research assessing the satisfaction of bachelor's and honours students, finding that teaching quality, academic challenge, and degree type, were all significant predictors of satisfaction amongst psychology undergraduates. Importantly, honours graduates rated themselves as being more satisfied with their education and career-readiness overall, potentially due to the rewarding nature of the thesis found in their degree (Sears et al., 2017). The expectations and interest of psychology students have also been found to have a moderate positive association with overall satisfaction (Olivares, 2001). This could be troublesome for psychology courses as a result, as the discrepancy between the expectations and reality of psychology programs may negatively influence the satisfaction of students as they progress through their degree (Hamilton et al., 2018).

Despite psychology being impacted by concerns of unclear career paths, and bleak early employment outcomes, the overall satisfaction of psychology undergraduates in the Australian Student Experience Survey was high. The 2019 Student Experience Survey reported that psychology undergraduates responded with an 82.5% satisfaction rating towards their degree, and an 84.1% towards the quality of teaching; this was slightly higher than the mean satisfaction ratings of all disciplines, which were 78.5% and 79.8% respectively (QILT, 2020c). This suggests that Australian psychology undergraduates are generally satisfied with their degrees, however understanding its predictors requires further examination in current literature.

1.6 Current Research

This study seeks to improve our current understanding of how undergraduate psychology courses develop their students, and prepare them for careers post-graduation.

Furthermore, graduate attributes will be used to gauge the self-perceived development of these students, and its potential relationship with employment outcomes and satisfaction will be examined. Previous research conducted into this population has examined employment outcomes, self-perceived development, and student satisfaction as unrelated variables, which makes this a sizeable gap in the current literature (QILT, 2020a; QILT, 2020c). The following quantitative study attempts to fill this gap, and will be informed by four broad research questions:

“What sort of occupations do undergraduate psychology students attain post-graduation, and how may their degree be relevant to this employment?”

“Do psychology undergraduates from the University of Adelaide believe that they have attained the appropriate outcomes reflective of the graduate attributes?”

“In what ways does the self-perceived development of graduate attributes relate to the employment outcomes of undergraduate psychology students?”

“How satisfied are psychology undergraduates with their education, and how may this relate to their self-perceived development?”

This research will help provide a comprehensive account of the experiences of psychology undergraduates from the University of Adelaide, illustrating how successfully this degree develops their own capabilities, and whether their education has facilitated successful post-graduate outcomes. The implications of these findings will be discussed, and suggestions for future curriculum design and research will be proposed.

Chapter 2: Methods

2.1 Current Study

This study utilised an online survey that consisted of items pertaining to the development, satisfaction, and employment outcomes of students that had recently completed an undergraduate psychology degree at the University of Adelaide.

2.2 Participants

In order to be eligible for inclusion in the study, participants needed to have completed either a Bachelor of Psychological Science, or an Honours Degree of Bachelor of Psychological Science, at the University of Adelaide between 2017 and 2019. Importantly, students who had completed further postgraduate study, such as a master's or PHD degree, and graduates from different universities, were excluded from the scope of this study. This was done to ensure that all students had a relatively uniform experience, so to not negatively influence the results.

2.2.1 Data Screening

73 participants completed the study, however 6 of these were removed during the data screening process. This was done as they did not meet the eligibility criteria of this study, with several having completed their degree prior to 2017 ($n=5$), while another had completed a postgraduate master's degree in psychology ($n=1$).

2.2.2 Recruitment

Recruitment was conducted through the use of several online services, alongside passive snowballing. Social media posts were used as the main form of distribution, which

were made in several Facebook groups predominantly comprised of University of Adelaide students. Posts were also made in undergraduate psychology groups, as they had the highest number of potentially eligible participants. Email recruitment was similarly used, in which a mailing list comprised of students enrolled in the 2019 Honours Degree of Bachelor of Psychological Science were contacted with details regarding the survey. The Faculty of Health and Medical Sciences Alumni e-Newsletter, and the School of Psychology Newsletter, also included a link to the survey, which was sent via email to subscribed Adelaide University psychology students. These posts and emails included a general overview of the recruitment criteria and study itself, as well as a link to the survey preamble for those who wished to participate (Appendix A). Respondents were encouraged to pass the relevant information onto people they may know who fit the eligibility criteria of the study.

2.3 Ethics Approval

This study received ethics approval from the University of Adelaide Research Ethics Subcommittee (approval number 20/15).

2.4 Procedure

The online survey consisted of a preamble, and a series of 35 items asking students about their development of the graduate attributes, as well as their satisfaction with the degree, and employment outcomes. The preamble included information outlining the nature of the survey, and informed individuals that the data collected was non-identifiable. Participants were also told that they could withdraw from the study at any point during the survey, leaving their responses uncollected if they did so.

2.4.1 Measures

The survey consisted of 35 items that were divided into the following categories: participant demographics, inclusive of degree type and employment details; graduate attributes, of which there were 6 attributes across 18 items; and academic satisfaction, which was captured through 3 items.

2.4.3 Participant Demographics and Employment Outcomes

Participant demographics were collected, and several questions were asked relating to the employment outcomes of respondents. These questions asked participants whether their employment was within the field of psychology, and whether this degree was useful in gaining their employment at all. Graduates were not prompted by examples of occupations in psychology, allowing for them to answer based upon their own understanding of psychologically-relevant careers. This was done to investigate whether students dismissed potentially allied-professions of psychology as being unrelated to the discipline. The employment portion of this survey was also prefaced with a note advising that individuals should submit their employment details as if the COVID-19 outbreak had not occurred. This was done to minimise the unique employment situations that may have occurred due to the pandemic.

2.4.4 Graduate Attributes

Graduate attributes were measured across 18 items, and answered through a 7-point Likert scale (Appendix B). Graduate attribute items were based upon the University of Adelaide's graduate attributes (Table 2), which are endorsed as being the "defining

characteristics of a student's university degree program(s)" (Support, 2020). This was done so that the survey was relevant to the participant's own education at the University of Adelaide, and not based upon broad constructs of employability and academic development. Furthermore, each item was contextualised to the psychology degree itself, and rated from "Not at all" to "Moderately" and "Very Much" (e.g. *To what extent would you consider yourself ready for a career in psychology after completing your degree?*).

Table 2

Graduate Attributes Adopted by the University of Adelaide in March of 2020 (Support, 2020)

Attributes	Outcomes
Deep-Discipline Knowledge	<ul style="list-style-type: none"> <li data-bbox="858 434 1385 577">• Informed and infused by cutting edge research, scaffolded throughout their program of studies <li data-bbox="858 658 1385 801">• Acquired from personal interaction with research active educators, from year 1 <li data-bbox="858 882 1385 1025">• Accredited or validated against national or international standards (for relevant programs)
Critical Thinking and Problem Solving	<ul style="list-style-type: none"> <li data-bbox="858 1106 1385 1196">• Steeped in research methods and rigour <li data-bbox="858 1272 1385 1415">• Based on empirical evidence and the scientific approach to knowledge development <li data-bbox="858 1491 1385 1581">• Demonstrated through appropriate and relevant assessment
Teamwork and Communication Skills	<ul style="list-style-type: none"> <li data-bbox="858 1662 1369 1805">• Developed from, with, and via the Small Group Discovery Experience (SGDE)

	<ul style="list-style-type: none">• Honed through assessment and practice throughout the program of studies• Encouraged and valued in all aspects of learning
Career and Leadership Readiness	<ul style="list-style-type: none">• Technology savvy• Professional and, where relevant, fully accredited• Forward thinking and well informed• Tested and validated by work based experiences
Intercultural and Ethical Competency	<ul style="list-style-type: none">• Adept at operating in other cultures, comfortable with different nationalities and social contexts• Able to determine and contribute to desirable social outcomes• Demonstrated by study abroad or with an understanding of Indigenous knowledges
Self-Awareness and Emotional Intelligence	<ul style="list-style-type: none">• A capacity for self-reflection and a willingness to engage in self-appraisal

-
- Open to objective and constructive feedback from supervisors and peers
 - Able to negotiate difficult social situations, defuse conflict and engage positively in purposeful debate
-

2.4.5 Course Satisfaction

Course satisfaction was measured across 3 items, and answered through the use of a 7-point Likert scale, which included questions relating to how satisfied they were with their psychology degree (Appendix B). Each item was rated from “Not at all” to “Moderately” and “Very Much” (e.g. *Overall, I was satisfied with studying psychology at university*).

Chapter 3: Results

3.1 Power Analysis

Post-hoc power analyses were conducted through the Gpower program, concluding that all of the statistical tests were substantially underpowered (Appendix C-E) (Faul, Erdfelder, Buchner, & Lang, 2009). These results should therefore not be considered conclusive, as this study did not have the power to propose that these findings were not collected by chance. With this in mind, the findings display trends that will be examined, and the implications of a small sample will be commented on in the discussion.

3.2 Testing Data For Normality

Shapiro-Wilk tests were used to formally determine if the data violated the rules of normality, in order to inform the statistical tests used. Satisfaction data ($p = >.001$), and graduate attribute data ($p = .002$), were both found to violate the assumption of normality, and non-parametric tests were therefore used for analysis.

3.3 Participant Demographics

Table 3 summarises the demographic information of the 67 participants that were included in the final sample. Participants within this study were aged between 21 and 58 ($M = 26.2$), with females representing 85.1% of the sample, and males representing 14.9% of the total sample. The majority of participants reported that they had graduated from their respective psychology course in 2019 (83.6%), while 10.4% and 6.0% reported that they had graduated in 2018 and 2017 respectively. Of the sample, 40.3% ($n = 27$) held a Bachelor of Psychological Science degree while 59.7% ($n = 40$) held an Honours Degree of Bachelor of Psychological

Science as their highest level of education completed. Furthermore, 53.7% (n = 32) of this study were currently enrolled in a psychology degree, with 31.3% (n = 21) enrolled in honours, 7.5% (n = 5) enrolled in masters, 8.9% (n = 6) completing a PHD, and 6.0% (n = 4) enrolled in a combined masters + PHD pathway.

Only 6 participants (8.9%) did not continue study past their bachelor's degree, meaning that there was an overrepresentation of students who continued their studies past the conventional psychology major. In this sample, a moderate number of students appeared to continue study past their honours degree also, with 37.5% (n = 15) of honours graduates continuing into one of several postgraduate pathways.

Table 3

General Participant Demographics Within the Sample

	<i>n</i>	%	
Sex			
Males	10	14.9	
Females	57	85.1	
Year of Graduation			
2017	4	6.0	
2018	7	10.4	
2019	56	83.6	
Highest Education Completed			
Bachelor's	27	40.3	
Honours	40	59.7	
Current Enrolment			
Honours	21	31.3	
Masters	5	7.5	
PHD	6	8.9	
Masters + PHD	4	6.0	
N/A	31	46.3	
	<i>Mean</i>	<i>Min</i>	<i>Max</i>
Age	26.2	21	58

Note. n = 67.

3.4 Employment

The first aim of this study was to provide insight into the employment outcomes of psychology undergraduates from the University of Adelaide, and the perceived relevancy that their occupation had to their degree. The employment portion of this survey was prefaced with a note advising that individuals submit their employment details as if the COVID-19 outbreak had not occurred.

3.4.1 *General Employment Trends*

Figure 1 illustrates that the majority of respondents reported themselves as currently employed, with the rate of employment sitting at 74.5%, and rate of unemployment sitting at 25.4%. Examining this further, a significant portion of those who were employed reported their current occupation as part-time (56.7%), while a smaller portion of respondents answered that they were in a full-time position (17.9%). Despite full-time employment appearing comparatively low to those who were working in part-time positions, the majority of part-time workers reported their status as not seeking full-time employment (50.7%).

Although unemployment rates were low (25.4%), more than half of these respondents were content with not seeking work (14.9%), while the remainder were seeking work (10.4%).

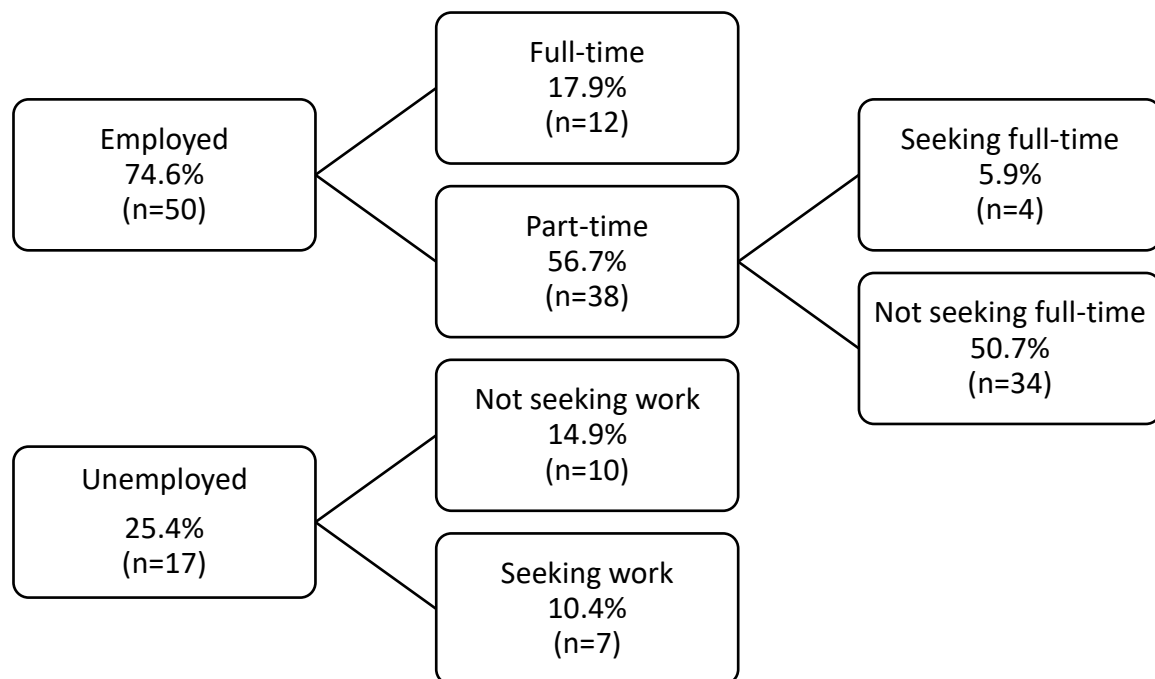


Figure 1. Employment details organised by level of employment.

Note. $n = 67$.

3.4.2 Employment Proportions Based Upon Availability

Table 4 summarises employment calculated as a proportion of those who were available to work. Those not seeking work were omitted from overall employment calculations, while those who were not seeking full-time work were omitted from the full-time employment calculations.

Calculated as a proportion of those available to work, it was found that the majority of respondents (87.7%) were employed, while a smaller number of individuals (12.3%) were unemployed and seeking work. Full-time employment as a proportion of total graduates available for full-time work was found to be less than half (46.1%).

Table 4

Employment as a Proportion of Graduates Available for Work

	<i>n</i>	%
Overall employment (calculated as a proportion of total graduates available for all work)*	50	87.7
Full-time employment (calculated as a proportion of total graduates available for full-time work)**	12	46.1

Note. **n* = 57 omitting 10 participants who were not seeking work,

***n* = 26, omitting 41 participants who were explicitly not seeking full-time work.

3.4.3 Employment Proportions Based Upon Relevancy to Degree/Discipline

Respondents were asked to report whether a psychology degree appeared relevant to, or was utilised in, their employment. The following calculations have omitted 17 respondents who were unemployed at the time of the survey. Furthermore, these categories were not mutually exclusive of one another, meaning that the following percentages are not equal to 100%.

Of those employed, 42% (*n* = 21) reported their job as being within the field of psychology, while only 28% (*n* = 14) reported their job as specifically requiring an undergraduate psychology degree itself. Furthermore, 48% (*n* = 24) of respondents considered

their job to be reflective of their level of education, while 36% ($n = 18$) listed their job as requiring at least a bachelor's degree from any discipline. These results highlight a considerably low number of employed psychology graduates feeling as though their education has been beneficial in gaining, or even relevant to, their current place of employment.

Qualitative data was collected in the form of participants describing their position of employment (Appendix F). Among those who reported their job as being within the field of psychology were research assistants ($n = 5$), admin, customer, and community support workers ($n = 5$), and PHD candidates ($n = 3$), while other positions such as being a tutor/marker ($n=1$), ABA Behavioural Therapist ($n = 1$), and social worker ($n = 1$) were also reported. These results illustrate that respondents in the sample considered a broad range of occupations to be within the field of psychology. Of note, several respondents in disability care ($n = 5$) did not share the same understanding of what a job in psychology was, with 3 of these individuals reporting their employment as not being within the field of psychology, while 2 reported the opposite.

3.4.4 Relationship Between Employment and Degree Type

A chi-squared test of association found significant associations between the highest level of education completed, and whether an individual reported themselves as working within the field of psychology $\chi(df = 1, n = 50) = 6.994, p = .008$. The differences in frequencies between the two groups were explored (Table 4), demonstrating that a greater number of honours graduates reported themselves to have held employment within the field of psychology in comparison to bachelor's graduates.

Further analysis was conducted in order to ascertain whether the highest level of education completed had an association with one's general employment, and a chi-squared test

of association found no significant differences between the general employment of those with a bachelor's or honours degree, $\chi(df = 1, n = 67) = 0.138, p = .710$. Analysis was also conducted to explore whether the highest level of education completed had an association with participant's employment requiring a psychology degree, and a chi-squared test of association found no significant differences between bachelor's and honours graduates, $\chi(df = 1, n = 50) = 3.348, p = .067$.

Table 5

Contingency Table Illustrating the Relationship Between Highest Level of Education Completed, and Employment Within the Field of Psychology

	Employment Within Psychology	Employment Not Within Psychology	Total
Bachelor's	3	16	19
Honours	18	13	31
Total	21	29	50

Note. n = 50, 17 omitted due to unemployment.

3.5 Graduate Attributes

The second aim of this study was to explore how students rated their own development of the University of Adelaide's Graduate Attributes, and the ways in which this may relate to their employment. All items were phrased in a way that encouraged respondents to reflect specifically on how their psychology degree developed the corresponding attributes.

3.5.1 *General Graduate Attribute Trends*

Descriptive statistics of the data were examined (Table 4), with scores being averaged based upon the number of individual questions in each attribute. This provided a score from 0-1, with higher values indicating a higher perceived development of the respective attribute. The total attribute average was calculated by summing all of the attribute scores, and then dividing by the number of attributes.

The distribution of scores for each of the attributes were found to be negatively skewed, showing that graduates felt that the development of these competencies were, on average, high. Individual attributes themselves ranged from Self-Awareness and Emotional Intelligence having the lowest negative skewness ($S = -0.60$), through to Intercultural and Ethical Competency having the greatest negative skewness ($S = 0.90$). Furthermore, the total attribute average was found to have a moderate negative skewness ($S = -0.93$)

The lowest developed attributes of the 6 were found to be Career and Leadership Readiness ($Mdn = 0.64$, $M = 0.62$) and Teamwork and Communication Skills ($Mdn = 0.65$, $M = 0.64$). Critical Thinking and Problem Solving ($Mdn = 0.81$, $M = 0.77$) was found to be the highest developed attribute, although Deep Discipline Knowledge ($Mdn = 0.81$, $M = 0.76$) was negligibly lower.

The interquartile range of each attribute demonstrates considerable variability from the medians, with Teamwork and Communication skills showing the highest variability of the 6 (IQR = 0.50-0.79). Career and Leadership Readiness (IQR = 0.54-0.64) appeared to have the lowest variability, which may be attributed to a common agreement amongst students that the

course did not appropriately prepare them for work within the discipline. Furthermore, as both honours and bachelor's students were included in the statistics found in Table 6, it may be that differences in attribute development between the two groups influenced the high variability of individual attributes (Figure 2). The total attribute average was found to have a smaller spread around the median (IQR = 0.66-0.79), suggesting that respondents' overall attribute development did not vary as much as their individual attributes did.

Table 6

Descriptive Statistics of Individual Graduate Attributes and Their Averaged Total

	Min	1st Quartile	Mean	Median	3rd Quartile	Max	Skew
Deep Discipline Knowledge	0.33	0.67	0.76	0.81	0.86	1	-0.75
Critical Thinking and Problem Solving	0.29	0.69	0.77	0.81	0.86	1	-0.73
Teamwork and Communication Skills	0.14	0.50	0.64	0.65	0.79	1	-0.86
Career and Leadership Readiness	0.21	0.54	0.62	0.64	0.71	0.89	-0.68
Intercultural and Ethical Competency	0.14	0.64	0.75	0.79	0.86	1	-0.90
Self-Awareness and Emotional Intelligence	0.32	0.61	0.71	0.75	0.82	0.96	-0.60
Total Attribute Average	0.29	0.66	0.71	0.73	0.79	0.93	-0.93

Note. n = 67.

3.5.2 Comparisons of Attribute Development Between Degree Type

Differences in the total attribute averages between the two types of psychology graduates were observed in Figure 2. A Mann-Whitney U test was conducted and found that the total attribute average was significantly greater for honours graduates ($Mdn = 0.77$), than it was for bachelor's graduates ($Mdn = 0.68$), with a moderate effect size, $W = 285$, $p = .005$, $r = 0.343$.

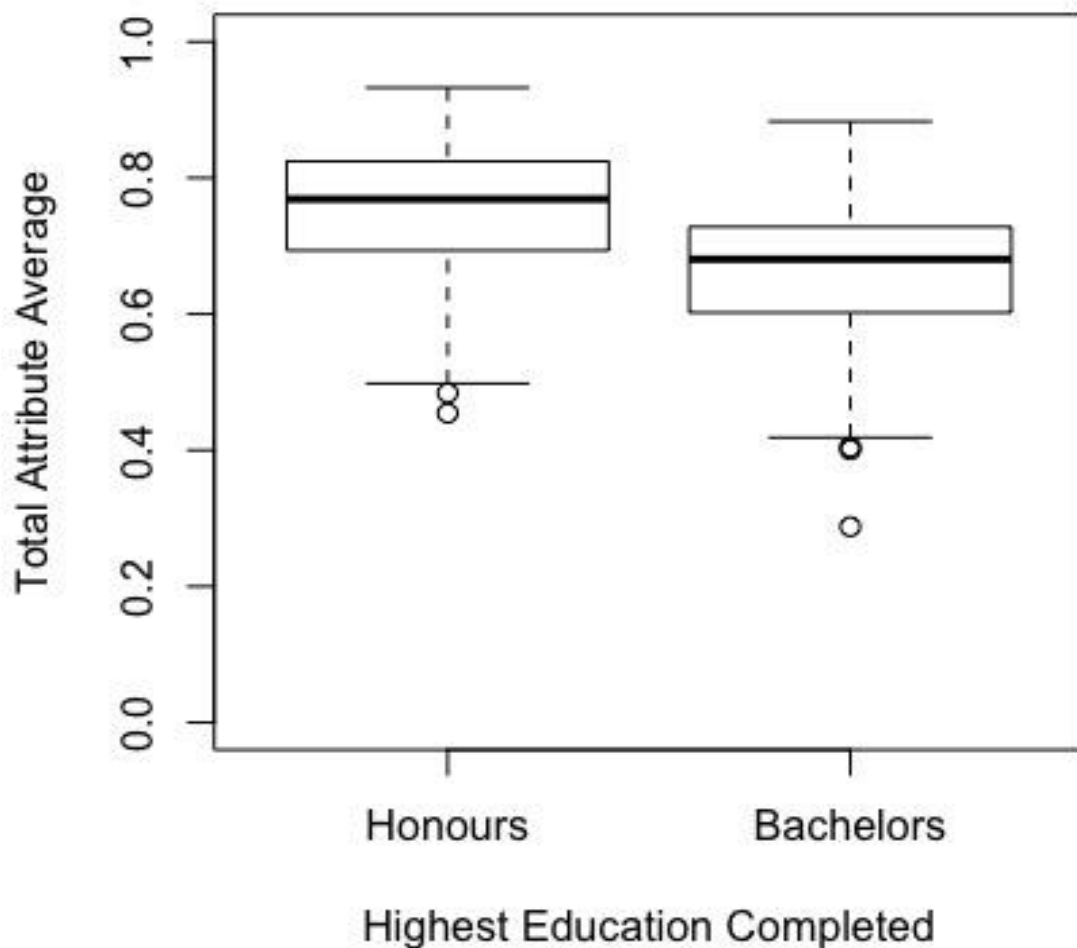


Figure 2. Boxplot comparing differences in total attribute averages between Bachelor and Honours graduates.

3.5.3 *Attribute Development Described by Employment Type*

Differences in the total attribute average of those who reported their employment as being within the field of psychology, and those who did not, were observed in Figure 3. A Mann-Whitney U test was conducted, and found that the total attribute average for those reporting their employment as being within the field of psychology ($Mdn = 0.79$) was higher than those who did not ($Mdn = 0.69$), with a moderate effect size, $W = 427.5$, $p = .016$, $r = 0.296$.

A Mann-Whitney U test was also used to analyse differences in the total attribute average between those who were employed ($Mdn = 0.71$), and those who were unemployed ($Mdn = 0.77$), finding that the two groups did not differ significantly in their total attribute averages, $W = 347$, $p = .264$, $r = -0.137$. Similarly, a Mann-Whitney U test also found that there were non-significant differences between the total attribute average of those who reported their employment as requiring a psychology degree ($Mdn = 0.75$), and those whose employment did not ($Mdn = 0.70$), $W = 341$, $p = .055$, $r = 0.235$.

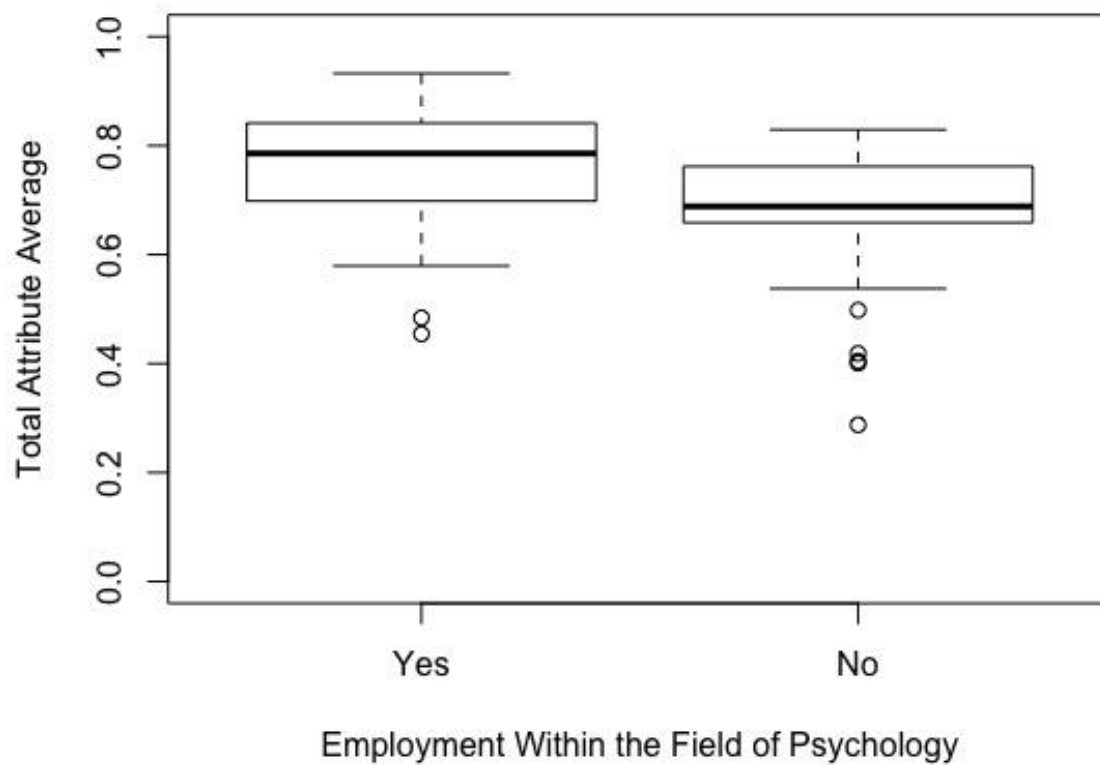


Figure 3. Boxplot comparing the total attribute averages between those whose employment is within the field of psychology, and those whose employment is not.

3.5.4 Career Readiness and Employment Within Psychology

A Mann-Whitney U test was conducted to examine whether the Career and Leadership Readiness of those who reported themselves as working within the field of psychology ($Mdn = 0.71$), was higher than those who did not ($Mdn = 0.64$). This test found that the two groups did not differ significantly, $W = 398.5$, $p = .064$, $r = 0.227$.

3.6 Satisfaction

The third aim of this study was to examine the satisfaction trends of University of Adelaide psychology undergraduates, and investigate whether satisfaction was associated with self-reported attributes, or degree type.

3.6.1 *Satisfaction Described by Degree Type*

Overall satisfaction was attained by averaging participant's scores by the 3 satisfaction items included in the survey. This provided a score from 0-1, with higher scores indicating a greater level of satisfaction.

Table 7 illustrates that the overall satisfaction of this sample was high ($Mdn = 0.71$, $M = 0.76$), with the distribution having a moderate negative skewness ($S = -0.82$). A Mann-Whitney U test found that overall satisfaction was significantly higher in honours graduates ($Mdn = 0.83$) than it was for bachelor's graduates ($Mdn = 0.67$), with a moderate effect size, $W = 740$, $p = .010$, $r = 0.315$. The IQR of bachelor's graduates (IQR = 0.57-0.86) and honours graduates (IQR = 0.71-0.86) illustrated similar variability in the satisfaction of both groups.

Table 7

Descriptive Statistics of Overall Satisfaction Grouped by Degree Type

	<i>n</i>	Min	1st Quartile	Mean	Median	3rd Quartile	Max	Skew
Overall								
Satisfaction	67	0.14	0.57	0.71	0.76	0.86	0.95	-0.82
Bachelor								
Graduates'								
Overall								
Satisfaction	27	0.14	0.50	0.64	0.67	0.78	0.95	-0.56
Honours								
Graduates'								
Overall								
Satisfaction	40	0.33	0.71	0.76	0.83	0.86	0.95	-0.99

Note. $n=67$.

3.6.2 Overall Satisfaction and Total Attribute Average

Figure 4 shows the positive relationship between respondents' total attribute average and their overall satisfaction. This relationship was further examined through the use of Spearman's rank correlation coefficient, finding a significant positive association, $r_s = .77$, $p = < .001$. This suggests that self-perceived development, represented here by graduate attribute scores, may be capable of predicting the overall satisfaction of psychology undergraduates.

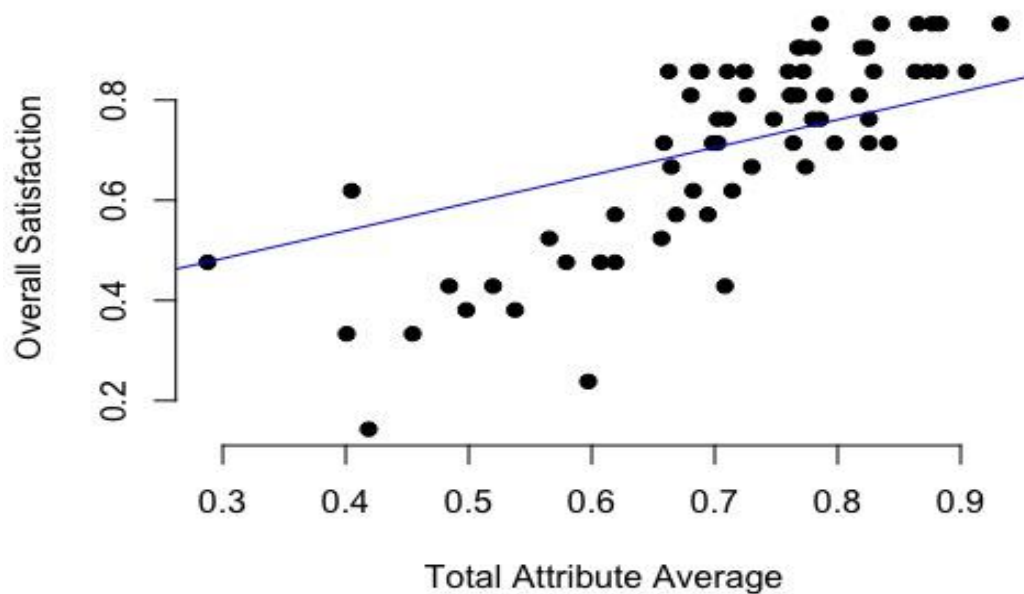


Figure 4. Scatterplot illustrating the relationship between general academic satisfaction, and participant's total attribute average.

3.7 Qualitative Data Responses

Qualitative data was collected from 14 respondents, which provided general insight into the thoughts of this sample (Appendix G). Through this, 2 common themes emerged. The first was a belief that the psychology course itself did not appropriately prepare graduates for employment, which was a belief held by 6 participants (Participants C, D, J, L, M & N). This is exemplified through one respondent who wrote that:

“After finishing my undergrad degree, I had no benefits to my employment opportunities.” (Participant C)

While another believed that:

“...the psychology degree gets you nowhere outside [of] uni unless you plan on [pursuing] further study...” (Participant J)

This supports the finding in Table 6, which was that the Career and Leadership Readiness of this sample was low when compared to other attributes. The second theme that emerged was from 6 respondents, who believed that the psychology degree was not practical enough overall (Participants A, C, F, J, M, N), with one writing :

“The uni has not prepared us very well for the practical side of psychology and engaging with clients.” (Participant A)

While another wrote that:

“I wished there had been more practical training in undergrad...” (Participant N)

These qualitative responses will be discussed in the following section, and considered in light of previous research on this population.

Chapter 4: Discussion

4.1 Overview

This study explored the employment outcomes of University of Adelaide psychology undergraduates, while also examining the self-perceived development of graduate attributes, and general satisfaction of these students. As will be explored later in this section, the small sample size was a significant limitation of this study, and these findings must be considered in light of this.

4.2 Employment Outcomes

Overall employment trends showed that the majority of participants were employed at the time of the survey. Those in full-time employment were few, although a large portion of participants indicated that they were not seeking full-time positions, which may account for these low numbers. General full-time employment should not be used as the primary measure of successful employment outcomes for graduates however, with factors such as job relevancy and suitability having to be considered when assessing the outcomes of tertiary students (Menon et al., 2012; Qenani et al., 2014)

4.2.1 The Relevancy and Utility of the Undergraduate Psychology Degree

Less than half of the participants from this sample reported their employment as being within the field of psychology, or requiring a degree at all. This indicated that the majority of these graduates found the usefulness of their qualifications to be negligible in their early employment outcomes. This is not unique to this study however, with many psychology undergraduates often reporting their early employment outcomes as not being reflective of, or

relevant to, their qualifications (Haskall et al., 2012; Borden & Rajewski, 2000). Previous research has found that this may be due to an insufficient level of support from educators in transitioning psychology students from their degree to employment within the field (Macera & Cohen, 2006). This is inclusive of students not being taught to effectively market their own skills to employers, which disadvantages them when they attempt to find relevant occupations (Murdoch, 2016). The high number of respondents reporting themselves as being enrolled in honours and postgraduate study may have also influenced this finding, as students typically hold jobs that complement their university timetable, rather than are relevant to their degree (Hall, 2010).

The recency in which respondents graduated from their degree may have also affected the low relevancy and suitability of their employment. The majority of this sample responded that they had graduated within the past year, with previous research finding that the early employment outcomes of psychology undergraduates are oftentimes less reflective of their education when compared to other graduates (QILT, 2019a; Borden & Rajewski, 2000). This changes over time however, with improved employment trends often being observed in this population from 3-4 years out of graduation (QILT, 2019b).

4.2.2 Honours Degree Predicting Employment Within Psychology

Those who held an honours degree in psychology were found to be more likely to report their employment as being within psychology than the conventional bachelor's graduates. This finding may be explained through the higher levels of self-perceived career readiness and attribute development in honours graduates, which can favourably impact the ways in which these individuals market their capabilities to employers (O'Hare & McGuinness, 2004). Employers may also view honours students as more qualified for jobs relating to psychology,

giving them a significant advantage in the labour market over bachelor's graduates who are typically considered unqualified to enter the professional workforce (Lipp et al., 2007). The majority of bachelor's graduates in the sample were also studying an honours degree in psychology at the time of this survey. This may have subsequently created the group differences found in this research, as bachelor's graduates may be primarily focused on holding a job that compliments their university timetable, rather than one relevant to their study (Hall, 2010).

4.2.3 Conflicting Interpretations of Employment Within Psychology

Several respondents who reported that they worked in disability care, an allied-profession of psychology (APA, 2011), appeared to conflict in their interpretations of what a job in psychology was. This conflict in interpretations has been found previously, with researchers suggesting that this may relate to the differences in what graduates expect the psychology labour market to be, and the reality of what it is (Haskell et al., 2012). As students should expect to work in a variety of contexts that may not be explicitly related to psychology, educators must therefore ensure that students are taught about career paths in a way that reflects this variety (Landrum, 2001). Despite this, a number of allied-professions were still found listed in this sample, reinforced by the variety of jobs reported by those describing themselves as working within the discipline (Appendix F).

Future research may benefit from including items that ask students' what they believe defines a job as being within the field of psychology. This would be insightful in the context of employment outcomes, as these perceptions would illustrate how successfully students are being informed of allied-professions, and the impact that this may have on the occupations they choose to pursue.

4.3 Graduate Attributes

The negative skew in the distribution of self-perceived graduate attribute development showed that respondents believed their psychology degree appropriately developed a range of abilities and skills associated with Adelaide University's graduate attributes. While this distribution in self-perceived skill development has been observed in this population previously (O'Hare & McGuinness, 2004), similar research has also been found to conflict with these findings (Meyers, Reid, & Quina, 1998). This may be attributable to differences in the psychology programs found at various universities (Stoloff, et al., 2012).

4.3.1 *Lowest Developed Attributes*

The lowest developed graduate attributes were Career and Leadership Readiness, and Teamwork and Communication Skills. Low reported levels of Career and Leadership Readiness is a finding supported by previous literature, showing that the undergraduate psychology degree does not focus on preparing graduates for careers in a way that resonates with them (Borden & Rajecki, 2000; Landrum, 2018). Previous researchers have suggested that this may relate to the internalisation of skills in psychology students, wherein graduates do not understand what they have explicitly gained from their education (Hayes, 1996). Because the overall distributions of self-reported attributes were negatively skewed however, respondents appeared aware of their developmental outcomes in a way that internalisation may not accurately explain. A compounding factor to consider may be that the degree itself has not included a sufficient amount of career preparation that bridges the gap between what is learnt, and the ways to implement this within a working environment (Hamilton et al., 2018; Conroy et al., 2020). This is consistent with several of the qualitative responses, as particular graduates

reported that the degree had not adequately prepared them for work within the field (Appendix G: Participants C, D, J, L, M, & N).

Low reported levels of Teamwork and Communication Skills showed that students were not confident in their ability to communicate ideas within the discipline, and that studying psychology did not prepare them to navigate different roles in a team environment. This was reinforced through one of the qualitative responses, who reported that studying psychology was particularly isolating due to the low number of contact hours, and minimal interaction with fellow students (Appendix G: Participant G). This finding is consistent with those of a recent thematic analysis, in which psychology graduates tended to “devalue” the usefulness of communicative skills, or did not mention it at all when asked about what they attained through their degree (Tran, 2019, p. 20). Participants may therefore be placed at a significant disadvantage when pursuing employment in their discipline, as interpersonal skills, such as teamwork capabilities, are highly valued amongst employers (Haskell et al., 2012). Improving the development of this skill would therefore be beneficial for students entering post-graduate careers, and may be achieved by implementing a greater number of interactive classes within this degree. Integrating interactive sessions within curriculum design is found to help facilitate a number of positive developmental outcomes in students (Borchardt & Bozer, 2017), and doing so may help individuals to become more comfortable with how they communicate and work within the context of their discipline.

4.3.2 Highest Developed Attributes

Of the highest reported attributes were Critical Thinking and Problem Solving, as well as Deep Discipline Knowledge. These are both considered favourable outcomes for graduates

as they are highly versatile skills that are desired by many employers (Trapp et al., 2011; Stoloff, et al., 2012).

High levels of the former highlighted that graduates appeared to be capable of navigating psychological literature, as well as tackling problems and thinking critically within the discipline. This finding is consistent with previous research, in which psychology undergraduates rated their ability to think critically in discipline-relevant contexts, and evaluate domain-specific literature, as being better developed than other proficiencies (O'Hare & McGuinness, 2004). This finding may partly be explained by Australian psychology degrees being informed by the scientist-practitioner model, which promotes a focus on research methodologies, and the critical consumption of psychological literature (APAC, 2019). Conversely, this may also be a source of discontent amongst students, as these skills may not be traditionally viewed as easily transferable to desired employment contexts, exemplified through the qualitative responses displaying a discontentment with their career readiness (Appendix G: Participants C, D, J, L, M, & N).

High reported levels of Deep Discipline Knowledge highlights that participants believed that the knowledge gained during their degree was of a high quality, as well as delivered in an effective manner, and relevant to potential career paths. As the versatility of this knowledge makes it applicable to many work-related and personal contexts, this is considered a defining outcome of the undergraduate psychology degree (Lipp et al., 2007). Despite this, academics have expressed concern regarding students not being assisted in understanding how the extensiveness of their disciplinary knowledge makes them desirable candidates in the evolving job market (Trapp et al., 2011). As the majority of this sample reported that their job was not relevant to, or reflective of, their degree, this may mean that

these graduates were not appropriately shown how to utilise this to their advantage in occupational contexts. Psychology educators may therefore benefit from re-evaluating the manner in which they teach students the utility of this knowledge, with consideration to previously validated evidence-based teaching methods; this may increase the effectiveness of their teaching, and assist students in becoming cognisant of how versatile their knowledge is (Dunn, Saville, Baker & Marek, 2013). Examples of this would include the encouragement of metacognitive learning in students, allowing for them to critically reflect on their own knowledge in order to better understand its applicability (Dunn et al., 2013). Similarly, psychology educators may also wish to consider placing a greater emphasis on integrating work-placement programs within the degree itself, which would help students learn how to apply their knowledge and skills effectively in a working context (Trapp, et al., 2011; Qenani, 2014).

4.3.3 Differences in Overall Attribute Development Between Degree Types

Honours students were found to report the development of their graduate attributes as being higher than those who had only completed their bachelor's degree. This is unsurprising, as honours graduates experience another year of studying psychology at minimum, demonstrating that further study appears to lead to a greater self-awareness of skill development in graduates (Cranney et al., 2009).

4.3.4 Attribute Development Predicting Employment Within Psychology

Students who reported their employment as being within the field of psychology were found to have a higher total attribute average than those who did not. This is likely due to honours graduates primarily comprising the number of respondents reporting their employment

as being within the field of psychology however. As honours graduates had higher attribute averages than bachelor's graduates, this difference is likely the result of honours graduates being more likely to hold employment within the discipline, which was commented on prior.

4.4 Student Satisfaction

The overall satisfaction of psychology undergraduates was observed as being above average in this sample, evidenced by the negative skew in its distribution. High levels of overall satisfaction within this population have been observed in previous research, with these results being slightly lower than the 82.7% overall satisfaction reported by psychology undergraduates in the 2019 Student Experiences Survey (QILT, 2019c).

4.4.1 Honours Degree Predicting Student Satisfaction

Differences in the overall satisfaction of bachelor's and honours graduates were found, highlighting that honours students tended to be more satisfied with their degree than those holding a conventional bachelor's degree. These results indicated that honours graduates were more satisfied with career preparation, and had a higher likelihood to study psychology again than bachelor's graduates. Sears et al. (2017) found similar differences in satisfaction between the two groups, and suggested that the research component found in the honours degree may be used to explain these differences in satisfaction. This research component was proposed as providing an "enriched" quality of education overall, while the bachelor's degree does not have a comparative alternative (Sears et al., 2017, p. 155). As academic success is found to predict satisfaction in university students, honours students may also be more satisfied as they are typically higher achieving than those holding only a bachelor's degree (Sears et al., 2017).

It is possible that students from the two degrees may also have different predictors of their own satisfaction, as student's goals and values often change as they continue further into their education (Gehlbach, 2006). Future research may therefore benefit from asking students what they value in their psychology programs, as doing so would provide a better understanding of how students may differ amongst one another in their predictors of satisfaction.

While differences between the groups were found, these results should be interpreted with caution as those who did not continue past their bachelor's degree were underrepresented. Because many of the bachelor's graduates from this sample continued into an honours degree, they may have been predisposed to higher levels of satisfaction than students who had left university after the conventional major.

4.4.2 Graduate Attributes and Overall Satisfaction

A strong positive correlation between total attribute averages and overall satisfaction was found, highlighting that the self-perceived development of skills may have the power to predict greater levels of satisfaction in psychology undergraduates. While research into psychology undergraduates has not focused on the student variables that predict satisfaction, such as personal motivations, self-perceived development has been found to explain a "unique variance" in the satisfaction of other university populations previously (Green et al., 2015, p. 137). This finding requires further exploration however, as other commonly observed predictors of satisfaction, such as the quality of teaching, were not included in this study (Green et al., 2015; Sears et al., 2017).

4.5 Qualitative Responses

Several participants provided short responses of their general feelings towards the course, and 2 common themes presented themselves (Appendix G).

The first theme that emerged was a dissatisfaction with the ways that studying psychology prepared respondents for a career in the discipline, which was touched upon above (Participants C, D, J, L, M & N). Notably, 2 students reported that the degree itself primarily prepared students for postgraduate studies, but did not provide much in the way of career preparation (Participants J & N). This concern has been raised by Appleby (2018), who believed that psychology courses primarily facilitate post-graduate study, while leaving the remainder of students without support when finding a career.

This leads into the second theme of students feeling dissatisfied with how few practical skills are taught during the degree, such as counselling techniques (Participants J, M, & N), or how one engages with clients in a psychological context (Participant A). These responses display a common misconception that psychology degrees are primarily focused on leading students down a linear path towards clinical psychology, or some variation of this (Hamilton et al., 2018; Reddy, 2016). Educators may therefore wish to reflect on the ways that careers in psychology, and allied-career paths, are communicated to graduates during the early levels of their undergraduate degree (Conroy et al., 2020). This would help to correct misconceptions about the nature of work that psychology graduates should expect to find early on, with this information helping to ground their expectations of what the degree prepares them for in terms of future careers (Landrum, 2018). Undergraduate psychology educators may also want to focus on providing an early evaluation of the types of learning that students will be engaging

in throughout their degree, such as the heavy focus on research methodologies (Lipp et al., 2007). This may help to provide students with a more authentic view of the content they will be learning, and help to minimise the misconceptions of more practical-based teachings that are assumed in this population (Green et al., 2015).

4.6 Strengths

One of the strengths of this study was the use of graduate attributes to gauge the self-perceived development of this sample, and analysing the ways in which this may relate to employment outcomes and satisfaction. While graduate attributes themselves are rising in popularity amongst Australian tertiary institutions, a greater amount of attention in pedagogical literature is required to understand their effectiveness in informing university programs (Hill et al., 2016; Tran, 2019). Research such as this is therefore important in gauging how successfully these graduate attributes are being implemented in university curriculums, and future research into graduate populations of any discipline may benefit from operationalising student development through this attribute model.

This study also examined self-perceived attribute development in the context of employment outcomes, which has not received a great amount of focus in previous literature. As employment outcomes do not exist in a vacuum, analysing the ways that self-perceived development influences student's navigation of the labour market is necessary to provide a holistic view of post-graduate employment (Marais & Perkins, 2012). Furthermore, a greater degree of specificity in how students report their employment outcomes was included in this survey when compared to similar research, allowing for a greater understanding of employment trends than those in the Graduate Outcomes Survey (QILT, 2019a). Allowing graduates to express the relevancy or utility of their degree in employment context was important in

establishing the true nature of these individual's employment, as this goes beyond the broad full-time employment percentages, which are limited in their interpretability (Menon et al., 2012; Qenani et al., 2014).

4.6 Limitations

One of the significant limitations of this research was the small sample size of the study, with only 67 participants being included after data cleaning. This ultimately led to low power, meaning that the chance of a Type II error was high. Furthermore, there was an insufficient representation of graduates who left university upon completion of their bachelor's degree ($n = 6$), which may have influenced the comparisons drawn between honours and bachelor's groups. These limitations were due to a difficulty in reaching students who were not currently involved with the university, as students may leave their degree without any further involvement in the education network. Despite many psychology students typically continuing their study past the conventional major, future research should ensure that they have an appropriate representation of the undergraduate psychology population (Martin et al., 2013). This may be done by finding a more effective means of survey distribution.

Another limitation of this study was that the graduates were all from the same tertiary institution. While it may be appropriate to generalise these findings to other Australian universities, especially as they each follow the same accreditation process, unique sample characteristics may have influenced the results found in this survey. Because of this, universities may differ in the development, satisfaction, and outcomes of their students, exemplified through the university differences found in the Graduate Outcomes Survey and Student Experience Survey (QILT_a, 2019; QILT_c, 2019). This should be considered in future research, as it may be beneficial for a larger-scale study that is similar in scope to the Graduate

Outcomes Survey to be conducted on this population. This could be achieved by developing the attribute items using the APAC's (2009) graduate attribute list, allowing for all Australian psychology undergraduates to be eligible for participation. Furthermore, this would provide an insight into how psychology students of different universities may vary in their outcomes and satisfaction, and allow for a more accurate understanding of this population.

4.7 Implications

This study, and those similar to it, have important implications for how educators view the relative success of their degrees. Research seeking to understand the experiences of those in tertiary education provides a manner in which to gauge how students are engaging with their education, and ultimately serves to benefit and strengthen the current educational structures that are in place (Reddy, 2016). As pedagogical literature provides a platform to assess the relative strengths and weaknesses of education practices, information such as this may prove to be invaluable for educators themselves, and the ways that they revise course curriculums (Brooman, Darwent & Pimor, 2015). It is therefore important that educators remain aware of research such as this, as these findings may be helpful in informing the structure of undergraduate degrees, and how they may better prepare students for their future (Dunn et al., 2013).

Assessing the respective employment outcomes of students also has important implications too. This is due to universities existing in a neoliberal climate, where the relative success of graduates is measured through their employment outcomes (Ingleby, 2015). The outcomes expressed in research such as this often becomes utilised to inform a number of important decisions, such as federal funding policies, as well as the alteration of university curriculums (Boden & Nedeva, 2010). It is therefore necessary that studies examining the

outcomes of graduates, and the employment that they find, continue to be conducted, and seek to most accurately portray the post-graduate occupations of these individuals.

As graduate attributes become more commonplace in informing education systems worldwide, research assessing the implementation of these attributes has important implications for how tertiary institutions apply these concepts moving forward (Oliver & Jorre de St Jorre, 2018). Studies such as these therefore provide educators with a manner to gauge whether students themselves feel as though they are attaining the relevant developmental outcomes of these attributes, helping to strengthen their integration in course designs as a result (Tran, 2019; Reddy, 2016).

Finally, the findings of this study, and research examining psychology undergraduates generally, are beneficial to understanding how these students are being developed, and what occupations they are entering post-graduation. Due to the various difficulties psychology students may encounter with their degrees, this research, and those similar to it, hold important implications for informing future curriculum design, and may help to facilitate more successful graduate outcomes in this population as a result.

4.8 Conclusion

With the troubling early employment outcomes of psychology undergraduates becoming a commonly observed trend, it is clear that this population requires greater attention in pedagogical literature. Through the use of graduate attributes, high levels of self-perceived development were discovered, while also being found to correlate strongly with student satisfaction. Differences in job relevancy, attribute development, and overall satisfaction were

found between the two graduate types, suggesting that the honours degree also provides a number of advantages to psychology students over the conventional bachelor's degree. Furthermore, this study painted a bleak picture of the early employment outcomes of psychology graduates, in terms of job relevancy, and degree utility. The results found in this study, and the suggestions made for educators and future research into this population, may therefore help to benefit the relative success of the undergraduate psychology student moving forward.

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Appendices

Appendix A: Survey Preamble

The undergraduate experience: Investigating the relationship between graduate attributes, academic satisfaction, and postgraduate employment amongst undergraduate psychology students.

Dear participant,

For the completion of my current Bachelor of Psychology (Honours) research, I am conducting a study that seeks to develop our understanding of where undergraduates find themselves upon completing their undergraduate degrees, and how they feel they have developed the graduate attributes found at the University of Adelaide.

Participation for this survey is open to all University of Adelaide students that have completed a Bachelor of Psychological Science, or an Honours Degree of Bachelor of Psychological Science between the years 2017-2019.

This survey will be asking questions regarding:

- Whether students are satisfied with the education that they received whilst studying psychology at the University of Adelaide
- The types of employment that psychology students typically take up post-study.
- Whether students believe that the graduate attributes embedded in their courses were developed to a high standard through undergraduate psychology.

This project is being undertaken by:

Student researcher Alexander Kirsch, and supervisor Dr. Matt Dry

What does participation in the survey involve?

Participation involved in this study is completing a short survey (less than 10 minutes in length) that asks questions pertaining to your education and current employment. Participation is voluntary, which means that data will only be collected if the responses are completed and submitted; if for whatever reason you do not wish to complete the survey, you are able to do so. No identifiable data will be obtained during this survey, and the data will remain confidentially stored upon collection.

	(Not at all)			(Moderately)			(Very much)
	1	2	3	4	5	6	7
To what extent do you feel comfortable interpreting psychological literature based upon the skills you have acquired at university?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you feel comfortable tackling problems that are relevant to the discipline of psychology?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Teamwork and Communication Skills

	(Not at all)			(Moderately)			(Very much)
	1	2	3	4	5	6	7
To what extent has studying psychology developed your ability to effectively communicate your ideas and thoughts in a context relevant to this discipline?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has studying psychology enabled you to confidently navigate different team roles when appropriate? (i.e. You are able to take orders as a team member, as well as lead a group when necessary)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Career and leadership readiness

	(Not at all)			(Moderately)			(Very much)
	1	2	3	4	5	6	7

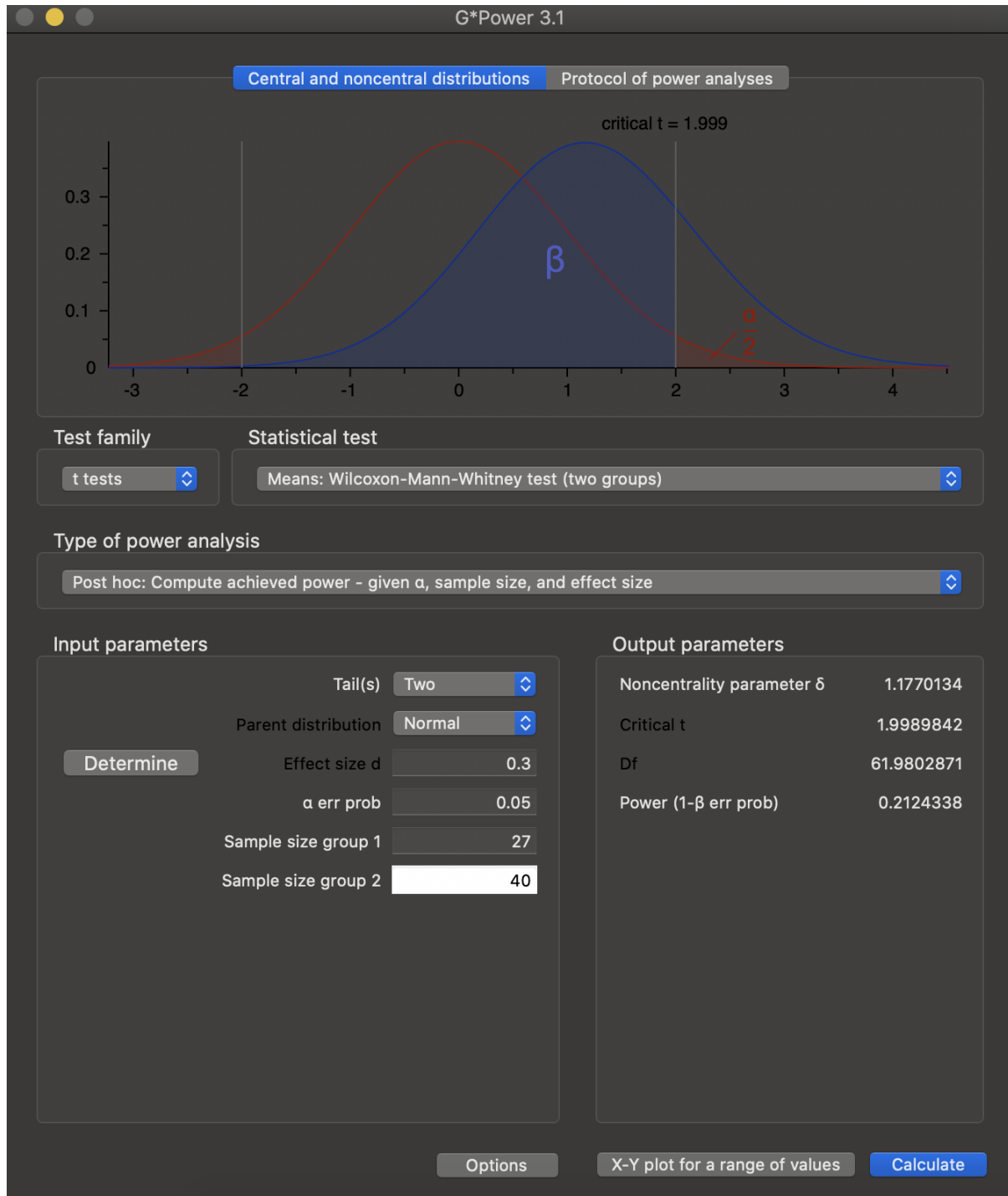
	(Not at all) 1	2	3	(Moderately) 4	5	6	(Very much) 7
To what extent has studying psychology equipped you with the capability of operating between different cultures to that of your own?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Self-awareness and Emotional Intelligence

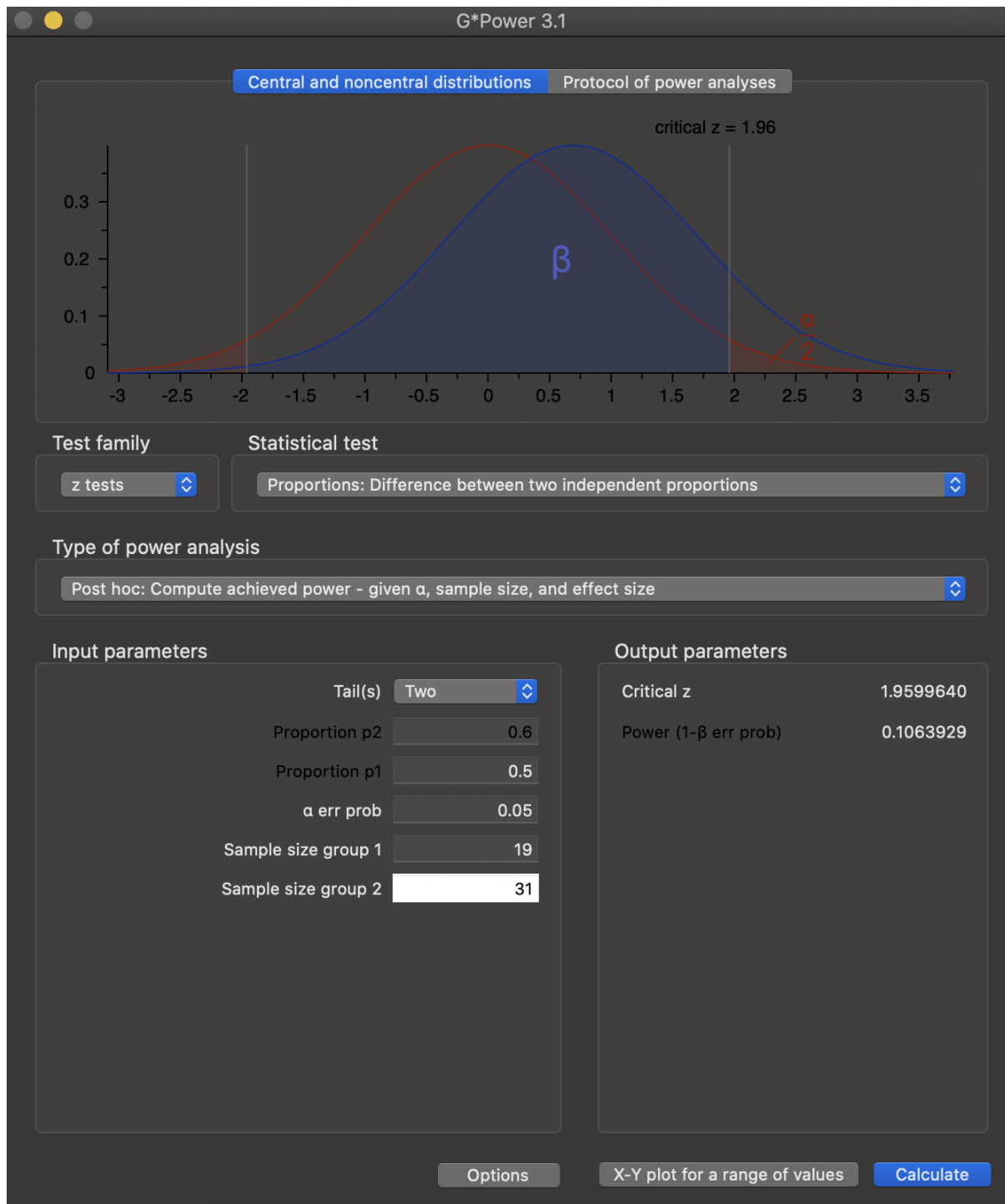
	(Not at all) 1	2	3	(Moderately) 4	5	6	(Very much) 7
How aware are you of the skills and capabilities that you have developed during your psychology degree?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent has your capability to negotiate stressful and demanding environments been developed during your psychology degree?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent has psychology taught you to understand the importance of being critical of your own work or attitudes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you know how to apply the skills and capabilities that you have developed during your psychology degree?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Academic Satisfaction

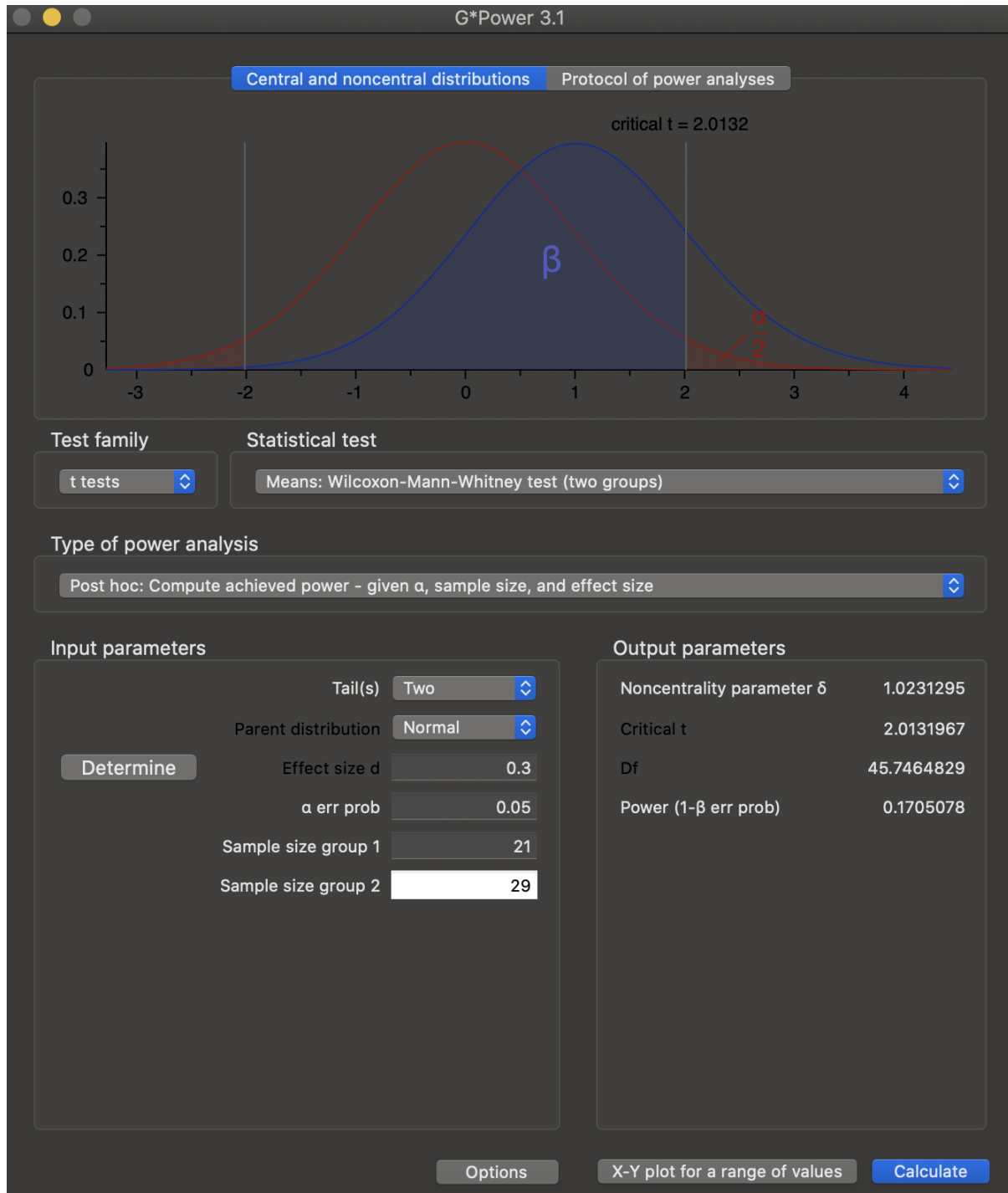
Appendix C: G*Power Results for Mann-Whitney Test Comparing Graduate Type



Appendix D: G*Power Results for Chi-Squared Test of Association



Appendix E: G*Power Results for Mann-Whitney Test Comparing Employment Within Psychology



Appendix F: Alphabetised List of Employment Types Reported By Respondents

A Carer For Young Man With Autism	Personal Assistant
ABA Behavioural Therapist	PhD
Academic Tutor	PhD Candidate
Admin Person and Receptionist	PhD Candidate & Casual Tutor
Administration Assistant	Provisional Psychologist
Administrative Support Officer	Receptionist
Administrator	Receptionist
Behaviour Practitioner	Research Assistant
Casual Academic (Tutoring, Marking)	Research Assistant
Clothing Retail Worker	Research Assistant (as of 2020) and Supermarket Retail Worker (since 2015)
Community Support Worker	Research Assistant in Health Policy Centre at SAHMRI (health psychology/public health focus)
Consultant	Retail
Counselling/Social Work	Retail Sales Assistant
Customer Relations For a Mental Health Organisation	Retail Worker
Customer Service Officer	Retail Worker
Disability Support worker	Retail Worker
Disability Support Worker	Retail Worker (fashion)
Educational Research Assistant	School Wellbeing Team/Pastoral Care Worker

Food & Beverage Attendant (Hospitality)	Student Ambassador at the Uni and an Assistant to a Disability Service
Hospitality - Crew Member at McDonald's	Swimming Instructor
Hospitality Worker and Administration Worker	Swimming Instructor
Human Resources	Teacher
Injury Management Graduate Role - Project Management and People & Culture Advisor	Tutor for High School Students
Mental Health Support Worker	University Administration Officer
Mentor for Intellectually Disabled Kids and Teens	Volunteer Director of Not for Profit Child Care Organisation

Note. Occupations in bold were reported as being "Within Psychology"

Appendix G: Qualitative Data

Response A: The uni has not prepared us very well for the practical side of psychology and engaging with clients

Response B: I was informed of this career during the course of my degree within a guest lecture and would not have been aware of this field whatsoever has it not been for my study. I apply the skills learned within my degrees on a daily basis and I am dependent on the knowledge gained in performing my role competently. Whilst my degrees are not a necessity within my position, I am capable of performing it to a higher standard because of my education.

Response C: After finishing my undergrad degree I had no benefits to my employment opportunities. It only sets up people who want to go into research and there are minimal positions available to do that. I just graduated from a masters of psychotherapy which was incredible and I learnt more practical skills in two weeks than I did in three years of undergrad psych.

Response D: It was a great course overall but I do not feel well equipped for working in a field of psychology. When I was doing my undergrad years we did not have the option for internships so we were left on our own with very little help.

Response E: So far the experience has been good. Very supportive staff.

Response F: I wished it was more practical. I didn't find the applying the theory to real world examples very helpful as they really only sought one specific example. In reality,

there would be many ways to do something. I just wish that the practicality was more frequent and more open-minded.

Response G: the tutorial system, where tutes only occur once per topic or every few weeks, made it difficult to engage with them and restricted my ability to connect with my fellow students and to have meaningful discussions about the subjects of those tutorials. Compared to other courses I have studied at Adelaide psychology course seemed particularly isolating and especially as someone who is not very comfortable asking teachers questions in a public forum. That being said the flexibility of the program was extremely useful both in the access from online and the grace period system. I felt that they really helped to reduce stress as I was studying and to introduce good study habits which I could apply outside of those courses.

Response H: I found my path to working in a corrective centre outside of my bachelor degree at Adelaide uni

Response I: It was a difficult and stressful time, but I think it's helped me as a person, I look forward to continuing my education, but have just become a mum so will have to wait

Response J: The uni is good and the teachers are great HOWEVER the psychology degree gets you NOWHERE outside uni unless you plan on further study. The degree provides minimal practical skills, I.e. counselling skills. Many employers see a psychology degree and assume some sort of experience or knowledge (at least) of counselling. This is not the case and many psychology graduates are seen as useless to employers. The degree has been referred to as a ,”glorified arts degree”. Very disappointing

Response K: I investigated a very similar topic for my thesis last year, I believe this contributed to my awareness of my skillset. If I had researched a completely different topic, unsure how much my responses would have varied!

Response L: I completed a degree in psychology because a) I like the subject matter and b) because I wanted a degree but did not know what I wanted to study (and had deferred for a few years). After completing my BA, I completed a psychology honours degree only because it is required for a masters degree. However, post study, I feel that honours did not at all prepare students for the realities of post studies (eg what exactly is involved post study and actually being a psychologist such as fees, registrations that are required, etc). I also do not feel that honours or just a psychology BA in general has prepared me for any career path at all - you are not a , “something “, even with a 4 year degree. That makes it very difficult to try and figure out what you can actually do with this degree. Other than that, the university of Adelaide has presented the subject matter very professionally and I cannot critique the content negatively.

Response M: Almost no job preparation (e.g. training of different psychopathologies, therapy modalities, or basic counselling skills). Quantitative research skills have been useful though in understanding research.

Response N: The undergraduate degree in psychology gave me a good foundation for further postgraduate studies. Honours prepared me well for a PhD. I wished there had been more practical training in undergrad (e.g., foundational counselling skills; opportunities for internships or placements), as I did not feel as though the undergraduate degree prepared me entirely for work outside of pursuing further studies (i.e., postgrad PhD/Masters).