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Abstract:	Graduate employability is complex and has moved beyond the notion of subject specific skills being sufficient for acquiring a graduate level job, and now include important transferable skills. Sports Therapy is a rapidly expanding profession focusing on assessment, treatment, and rehabilitation of musculoskeletal conditions. These facets encompass components of critical thinking, problem solving, interpersonal skills and communication, thus courses can set-up graduates for careers within or outside the industry. BSc (Hons) Sports Therapy graduates from two British Universities were surveyed about their experience of their undergraduate degree programme and their perceptions of how well the programme had prepared them for employment. The survey was distributed to approximately 150 graduates and had a response rate of 23% (35 graduates). Descriptive statistics were used to describe the responses to the multiple-choice questions and thematic analysis was performed on free-text responses. Results showed that 43% of respondents were employed as Sports Therapists and needed their degree to get their jobs. 70% of respondents felt that their degree had equipped them fully or partly for employment. Free-text responses generated three themes relating to sports therapy specific skills, job availability and work-based learning opportunities. Managing student expectations, continued exposure to the range of career opportunities available and developing students subject-specific skills, 'soft' or transferrable skills as well as personal-characteristics can facilitate employability. Courses should be sensitive to the demands of a changing employment landscape and as such, look to facilitate graduate employability.	

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41 Key words: Sports Therapy; Graduate Sports Therapist; Employability; Work-Based Learning

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- 43

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- 47 SW, RC, BP, TL and CK designed the study. SW and RC analysed data and prepared the manuscript.
- 48 All authors contributed equally to manuscript editing and revision.

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50 Declaration of conflicts of interest

51 None declared.

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24 Introduction

25 Sports therapy is an allied health profession focused on assessing, treating, and rehabilitating 26 musculoskeletal conditions. Sports therapists require specialist knowledge and skills in five key areas; injury prevention, injury assessment, injury management, rehabilitation, and education and 27 28 professionalism (Ward, 2015). The Society of Sports Therapists (SST) was established as a regulatory 29 body for sports therapy in the United Kingdom in 1990 to address the growing needs for a professional 30 title, training and education and scope of practice. The SST has grown significantly since its inception 31 and now collaborates with 30 Universities and accredits 38 Undergraduate and Postgraduate programmes. Members of the SST work across all levels of sport (grassroots/recreational to elite), in 32 33 private clinics, in the health and leisure industry, in education/research and within the NHS as 34 rehabilitation instructors or musculoskeletal clinicians (SST, 2021). In the United Kingdom (UK), 35 Bachelor of Science (BSc) (Hons) Sports Therapy programmes largely focus on subject-specific 36 knowledge and skills, ensuring institutional as well as professional regulatory body standards are met 37 (SST, 2021). The Destination of Leavers from Higher Education (HE) Survey 2017/18 highlighted that 38 around 71% of graduates from degrees related to sport and exercise science (SES; including Sports 39 Therapy) are employed six months after graduation, of whom 11% are working and studying at HE 40 level. Furthermore, 22% of SES graduates are undertaking further study on a full or part-time basis six 41 months after graduation from their first undergraduate degree (HESA, 2018). The largest SES 42 occupation groups are culture, media, and sport occupations (17%) and business and public service associate professionals (8%). These occupation groups relate to industry sectors such as education 43 44 and research (19% of SES graduates) and the sport, tourism, leisure, and culture industry subsector 45 (13% of SES graduates). Approximately 48% of SES students are employed in an unknown or other 46 occupation group (GuildHE, 2019). With increasing numbers of SES and sports therapy graduates, 47 competition for jobs is amplified and research indicates that large numbers of graduates (up to 46%) 48 are overeducated for their first jobs and are not directly utilising the academic content and/or the skills 49 gained from their degree (Griffiths et al., 2017; Scurry et al., 2020). Explanations for the high number 50 of sports graduates who do not gain employment within the industry or who chose to undertake higher 51 degrees are varied and multifaceted (Minten and Forsyth, 2014). Many SES students chose their course 52 out of interest in sport and to study a degree that they enjoyed rather than for specific vocational 53 reasons; a finding not confined to sport-related degrees (Atfield and Purcell, 2010).

54 Contemporary conceptions of graduate employability are complex and move beyond the notion that 55 specific skills are sufficient for acquiring a graduate level job, and now include important transferable 56 skills such as communication and problem solving (Hinchliffe and Jolly, 2011) and makes a distinction 57 between factors that are relevant to obtaining work and those relevant to the preparation for working 58 life (Little, 2001; Hall et al., 2019). Hence, employability relates to graduates' state of preparedness for 59 work and capability for being employed, rather than mere job acquisition (Harvey, 2001; Knight and 60 Yorke, 2004). The precise categorisation of graduate capabilities is invariably context-specific, and a 61 graduate sports therapist will need specialised knowledge as well as broader graduate competencies 62 and 'soft skills' (Mishra, 2014). Arguably, many sports therapy skills could also be considered broader 63 graduate skills as they encompass components of critical thinking, problem solving, interpersonal skills 64 and communication. Thus, it is possible that BSc (Hons) Sports Therapy courses can also effectively 65 prepare graduates for careers outside of the industry.

Employability is a complex issue, partly due to its multidimensional nature as it can be viewed from three different perspectives: that of the employer, the higher education institution, and the student (Harvey, 2005; Rae, 2007; Tymon, 2013). Furthermore, there is a potential difference between the perceptions of the relative importance of personal capabilities and competencies within the workplace between graduates, employers, and HE institutions (Baker *et al.*, 2017) and the student voice is largely absent from the employability agenda for HE in the UK (Higdon, 2016).

Employers of sports graduates' value personal attributes such as: willingness to learn; commitment; dependability/reliability; self-motivation; teamwork; communication skills; cooperation; drive/energy; and self-management as well as subject specific skills/knowledge and work or industry experience (Baker *et al.*, 2017). The problem is, however, that any number of attributes, skills and qualities have emerged that purport to foster employability (Knight & Yorke, 2004). The dilemma for HE is knowing where to concentrate its efforts (Sleap and Reed, 2006).

From a HE institution perspective, curriculum design must satisfy programme as well as student needs, and foster employability (Wang *et al.*, 2013) and courses must adhere to the Quality Assurance Agency (QAA) subject benchmarks (Hargreaves and Christou, 2002). Currently, there are no specific QAA subject benchmarks for Sports Therapy programmes, but these must meet professional body requirements (SST, 2021). In recent times, pedagogical literature has shifted to proposing models of 83 competency-based education (CBE), postulating that health and wellbeing professions (e.g., sport 84 therapy) education should intentionally prepare practitioners to meet the demands of the changing 85 health care landscape (Gruppen et al., 2016). With reference to existing literature, it is critical to ensure 86 that subject-specific skills and knowledge, in addition to transferrable skills such as creativity, flexibility, 87 willingness to learn, ability to manage others, communication, working in a team and decision making 88 are integral aspects of HE institutions employability programmes (Dacre Pool and Sewell, 2007; 89 Minocha et al., 2017). Within HE institutions, all year groups should be involved in the development of 90 work knowledge, skills, and personal attributes, which will further enhance graduate employability 91 through fostering a sense of self-empowerment, belief, and commitment (Sleap and Reed, 2006).

92 Summary and Aim

The student voice is lacking among the wealth of literature pertaining views from government, HE institutions and employers, and there is very little feedback from graduates about the value or otherwise of University experiences to their working life. Consequently, the aims of this study were threefold: (1) to survey BSc (Hons) Sports Therapy graduates to determine their current employment status and job role, (2) explore graduates experience of their undergraduate programme and (3) investigate graduate's perceptions of how well the programme had prepared them for subsequent employment.

99 Methods

The research design was a non-experimental, cross-sectional, descriptive survey. The study utilised a mixed methods approach to offer various forms of data to address the three research questions (Creswell, 2009). Invitation to complete a questionnaire was sent to alumni from two British Universities who graduated with BSc (Hons) Sports Therapy between 2016 and 2020 via a weblink to an anonymous Qualtrics survey. This weblink was distributed to approximately 150 graduates by University Alumni offices and via posts on University and/or Graduate social media pages.

The first part of the questionnaire consisted of multiple-choice questions relating to participant demographics, further study and employment and employability. The second part of the questionnaire consisted of open questions, exploring participants experiences of their degree programme and how they felt it prepared them for employment. Prior to completing the questionnaire, participants were required to read a participant information document and agree to participate in the survey. Responses were anonymous and the survey did not contain any questions that might identify participants. The study was approved by the local University Ethics Committee (ETH2021-1041).

113 Data Analysis

Answers to the open questions were first cleaned by removing free-text responses that contained no relevant information (e.g., n/a, not applicable). Clean data were combined into one cohesive dataset according to principles of Braun *et al.* (2020), and analysis focused on semantic and latent features of the data. An inductive approach to coding was followed because there was no suitable theoretical framework to test or explore. Braun and Clarke's method for reflexive thematic analysis was employed since this offered the most theoretical independence/flexibility approach for a wide variety of qualitative data (Braun and Clarke, 2013).

121 After familiarization, data were coded using Microsoft Word (Office 365, Microsoft) by assigning text 122 labels to specific extracts that appeared to capture key thoughts or concepts, then returning to and 123 revising codes as the coding process continued. When coding was complete, codes were examined, 124 and some merged or discarded. Codes were then clustered together into candidate themes to give 125 some indication of their prevalence and test their value in giving an overall account of the data and 126 whether patterns described were across the entire data set (Braun and Clarke, 2013). Five initial themes 127 were constructed, which related to a central, organising concept of each group of codes. These themes 128 were collapsed into the three themes presented in the results after reviewing the themes identified 129 theoretical overlap. Several direct quotes from participants have been used to illustrate themes.

130

131 Results

132 [Insert Table 1 here]

133 [Insert Figures 1, 2 and 3 about here]

Respondent demographics are shown in Table 1. Thirty-five graduates completed the survey, a response rate of 23%. Of the individuals who completed the survey in full, 20 (57%) respondents undertook further study after graduating from their BSc (Hons) Sports Therapy degree (Figure 1). Fifteen (43%) respondents were employed as a sports therapist, five (14%) in the leisure or gym industry and 15 (43%) in other positions which included teaching, customer services, administration,

- and retail assistant (Figure 2). Seven (20%) of respondents felt their degree equipped them for
 employment, 18 (50%) felt that it had partly equipped them and 10 (30%) did not feel that their degree
 had equipped them for employment (Figure 3).
- 142

143 Free text responses

144 This study generated three salient themes relating to sports therapy specific skills, job availability and 145 work-based learning opportunities, which are explored in depth below.

146 Sports therapy skills

147 Sports therapy skills are those which graduates will directly use in work as a graduate sports therapist. 148 These include injury assessment techniques (acute and clinical), soft-tissue techniques (including 149 massage), taping, joint mobilization, exercise therapy and sport-specific rehabilitation. Graduates were 150 both positive and critical about the sports therapy skills that they were taught. Sports graduates require 151 specialist skills to successfully gain employment (Andrews and Higson, 2008; Mishra, 2014), and these 152 findings highlight the diverse nature of jobs and industries that graduate sports therapists enter. One 153 graduate noted that "clinic experiences, opportunities, trauma management, examination and 154 assessment along with clinical reasoning and diagnosing accurately" were the most useful aspect of 155 the course. This sentiment was echoed by three other graduates, while three others also noted that 156 "probably the anatomy physiology and rehab" were the most useful. These skills directly relate to 157 graduates' abilities to correctly diagnose injuries/dysfunctions and provide appropriate advice, 158 treatment, and rehabilitation. Conversely, eleven graduates felt that their course did not adequately 159 equip them with sports therapy skills. One graduate noted that they felt the course should have included 160 "concussion assessment/protocols, phased return to sport following concussion, and SCAT [Sports 161 Concussion Assessment Tool] assessments as part of the first aid module. Clinical neurophysiology 162 and pain science was taught but not to a great extent" while two others noted "my degree was very focused on sports therapy in team sport" and the course should include "extended knowledge and 163 164 practice working with neurological symptoms, conditions and assessment". Sports therapy was 165 originally developed to bridge the gap between outpatient physiotherapy and return to full, functional 166 fitness, and graduates were historically skilled in rehabilitation and return to play (SST, 2021). The 167 landscape for graduates is however changing, and many graduate sports therapists now work in private practice or in healthcare. These diverging views are likely an artifact of the role, with graduates employed in sports club environments more satisfied with the course content (although some are still expecting more contemporary content), whereas others employed in roles related to the general population and healthcare are not feeling that the course met their needs.

172 Lack of sports therapy jobs

173 High numbers of sports graduates failing to gain employment within the industry has long been an issue 174 (Minten and Forsyth, 2014) and this was echoed by respondents in this study. Three graduates noted 175 "the degree teaches you to be a sports therapist in a sports club. There are not many jobs and there 176 are hundreds of applicants for each", "sadly it's my opinion that the course sets you up for failure and 177 disappointment. If you live in London, you're competing with 1000s of 'sports therapists' for EVERY 178 role. When you do find a role it's either voluntary or extremely low paid or very few hours spread out 179 over the week making it near on impossible to work around" and "my degree was very focused on sports 180 therapy in team sport. There are almost no jobs advertised for new graduate sports therapists". Many 181 new graduates are underemployed or find it difficult to obtain work in the sectors in which they are 182 educated and interested (Helyer and Lee, 2014), and sports graduates historically have needed to 183 distinguish themselves from their peers through taking responsibility for their own career and looking to 184 gain appropriate experience outside of paid employment (Hall et al., 2019). Many sports graduates 185 chose their courses for hedonistic reasons and view their first job to fund subsequent travel or provide 186 time to think about what they want to do as a career (Minten and Forsyth, 2014). Sports therapy, 187 however, is a vocational degree and gives a clear career trajectory. It might be that courses need to 188 evolve considering the changing graduate landscape and expose students to alternative career pathways, as well as helping students identify and apply for opportunities that are available. This 189 190 approach would be similar to other sports and hospitality programmes (Gedye and Beaumont, 2018) 191 and would potentially manage students' expectations of the employment landscape while exposing 192 them to other options. The aforementioned notion is supported three graduates who noted they "felt 193 we were not made aware of job paths and the difficulty in gaining jobs in our field', "we were not told 194 about other options other than MSc physio[therapy]" and that "those who believe in sports therapy are 195 in my opinion disappointed on completion of this degree as they are aware they will either be moving 196 away from what the role quintessentially is and going down fitness training PT [personal training] or 197 massage therapy OR further studying to go towards physiotherapy". Three graduates also noted that it 198 would have been useful if their course had included "ways into employment. Further education courses,

that having a background in sports therapy would be worth looking into", "more content related to jobs

- 200 other than sports therapy..... hardly any of our year got sports therapy jobs" and "general skills that
- 201 would have helped me get a job".

202 Work-based learning

203 All sports therapy students must complete 200 h of supervised clinical practice during the final year of 204 their degree. The graduates surveyed undertook these partly within their University sports therapy clinic 205 and partly with external providers. This experiential learning opportunity was recognised as being an 206 integral and valuable part of the course by eight participants, with a large proportion stating that their 207 placement was the aspect of the course most useful in finding employment. Graduate comments 208 included that "the experience in industry is what makes the difference" as well as having a "network" 209 upon graduation. Students who did not have a good placement experience felt disadvantaged. One 210 graduate noted that "there weren't great placement opportunities in my 3rd year compared to other year 211 groups, my placement did not feel particularly beneficial. I feel like I missed out on making some 212 important connections and some crucial learning/experience". Many authors maintain that employability 213 is better and more easily developed outside of the formal curriculum, with particular emphasis placed 214 on employment-based training and experience (Andrews and Higson, 2008; Ng and Feldman, 2009), a 215 concept supported by the graduates in this study. Although subject specific as well as 'soft' or 216 transferrable skills are overtly included within the course, work placements provide the opportunity to 217 see the real-life impact and importance of these skills. Bringing scenarios from placement into class 218 can help facilitate group learning and understanding.

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220 Discussion

Results showed that 43% of graduate sports therapists were employed in a field related to their degree (Figure 2). More than half of graduates found it difficult to get a job, largely relating to lack of skills and/or experience and only 20% reported that their degree equipped them for employment. These findings are similar to previous studies (Tomlinson, 2008; Tymon, 2013; Baker *et al.*, 2017) and highlight the diversity of roles that sports graduates enter. An additional barrier was a perceived lack of available sports therapy jobs, an issue also experienced by other sports graduates (Tymon, 2013; Helyer and 227 Lee, 2014) and which might be linked to the growing number of HE institutions that offer accredited 228 Sports Therapy undergraduate degree programmes. There also appeared to be a mismatch between 229 skills acquired at University and the skills required to gain employment, with some respondents 230 commenting that they did not feel they had the sports-therapy specific skills (such as managing complex cases and treatment planning) they needed to successfully gain employment although this was possibly 231 an artefact of the Universities surveyed and student perceptions and warrants further investigation. 232 233 Work-placements were perceived as a valuable (if not the most valuable) component of the course by 234 many graduates. The extent to which students actively participate in their placement can, however, be 235 a factor; it is not sufficient for students to just 'experience' the workplace passively, they need to actively 236 engage to learn, as stated by Cooper et al. (2010) 'learning is the product of students' efforts to interpret 237 and translate what they experience to make meaning of it'.

238 The rapid enrolment growth in HE has led to increased competition for traditional graduate employment, 239 and despite a concurrent expansion in the variety of graduate employment available, because the 240 supply of graduates is large, competition for graduate jobs remains strong (Beaumont et al., 2016). The 241 results of this study support previous research, with many graduates commenting on low numbers of 242 advertised sports therapy positions and high numbers of applicants. The number of advertised jobs for 243 sports therapists has increased substantially in the last five years, and some employers have reported 244 that they have failed to recruit successfully for positions. A lack of jobs may therefore be a perception 245 of graduates and this topic warrants further investigation. Although initially developed to bridge the gap 246 between outpatient care and return to sport, some sports therapy degree programmes are now evolving 247 to prepare graduates for employment opportunities for in healthcare due to growing numbers of 248 employment opportunities for sports therapists within the National Health Service (NHS) as 249 musculoskeletal (MSK) therapists, therapy assistants and rehabilitation instructors. Increasing the 250 breadth of the programme while still maintaining focus on the core sports therapy skills is a challenge 251 but one that should be considered when programmes are reviewed. Confidence is an issue that often 252 comes up in literature, and is supported by these results, with a lack of confidence frequently cited as 253 a barrier to employability (Beaumont et al., 2016). While this is in part related to traits that individuals 254 possess, confidence is malleable and tends to increase with age and self-efficacy and can be specific 255 to situations (Dacre Pool and Sewell, 2007). Self-confidence can impact motivation to undertake 256 projects, to adjust, and persevere in the pursuit of one's goals despite various setbacks (Bénabou and

257 Tirole, 2002). Work integrated learning experiences have been identified as key influential factors in 258 developing sports students' self-confidence (Fleming et al., 2009). This can influence employability 259 extrinsically (ability to make others feel confident in your abilities) and intrinsically (lack of confidence 260 limits one's employability ambitions which in turn will limit the actions one may take to improve chance 261 of employment) (Beaumont et al., 2016). An important part of any healthcare professionals' training is 262 working in a supervised clinical environment, and sports therapy placements provide students with this opportunity. Work-based placements allow students to bridge the theory-clinical practice gap; develop 263 264 practical clinical skills, attitudes, and social skills in their professional area (Strohschein et al., 2002) It 265 appears that placements are important for developing subject-specific skills, 'soft' or transferrable skills 266 as well as personal characteristics, all of which can facilitate graduate employability. Healthcare 267 placements are supervised by different practitioners who can have diverse levels of experience and 268 use different teaching methods and who try to supervise students and provide a good learning 269 environment, whilst at the same time, continuing with the other aspects of their roles (Higgs and 270 Edwards, 2002; Wijbenga et al., 2019). Barriers to high-quality placements include time, limited patient exposure and communication. Further research to appraise activities, supervision and learning 271 272 experiences of students and placement providers is warranted to understand what constitutes high-273 quality placements and how placement providers can be supported to ensure that students are offered 274 the best placement experience possible. . Additionally, it is equally important that students are 275 supported to actively engage in their placements to develop their personal as well as their subject 276 specific skills. Active engagement can be facilitated by developing students' ability to reflect, as this is 277 a crucial component of self-development and is a requirement for lifelong personal and professional 278 learning (Karnieli-Miller, 2020).

279 Employability relates to skills needed to carry out a job effectively, covering generic abilities (for example 280 teamwork, organisational and communication skills), personal attributes (such as punctuality, self-281 confidence, discipline and adherence to deadlines) and specific/subject abilities (Helyer and Lee, 2014). 282 There is a perceptible difference between the definitions of employability in the literature (encompassing 283 the gain and the guality of work; the ability to transition between roles and the ability to gain new 284 employment) and the narrower views expressed by graduates in this study, who judged their degree 285 primarily on their ability to get a sports therapy job and are disappointed when they find themselves in 286 competition with many graduates for few opportunities. This observation agrees with previous studies (Tymon, 2013; Gedye and Beaumont, 2018) and highlights implicit views that higher education qualifications would open a wider range of economic, occupational, and social opportunities that might otherwise be limited (Tomlinson, 2008). Managing students' expectations from the outset, exposing them to the diverse range of opportunities that a sports therapy degree offers throughout the course and encouraging them to take responsibility for making themselves stand out in a competitive environment appears to be paramount in maximising graduate employability.

293 It is important to discuss the study limitations to help readers understand the context of the findings. 294 The use of an online survey link meant that it was not possible to determine response rate. Additionally, 295 study results are from <u>35 graduates who attended two Universities</u>; therefore, it is possible that views 296 were not representative of the graduate population. Graduate perceptions and experiences in other 297 Universities may differ from those surveyed in this study, and some issues might be related to specific 298 programmes, e.g., concussion is covered as part of SST trauma competencies, therefore this comment 299 likely relates to a specific issue at the respondents University. Open-ended questions gave the 300 opportunity for graduates to express their views, however, future studies should also consider individual 301 interviews to obtain a more comprehensive and deeper understanding of graduate perceptions. 302 However, considering these limitations, this study added the sports therapist graduate voice to the body 303 of literature related to employability.

304 Conclusion

305 The potential to capitalise on the skills acquired during BSc (Hons) Sports Therapy programmes 306 requires more 'work' on part of students and educators. Managing student expectations, continued 307 exposure to the range of career opportunities available and developing students subject-specific skills, 308 'soft' or transferrable skills as well as personal-characteristics can facilitate employability. Employer 309 forums should be considered to gain regular feedback on the requirements of graduate sports therapists 310 in different sectors (including sport and health). Courses should be sensitive to the demands of a 311 changing employment landscape and as such, look to facilitate a student-centered approach and 312 support quality placement opportunities along with ensuring students are provided with appropriate 313 guidance and support for developing their self-awareness and ability to reflect.

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- 318 XX, XX, XX, XX and XX designed the study. XX and XX analysed data and prepared the manuscript.
- 319 All authors contributed equally to manuscript editing and revision.

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- 321 Declaration of conflicts of interest
- 322 None declared.
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Variable	Frequency (%)
Age	
< 22 years	4.8
22-25 years	23.8
25-30 years	61.9
>30 years	4.8
No response	4.8
Gender	
Male	52.4
Female	38.1
No response	9.5
Degree Class	
1 st	19.0
2:1	38.1
2:2	38.1
3 rd	4.8
No response	0
Employed	
Yes – Full-time	42.9
Yes – Part-time	4.8
No – In further Study	23.8
No	23.8

Table 1 Respondent demographics (*N* = 35)

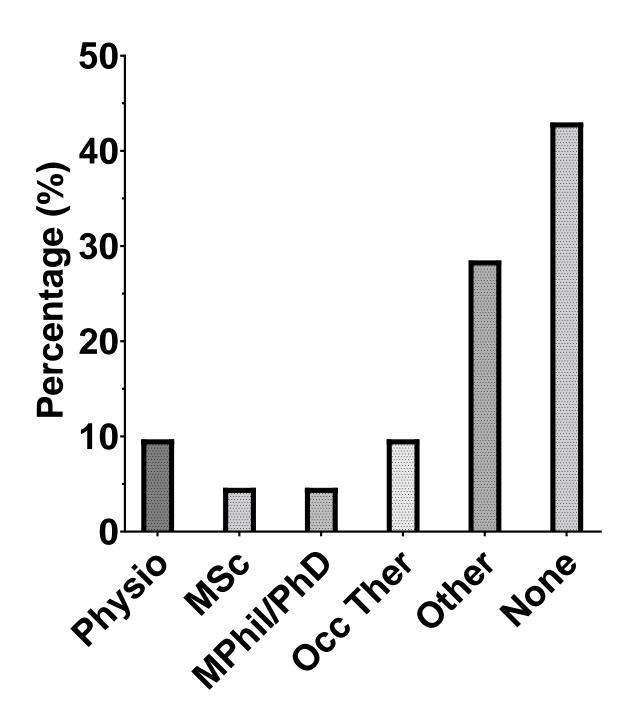
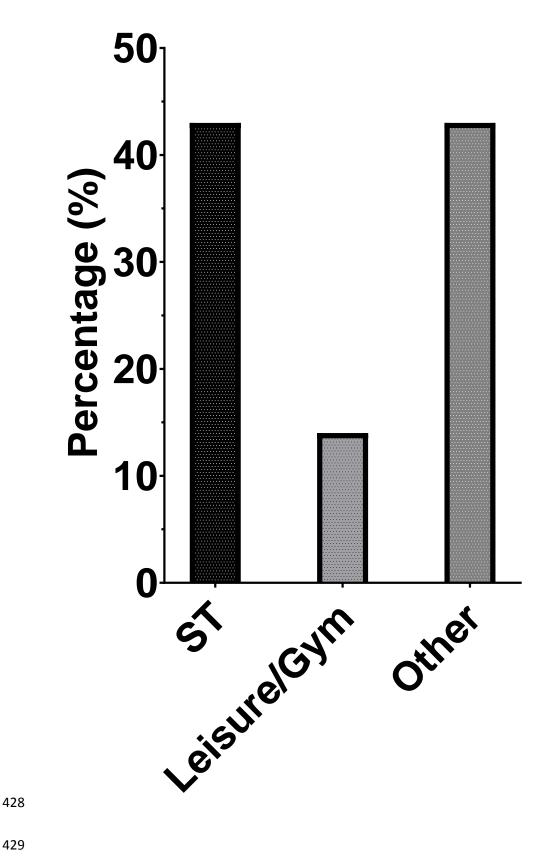
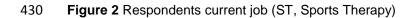


Figure 1 Respondents who undertook further study after graduating from their BSc(Hons) Sports
Therapy degree (OT, Occupational Therapy; MSc, Master of Science; Physio, Physiotherapy; MPhil,
Master of Philosophy; PhD, Doctor of Philosophy)





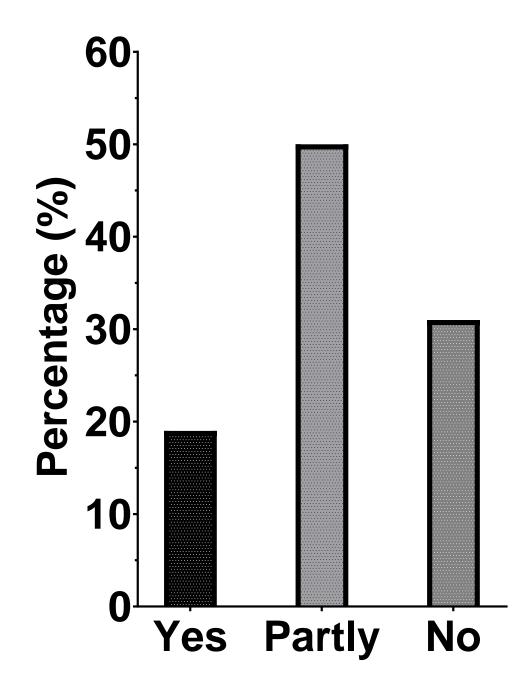


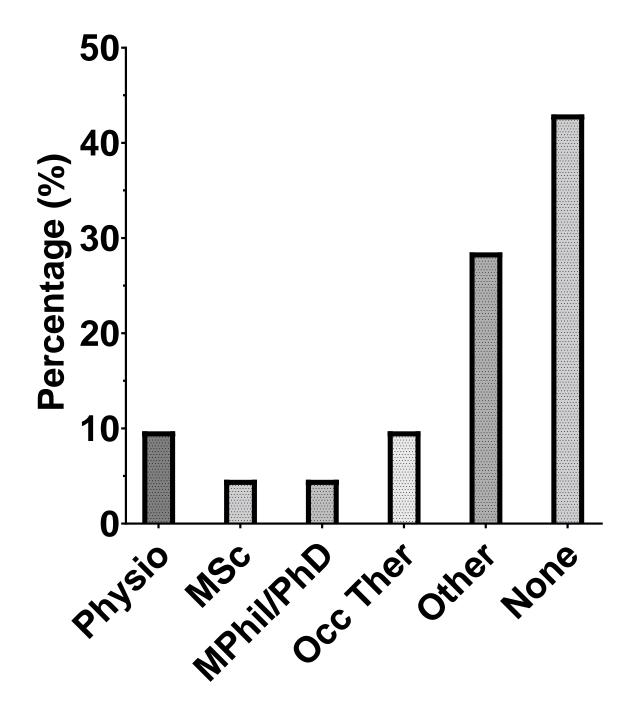
Figure 3 Respondents perceptions of whether their BSc (Hons) Sports Therapy degree equipped them

435 for employment

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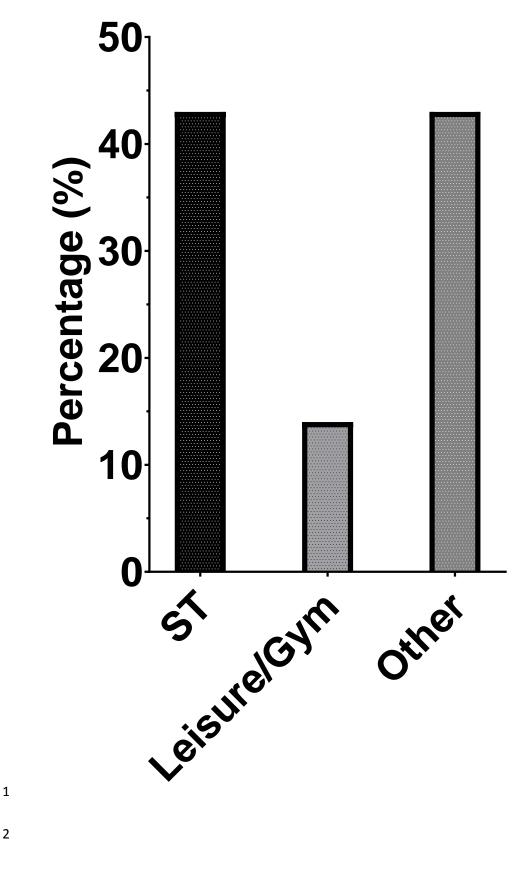
1 **Table 1** Respondent demographics (*N* = 35)

Table

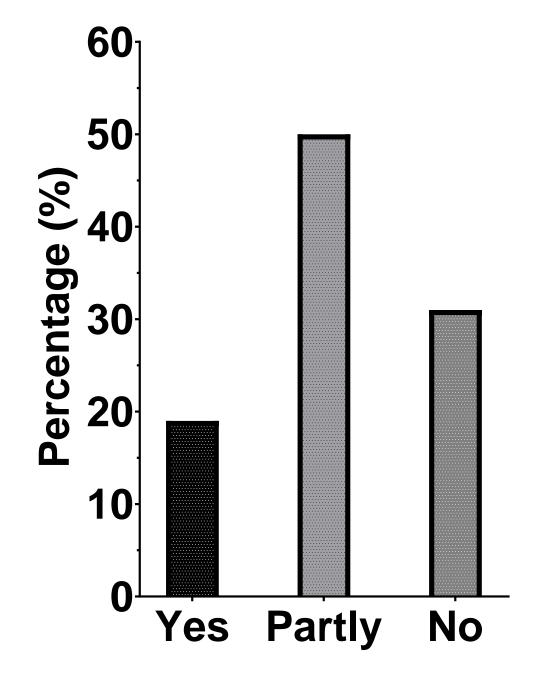


2

Figure 1 Respondents who undertook further study after graduating from their BSc(Hons) Sports
 Therapy degree (OT, Occupational Therapy; MSc, Master of Science; Physio, Physiotherapy; MPhil,
 Master of Philosophy; PhD, Doctor of Philosophy)



3 Figure 2 Respondents current job (ST, Sports Therapy)



2

3

4 Figure 3 Respondents perceptions of whether their BSc (Hons) Sports Therapy degree equipped

5 them for employment