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An evaluation of a health, wellbeing and lifestyle promotion intervention among a cohort of Year 1 male Gaelic Games student athletes in an Irish University setting

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An evaluation of a bespoke health, wellbeing and lifestyle promotion intervention among a cohort of 1st year male Gaelic Games student athletes in an Irish University setting

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Abstract

Background: The current research investigated the health, wellbeing and lifestyle behaviours of a cohort of 1st year male Gaelic Games student athletes (Study 1), and subsequently evaluated the impact of a bespoke intervention on these health, wellbeing and lifestyle behaviours in the same cohort (Study 2).

Methods: Participants were 1st year male Gaelic Games student athletes (mean age 18.6 ± 0.6 years, n=166) in a university in southern Ireland. Data were collected using a mixed-methods approach during the 2018/19 and the 2019/20 academic years. Data collection consisted of an online questionnaire (Bickerdike et al., 2018), which assessed health, wellbeing and lifestyle behaviours and focus group discussion (Study 1). These results informed a bespoke health and wellbeing intervention (Study 2). The intervention consisted of interactive educational workshops (n=3) and a concurrent athlete mentoring programme. It was delivered and evaluated during the 2019/20 academic year with a post questionnaire and focus group discussions (n=6).

Results/Conclusion: Study 1 revealed 'very good' or 'good' (95%) perceived general health. Breakfast was more favourable at the weekend (84.3%) than midweek (65.7%). Student athletes consumed 7+ standard drinks on a night out (59.6%) and ordered takeaway up to 4 times p/wk (27.1%). Pressure of part time work was significant in the LAA subgroup (p=0.01). Student athlete's main priority was sport participation and their primary stressor was university exams. Study 2 revealed significant post-intervention improvements in general health (p=0.008), alcohol (p=0.04), fruit and vegetable consumption (p=0.001), sleep quality (p<0.01) and reduction in takeaways (p=0.014).

Conclusion: This research revealed the health, wellbeing and lifestyle behaviours of 1st year male Gaelic Games student athletes are sub-optimal and concerning. Increased health and wellbeing education in conjunction with mentoring support should be provided to this cohort to help reduce the challenges they face in the transition period into university life.

Author's Declaration

I, Anthony Casey, hereby declare that this thesis is entirely my own work, and to the best of my knowledge does not breach any law of copyright, and was carried out in accordance with the requirements of Munster Technological University's Regulations and Code of Practice. Where contributions of others are involved, every effort is made to indicate this clearly with due references to the literature and acknowledgement of collaborative research.

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Table of Contents

Abstract....ii

Author's Declaration iii

Chapter 1 Introduction 8

1.1 Background 9

1.2 Overview of the Research 11

1.3 Research Objectives 12

1.4 Significance of Research 13

Chapter 2 Literature Review 14

2.1 The Student Athlete 15

2.2 Student Athlete and Time Related Challenges 16

2.3 Student Athlete Mental Health and Wellbeing 17

2.4 Student Athlete Identity and Sporting Demands/Overtraining 18

2.5 Student Athlete and Dietary Behaviours 20

2.6 Student Athlete and Alcohol Consumption 21

2.7 Student Athlete and Sleep 23

Chapter 3 An investigation into the health, wellbeing and lifestyle behaviours among 1st year male Gaelic Games student athletes following their transition from secondary to tertiary level education in an Irish HEI 26

3.1 Abstract: 27

3.2 Introduction 29

3.3 Methods 33

3.3.1 Study Design 33

3.3.2 Participants 34

3.3.4 Focus groups 38

3.3.5 Data Analysis 39

3.4 Results 41

3.4.1 Participant Demographic Information 41

3.4.2 General and Mental Health 43

3.4.3 Stressors 44

3.4.4 Lifestyle habits and behaviours 45

3.4.5 Subgroup analysis on health, wellbeing and lifestyle behaviours 47

3.5 Discussion 49

3.6 Strengths 56

3.7 Limitations 56

3.8 Conclusion 57
Chapter 4 An evaluation of a bespoke health and wellbeing intervention among a cohort of 1st year male Gaelic Games student athletes in an Irish University setting. 58
4.1 Abstract 59
4.2 Introduction 61
4.3 Methods 65
4.3.1 Study Design 65
4.3.2 Participants 66
4.3.3 Data Collection 67
4.3.4 Health and Wellbeing Intervention Design and Content 68
4.3.5 Focus Groups 70
4.3.6 Data Analysis 71
4.4 Results 72
4.4.1 Participant Demographic Information 72
4.4.2 General and Mental Health 75
4.4.3 Stressors 75
4.4.4 Lifestyle Habits and Behaviours 76
4.5 Discussion 79
4.6 Strengths 86
4.7 Limitations 87
4.8 Conclusion 88
Chapter 5 89
Conclusion and Recommendations for Future Research 89
5.1 Introduction 90
5.2 Limitations 92
5.3 Recommendations for future research 93
5.4 Conclusion 95
References 96

List of Figures

Figure 3.1: Number of Teams Student Athletes Represented 43
Figure 3.2: Perceived Stressors of college student athletes 45
Figure 3.3: Number of alcoholic drinks consumed on a standard night out 46
Figure 4.1: Alcohol Consumption on a Typical Night Out 78
Figure 4.2: Percentage of participants that obtained the recommended 8-hour threshold of sleep during the week and weekend pre- and post-intervention. 79

List of Tables

Table 3.1: Overview of Questionnaire Content 37
Table 3.2 Focus Group Interview Questions 39
Table 3.3: Demographic information relating to participants 42
Table 3.4 Importance of several aspects in the participants life 43
Table 3.5: Health, wellbeing and lifestyle behaviours among HAA and LAA 48
Table 3.6: Health, wellbeing and lifestyle behaviours among HACD and LACD 49
Table 4.1: Education-based Workshop Schedule and Content 69
Table 4.2: Focus Group Questions 71
Table 4.3: Demographic information relating to participants 73
Table 4.4: Perceived values and priorities pre- and post-intervention 74
Table 4.5: Stressors in GAA student's life 76

List of Appendices

Appendix A: Research Questionnaire 112
Appendix B: Information Sheet for Participants 134
Appendix C: Focus Group Check List 136
Appendix D: Focus Group Session Discussions 138
Appendix E: Screenshot of Thematic Review on Excel 140
Appendix F: Results of Questionnaire 142

Chapter 1

Introduction

1.1 Background

The stress placed on student athletes by academic and interpersonal responsibilities, in addition to the unique demands of competition and training, can pose challenges not experienced by their non-athlete counterparts in the university setting (Nichols et al., 2019). As this cohort are considered to be a high-risk sub-group for a variety of health and lifestyle behaviours, it is important that these student athletes are provided with effective and appropriate supports to enhance their experiences and optimise sporting success in this environment (Geller et al., 2019). Transitioning from secondary school to third level education can be a challenging time for young adults (Eccles et al., 2018). It is also a time where there is significant opportunity for influencing adult behaviours such as health and wellbeing and their choices about lifestyle behaviours such as nutritional intake and levels of alcohol consumption (Murphy et al., 2018; Nelson et al., 2009), hence the focus of the current study is based on 1st year male Gaelic Games student athletes in an Irish third level education setting.

The Gaelic Athletic Association (GAA) is one of Ireland's largest amateur sporting organisations (GPA, 2019). The GAA caters for male players across field sports such as Gaelic football, hurling, rounders and handball. However, for the purpose of the current research, the focus was placed on men's Gaelic football and hurling. The GAA season during an academic university year begins in Semester 1, when GAA teams play in a League Competition, which comprises three to four games depending on whether or not the university GAA team qualifies for the final stages of the competitions (i.e. semi-finals and finals). The League usually commences in late September and finishes prior to the end of semester 1, which is usually before the Christmas break. Semester 2 of the academic year signifies the start of the Higher Education GAA Championships and is typically played from January to March and before the end-of-semester exams commence in May.

Despite there being extensive literature available on the GAA and its respective sports, it is predominantly focused on the rules, history, and physical demands of the games played within the organisation. Currently there is a paucity of evidence available that examines the impact of the transition of secondary school students becoming 1st year male Gaelic Games student athletes. Therefore, the current research focuses on this journey of transition in addition to the challenges that are faced upon the commencement of third level education.

The current study is an extension of 'A Healthy MTU' initiative, which is a campus wide project that commenced in 2016 and aims to positively impact the health and wellbeing of the students and staff within a third level education setting (Bickerdike et al., 2018). The current Thesis has 2 studies, Study 1 which details an investigation into the health, wellbeing and lifestyle behaviours among 1st year male Gaelic games players following their transition from second to third level education in an Irish university setting. Study 2 presents the methodology and findings of an evaluation of a bespoke health and wellbeing intervention among a cohort of 1st year male Gaelic games players in an Irish University setting. The research used a mixed-methods approach, with participants completing a web-based health and wellbeing questionnaire (Appendix A) pre- and post-intervention and a series of semi-structured focus group discussions post-intervention only. The questionnaire used in the current research was adapted from the tool used in the 'A Healthy MTU' project (Bickerdike et al., 2018). This questionnaire (Appendix A) consists of scales previously used in other related studies from previous Irish research (Bickerdike et al., 2018, Hope et al., 2005 & Mac Neela et al., 2012) and newly developed questions developed by the primary researcher to target specific aspects of the current research. In addition, the current research included questions relating to (i) sport participation levels, which includes number of GAA teams played for and number of training sessions completed in a typical week, (ii) health and lifestyle

habits, which includes general and mental health questions, (iii) sleep quality, (iv) dietary and alcohol behaviours as well as (v) knowledge of various support services available in the university.

1.2 Overview of the Research

This thesis consists of 3 core chapters (Chapters 2-4), in addition to an introductory chapter (Chapter 1) that provides a background to the research process from its inception and also a concluding chapter (Chapter 5) that serves to consolidate all of the explorative and experimental research conducted throughout the process.

Chapter 2 presents an extensive review of literature, while Chapter 3 (Study 1) details an investigation into the health, wellbeing and lifestyle behaviours among 1st year male Gaelic games players following their transition from second to third level education in an Irish university setting. Chapter 4 (Study 2) presents the methodology and findings of an evaluation of a bespoke health and wellbeing intervention among a cohort of 1st year male Gaelic games players in an Irish University setting.

In Study 1, data were collected at baseline using an online questionnaire (Appendix A) adapted from the tool used in the *'A Healthy MTU'* project (Bickerdike et al., 2018). Semi-structured focus groups were also conducted to further examine and investigate key constructs of interest from the questionnaire analysis in greater depth. Data collected and analysed in year 1 of this research was used to guide the structure and content of the intervention used in Study 2. In Study 2, data were collected at baseline using the same online questionnaire as in Study 1. The intervention consisted of two components, the first was a series of interactive educational workshops that took place in the host university. The first of these workshops focused on nutritional habits, diets and lifestyle patterns. The second

workshop on personal development was based on developing personal goals and overcoming challenges. The third workshop was based on developing strategies and skills to improve academic performance and organisational skills. These workshops were delivered by experts in their respective fields. Analysis of baseline data from Study 1 informed the workshop content. These interactive workshops took place prior to training sessions in a classroom for approximately 30 minutes. Component two was a peer mentoring programme that was co-ordinated and delivered by the primary researcher (i.e. the mentor). The mentoring programme followed the framework of Kram and Isabella (1985) and the mentor was there to support and guide the participating student athletes (detailed in Chapter 4). The online questionnaire was completed post-intervention along with semi-structured focus group interviews.

1.3 Research Objectives

The objectives of this research were as follows:

1. To analyse markers of health and lifestyle behaviours via a questionnaire among a cohort of 1st year male Gaelic Games student athletes.
2. To analyse key barriers and challenges identified by 1st year male Gaelic Games student athletes with their transition from second level to third level education.
3. To design, plan and implement a bespoke health and wellbeing promotion intervention aimed at supporting a cohort of 1st year male Gaelic Games student athletes based on the key challenges and difficulties identified.
4. To evaluate the effectiveness of a health and wellbeing intervention on the markers of health and lifestyle behaviours among a cohort of 1st year male Gaelic Games student athletes.

1.4 Significance of Research

Due to extensive demands placed on 1st year male Gaelic Games student athletes, trying to get the balance right between their academic studies and their sporting pursuits, it is important that they settle into their third level educational experience as smoothly as possible. Inevitably, this cohort face many challenges as they transition from home life, as experienced throughout their secondary school education, to more independent living in a third level education setting. Every university in Ireland has a GAA club, and so it is expected that the findings from this research may be generalisable across the third level education sector. The significance of this work may contribute to the creation of evidence-based support services for 1st year male Gaelic Games student athletes, and potentially in time, all student athletes across the sporting landscape.

Chapter 2

Literature Review

2.1 The Student Athlete

According to the Higher Education Authority, 40,441 students aged 23 years and younger became new entrants to third level education for the 2019/20 academic year. This was an increase of 932 students from the previous academic year (2018/19) (Higher Education Authority, 2022). In 2016 the Student Activity and Sports Study Ireland carried out a study to investigate sports and physical activity participation, preferences and provision in third level universities and colleges in Ireland. 30 universities/colleges participated in an online survey which included self-reported participation in sport along with questions relating to physical activity, and health related behaviours. Results found club membership across 847 clubs was in excess of 32,000 students. Club membership was male dominated with 66% (n = 21,282) of members being male and 34% (n = 10,946) female. The top 5 sports clubs across all universities/colleges were; i) Gaelic football, ii) Soccer, iii) Hurling/Camogie, iv) Rugby and v) Badminton. 83% of universities/colleges reported scholarship programmes for elite athletes with 11% of participants indicated they were in receipt of a scholarship or bursary from their university. 6% reported playing at an elite level (regional, national or international level). Factors influencing participation in sport in university was the perceived quality of provision of sport and the indoor/outdoor facilities (Murphy et al., 2015). 'Cheaper prices' and 'people to go with' were highlighted as the top ways of encouraging participation in sport in university and participants were overall satisfied with the 'ease of participation in college sport' and 'opportunities to socialise and feel part of a group or team (Murphy et al., 2015).

A student athlete is a student who attends third level education and also competes at a high level in a sport of their choice. Being a high performing university student athlete is associated with a multitude of complex pressures that can impact mental wellbeing, academic and sporting performance (Hamlin et al., 2019). The transition from secondary to tertiary

education has been identified as a time of increased independence. It is therefore not surprising that these student athletes are faced with challenges relating to their health and wellbeing in comparison to their non-athlete counterparts (Ryan et al., 2018; Rothschild et al., 2012). There are a number of distinct concerns these university athletes face. These concerns range from balancing time spent in academic and sporting pursuits, maintaining success or reacting to lack of success, and managing relationships with coaches, teammates, family, friends, and faculty members (Hatteberg, 2020; Ford et al., 2007).

2.2 Student Athlete and Time Related Challenges

Time management becomes a problem for many student athletes due to the extensive demands (balancing academic and sporting career) which puts pressure on their time (Hamlin et al., 2019). Rothschild et al. (2012) identified time management as being a major challenge for 1st year football players (n = 12) at a Canadian university. Results indicated time spent playing football influenced the lack of time spent engaging in academic study. It was also found football commitments occupied a large amount of time resulting in participants finding it difficult to include time for working on assignments which resulted in poorer grades, eating properly and proper sleep (Rothschild et al., 2012). The issues relating to time management were also evident in an Australian college study conducted on 20 elite athletes in a range of sports (e.g., hockey, rowing, Australian rules football, baseball, cricket, soccer) (Cosh and Tully, 2014). It was found students were sacrificing their educational success by prioritising sport. Despite the participants desire to succeed both academically and athletically, student athletes tended to become content to attain passing grades in their exams due to time management issues (Cosh and Tully, 2014). The participants admitted that their sense of

apathy towards their academic success was due to prioritising and devoting large volumes of time and effort achieving success in the realm of sport (Cosh and Tully, 2014).

In conjunction with issues relating to time management, such as balancing academic, sporting and social demands, student athletes have also been found to exhibit substandard lifestyle habits such as excessive alcohol consumption, lack of fruit and vegetables in diet, and not getting optimal hours of sleep, for the promotion of positive health and wellbeing in comparison to their non-athlete counterparts (Morris et al., 2020).

2.3 Student Athlete Mental Health and Wellbeing

University student athletes may be at risk of impaired mental health and negative wellbeing issues, including anxiety and depression as well as disturbed mood and poor sleep due to moving away from home, getting to know new surroundings and having to cook for themselves (Egan, 2019; Sheehan et al., 2018). Student athletes face unique demands of balancing their academic and sporting careers that can lead to increased stress and low levels of self-esteem (Valentin, 2019; Humphrey et al., 2013). Research reports that athletes have a negative perception of help-seeking (Steinfeldt and Steinfeldt, 2012) and often accept pain while minimizing displays of weakness (Sinden, 2010). Student athletes are vulnerable to high levels of stress due to academic pressure such as exams and workload, concerns about not meeting parents' expectations, social life, lack of leisure time and sports performance (Rabin et al., 2020). Even though sport and exercise are a well-known factor in preventing stress, depression and anxiety (Yano and Oishi, 2018), excessive training and physical activity may also lead to mental health issues (Schinke et al., 2018; Gavrilova and Donohue, 2018).

Student athletes report greater mental health and wellbeing when involved in team environments (Graupensperge et al., 2020). The properties that group environments hold,

such as a sense of belonging, are especially valuable when protecting a student athlete against mental health issues and for promoting their wellbeing (Cruwys et al., 2013).

2.4 Student Athlete Identity and Sporting Demands/Overtraining

Part of being a university athlete involves balancing academic and sporting responsibilities (Bjornsen and Dinkel, 2017). Pflum et al. (2017) found that university athletes are a unique subpopulation of the third level education student body and they identify themselves as athletes first and university students second. As the transition from secondary to tertiary education occurs, many student athletes experience the loss of their former identity where they may have been viewed as a person worthy of special attention or treatment amongst their peers and social network (Di Lu, 2019; Parcover et al., 2009). However, in a more competitive environment of university sport they may find themselves playing a more supporting role in their sport, as a substitute, instead of their previous leading role in their respective sport (Di Lu, 2019; Parcover et al., 2009; Wilson et al., 2005).

Due to their playing capabilities, student athletes are often in demand by different coaches and managers for the various teams they may play with (Pope et al., 2018). In a typical GAA season in Ireland, athletes train three nights a week with one of these nights being a training and/or a competitive match which may lead to overtraining if not monitored (Pope et al., 2018).

Overtraining is related to sustained high load training and it is often coupled with other stressors like academia, work or sleep patterns and/or cause physical injury and eventually a decline in performance by exceeding capacity for exercise (Tobar, 2012; Foster, 1998). Symptoms include loss of motivation, unexplained weight loss, loss of appetite and depressive mood states (Birrer et al., 2013). Potential of overtraining may eventually result in burnout

from sport and may lead to a physical injury as Schinke et al. (2018) reports excessive training and physical activity may lead to mental health issues and sports injury. Monitoring tools can assist with preventing injury and sicknesses by helping the coach understand how an athlete responds to training and how much recovery may be needed (Halson, 2014). Kentta et al. (2001) investigated the prevalence of staleness as a result of overtraining in elite Swedish athletes (n = 272). The study found 37% of the athletes had reported staleness at least once in their sporting careers and that the incidence was greater in individual sports (48%) compared to team sports (30%).

Gomez et al. (2018) report to successfully improve athletic performance, the student athlete needs to complement the recovery with the level of physical and psychological stressors. Gomez et al. (2018) investigated 9 student athletes (male=6, female=3), 7 current full-time student athletes and 2 student athletes who graduated 6 months of when the study took place. All participants were currently competing or formerly competed at national or international level in their sport. Data were collected through interviews. Results found 2 participants suffered an injury due to over training and 1 athlete had to take 3 months off sport participation in order to recover fully from the symptoms. These cases of overtraining were set off by miscommunication between the coach and athlete and insufficient recovery time. As the student athlete is subjected to various stressors, a better level of knowledge and understanding of recovery is needed to prevent overtraining and injury. The implementation to student athlete counsellors would alleviate the potential risk of psychological burnout and help the student athlete with cope with psychological stress (Gomez et al., 2018 & Pagnotta, 2011). Sport participation often requires increased training hours which may lead to poor academic performance due to time management problems, increased anxiety and burnout (Brenner et al., 2019). Various factors contribute to burnout such as, frequent and intense

competitions or trainings, negative performance evaluations, low self-esteem, perfectionism and high anxiety (Difiori et al., 2014 & Matos et al., 2011).

2.5 Student Athlete and Dietary Behaviours

The student athlete's nutritional intake is often without variety and is typically high in processed foods (Baranauskas et al., 2015). The regular consumption of fast food and inadequate consumption of fruit and vegetables leads to an unhealthy diet for a university student (El Ansari et al., 2012). These dietary choices may be influenced by the living arrangements of the student (i.e., living in student accommodation) (El Ansari et al., 2011). Randles (2018) reported that daily intake of fruit and vegetables of 29.1% of male athletes from two Universities in America did not exceed three servings a day, which is below the minimum recommended daily serving of five portions (DeSalvo, 2016). One of the major difficulties faced by university student athletes is eating correctly (Randles, 2018). Student athletes have high energy demands and high hydration needs due to their level of training and competition, and it has been found that these athletes often fail to adequately fuel their body (Jenner et al., 2018; Oh et al., 2017).

Consuming the right food at the right time is vital for student athletes to concentrate on their studies while also enabling their bodies to train and compete (Davar, 2012). Unfortunately, many student athletes do not place a great importance on the quality of their diet (Stephens, 2019; Shriver et al., 2013). In a study by Shriver et al. (2013), dietary intakes and eating habits among student athletes failed to match their energy intakes with their estimated energy needs. Previous literature indicates that college athletes have sub optimal diet and nutritional behaviours which can result in low energy levels and other physiological effects (Werner, 2021). In a dietary quality and health study carried out amongst Division 1 university athletes

(Football, Basketball, Volleyball and Swimming), a consistent trend was shown for lack of energy across the teams (Lawson et al., 2020). This was likely to impact performance, training and the recovery of the student athletes and lead to a lack of concentration on and off the playing field (Loucks et al., 2011). A study assessing the dietary habits of 89 male and female Division 1 College athletes representing men's football and basketball and women's volleyball and swimming in America was conducted. Results revealed macronutrient intake deficiencies in carbohydrate (g/kg) (3.44 ± 1.96) and fibre (g) (30.65 ± 22.82) intake for men's football and deficiencies in micronutrients (Vitamin D and Calcium) and Omega 3 across the 4 teams. Protein requirements (1.2-2.0 g/kg) were met by all participants (mens football = 1.83 ± 0.82, basketball = 1.77 ± 0.86, volleyball = 1.71 ± 0.66) with the swimming participants having more favourable results (1.27 ± 0.35) (Sutliffe et al., 2019).

Student athletes who engage or work with a qualified sports dietitian have shown to have better dietary habits which include eating greater amount of whole foods, not skipping meals and also consuming fewer fast foods in comparison to those who seek advice from other general coaches such as managers, selectors or team assistants that do not specialise in this area (Hull et al., 2016). Similarly, an education intervention targeting positive dietary behaviours was carried out with a cohort of U.S.A. Division 1 university baseball players resulting in increased nutritional knowledge and improved nutritional behaviours post intervention (Tam et al., 2019).

2.6 Student Athlete and Alcohol Consumption

Alcohol use amongst university students has been shown to lead to harmful health effects (WHO, 2018). Hazardous drinking (i.e., binge drinking six or more standard drinks in one sitting) has been identified as the number one substance abuse problem across multiple

countries during a university student's life (Hope et al., 2005; Murphy and Murphy, 2010; McCabe., 2002; Webb et al., 1996) with student athletes found to consume alcohol more frequently than their non-athlete counterparts (Taylor et al., 2017; Barry et al., 2015).

Findings from Davoren et al. (2018) reveal alcohol consumption is the most prevalent substance used amongst Irish university students. Across universities in 21 countries, Irish university students reported the highest levels of binge drinking (Davoren et al., 2018; Dantzer et al., 2006). Hope et al., (2005) reported 60 in every 100 drinking occasions among Irish students involved hazardous drinking. Pitts et al. (2019) reported a high consumption rate of alcohol is associated with team sport athletes more so than those involved in individual sports due to alcohol being associated with team bonding activities especially in a third level university team where students are not familiar with one another (Pitts et al., 2019).

Alcohol is identified as a release from the high levels of stress a student athlete faces and can be a coping mechanism to help deal with social awkwardness, anxiety, and depressive thoughts (Al Khatib, 2014; Cornah, 2006). For those student athletes that cannot cope with the pressure or feel bad for performing poorly on and off the field they are at an increased likelihood of becoming psychologically dependant on alcohol (Vernig and Orsillo, 2014). With alcohol being a natural depressant, it can contribute to developing depressive symptoms in athletes (Vernig and Orsillo, 2014). Cimini et al. (2015) reported positive findings on the effects of a specific targeted student athlete intervention on alcohol consumption behaviour among 170 National College Athletic Association (NCAA) Division 1 student athletes. The intervention consisted of a 1-session brief which highlighted the relationship between alcohol use and athletic performance. A follow up assessment was conducted 3 months post intervention. Results revealed a significant reduction on the participant's alcohol use and

alcohol related harms such as injury (Cimini et al., 2015). Similarly, Butts (2009) carried out three educational sessions consisting of three-part series speakers on alcohol and substance abuse over a period of 12 months and findings of a significant decline in alcohol binge drinking (p = 0.041) and behavioural problems dropping from 41% to 18% post intervention.

A study by Brutovská et al. (2014) on alcohol consumption and descriptive normative beliefs among 1,938 mixed gender Slovakian university students was carried out. An online questionnaire was used to gather data and results found statistically significant correlations between alcohol consumption and normative beliefs for both male and female students. Males were found to consume higher quantities of alcohol more frequently than their female counterparts. The study justified the value of gender specific intervention programmes for university students.

2.7 Student Athlete and Sleep

Sleep quality and duration play important roles for student athletes training, recovery, mood, academic work, and sports performance (Mah et al., 2018). Sleep deprivation is one of the main problems for suboptimal sleep in college athletes (Bolin, 2019). Nelson et al. (2022) defines sleep quality as 'an individual's self-satisfaction with all aspects of the sleep experience' (sleep efficiency, latency, duration and wake after sleep onset). The NCAA found that U.S elite university student athletes spend on average 27-41 hours per week engaging in their sport. After allowing time for academic work and relaxation or socialising, very few university student athletes have time left for sufficient sleep (Kroshus et al., 2019). Research has revealed that physical health (e.g., illness and injury risk), neurocognitive function (e.g., attention and memory) and athletic performance, can be negatively affected by insufficient sleep (Simpson et al., 2017).

Becker et al. (2018) assessed sleep quality in university students from 6 universities with results showing 36% reporting they obtained less than 7 hours of sleep per night. The Gaelic Players Association (GPA), which is the official representative organisation for inter-county GAA hurlers and footballers distributed a survey to their GPA Scholarship students where they asked a series of questions. It reports a key finding where 40% of survey respondents were acquiring less than 7 hours of sleep per night, which is below the recommended guidelines of 8+ hours of sleep for an athlete (Samuels and Alexander, 2013; GPA, 2019). In addition, university life brings many challenges such as socialising, disruptive housemates, new surroundings and an unfamiliar sleeping arrangement which are all causes for poor sleep or disruptive sleep (Kroshus et al., 2019).

A study carried out to assess sleep quality in student athletes used the Athletic Sleep Screening Questionnaire and reported a large proportion of university athletes experience poor sleep and would benefit from interventions that are aimed at improving sleep quality (Rabin et al., 2020). Mah et al. (2011) conducted a study on intercollegiate athletes at Stanford University and found that increasing the nightly sleep period of 18-20-year-old varsity basketball players to at least 10 hours, for a duration of 5-7 weeks led to faster sprint times (Pre = 16.2 sec, Post = 15.5 sec, $p < 0.001$) (distance = 85.95m) increased shooting accuracy ($p < 0.001$), and improved overall self-reported ratings (using a questionnaire) of physical and mental wellbeing during practices and games.

Overall, 1st year male Gaelic Games student athletes are faced with numerous challenges ranging from issues such as time management, stress, physical and mental health, diet and nutrition, alcohol consumption and sleep. From the findings in the literature review it is critical 1st year male Gaelic Games student athletes receive the support and guidance to

reduce the burden of these challenges as they become independent when entering third level education. Therefore, the aim of Study 1 evaluated a health, wellbeing and lifestyle promotion intervention among a cohort of 1st year male Gaelic Games student athletes in an Irish university setting. The findings from Study 1 informed the design and implementation of Study 2. This subsequent study evaluated a bespoke health and wellbeing intervention among a cohort of 1st year male Gaelic Games student athletes in an Irish University setting.

Chapter 3

An investigation into the health, wellbeing and lifestyle behaviours among 1st year male Gaelic Games student athletes following their transition from secondary to tertiary level education in an Irish HEI.

3.1 Abstract:

Background: Third level education is a time of transition, where a significant opportunity for influencing adult behaviours exists (Greene et al., 2019; Murphy et al., 2015). Supporting the student, and enhancing their experience, is critical to success in this environment (Morgan, 2012). University sports athletes are faced with a multitude of demands relating to balancing the demands of their academic workload as well as focusing on their sporting career. The purpose of this study was to examine health, wellbeing and lifestyle behaviours as well as perceived challenges and stressors identified by 1st year male Gaelic Games student athletes following their transition from secondary to tertiary education in an Irish 3rd level setting.

Methods: An online questionnaire was designed and distributed to 1st year male Gaelic Games student athletes (n = 166; mean age 18.6 ± 0.5 years), gathering information related to their health, wellbeing, academic performance, and sports demands. This questionnaire was adapted from previous research (Bickerdike et al., 2018) and incorporated a series of validated scales e.g. Alcohol Use Disorders Identification Test (AUDIT) (Babor et al., 2001) and Mental-Health Index 5 (MHI-5) (Ware, 1993) as well as items developed for this research in conjunction with semi structured focus group discussions. Subgroup analysis was conducted to compare key variables among students categorised as High Academic Achievers (HAA) versus Low Academic Achievers (LAA) and High Alcohol Consumption Drinkers (HACD) versus Low Alcohol Consumption Drinkers (LACD). Focus groups (n = 6, year 1, n = 3, year 2, n = 3) were conducted with the 1st year male Gaelic Games student athletes (n = 6/group, n = 18/year). The focus group discussions were conducted by the primary researcher and lasted approximately 26-30 minutes in duration. Focus groups were used to further explore, support and give context to the findings of the questionnaire. The focus groups however were a minor element of this study design and tried to add an extra insight/context to the quantitative

findings. Data from the focus groups which was recorded and transcribed were content analysed which organises data into interpretable and meaningful themes and categories.

Results: General health was perceived as 'very good' or 'good' (95%) among study participants. These student athletes were found to place the greater value on their sport participation compared to other aspects of their lives such as college studies. The primary stressor identified was university exams (60.9%). Lifestyle analysis revealed poor dietary intake with participants (94.6%) not reaching the 7 servings of fruit and vegetables as recommended by Healthy Ireland. Alcohol consumption patterns revealed that over half of the participants (59.6%) consumed more than 7 standard drinks on a night out. Poor alcohol consumption behaviours and actions such as missing lectures (23.5%) and failing to remember what happened the morning after (24.7%) were also found. There was a statistical significance between academic achievement groups and perceived pressure of work outside college with the LAA group reporting higher levels of pressure of part time work ($\chi 2$ (1, n = 166) = 11.27, p = 0.01).

Conclusion: Results show, the health, wellbeing and lifestyle habits and behaviours among 1st year male Gaelic Games student athletes are sub-optimal including perceived stressors, nutrition, alcohol consumption, sleep quality. This creates an environment where student athletes have multiple stressors impacting their lives. Furthermore, sleep, nutrition and alcohol consumption patterns are poor. Therefore, the provision of a targeted intervention to support and guide this cohort is recommended in their transition to third level.

3.2 Introduction

1st year male Gaelic Games student athletes attending university are faced with numerous challenges, ranging from balancing time spent focused on academic study with sporting commitments, maintaining success or reacting to lack of success, and managing relationships with coaches, teammates, family, friends, and faculty (Ford et al., 2007). Unsurprisingly, Adams et al. (2019) and Rothschild et al. (2012) report time management as a major challenge when beginning one's college experience. Canadian University varsity male football players (n = 12) reported sport and academic work as the most important aspects in their lives but they found it difficult to include time for socialising with friends, shopping, cooking and proper recovery from their sporting careers (Rothschild et al., 2012). Similarly, a study carried out by Cosh and Tully (2014), which focused on Australian collegiate student athletes (n = 20) (female = 12, male = 8) competing in a range of sports (hockey, rowing, football, kayaking, baseball, cricket, soccer). In the focus group discussions, a key finding which emerged was the student athletes' primary academic goal was to 'just pass' their exams due to the pressure they were under. It was also found this was due to prioritising and devoting more time and effort to their sporting lives at the expense of their academic success.

Currently little research has been conducted on the general health of 1st year male Gaelic games student athletes. However, Bickerdike et al. (2018) reported findings relating to the health, wellbeing and lifestyle habits of the general student population (n = 2,267) in a Higher Education Institute (HEI) in Ireland using an online questionnaire. In this study, the majority (78.6%) of the general student population rated their general health to be either 'good' or 'very good' with males perceiving it more favourable than females ($\chi 2$ (3, n = 2,121) =20.4, p = <0.0005 Cramer's V = 0.01) (Bickerdike et al., 2018).

Due to the high levels of stress from academic commitments, financial pressures and lack of time management skills, student athletes engage in poor alcohol consumption patterns (Lopes Dos Santos et al., 2020). Welsh et al. (2019) identifies hazardous drinking as the primary substance abuse problem in universities. A study conducted on college students across all sports in the U.S. (n = 140,000) examining binge drinking reported 43.9% of college students engaged in binge drinking (consuming five or more drinks) over the previous 2 weeks of completing 'The Core Alcohol and Drug Survey' (Krieger et al., 2018). Similarly, findings from Bickerdike et al. (2018) in an Irish context reported 52.6% of male college students (n = 1,094) analysed using the AUDIT scale (Babor et al., 2001) reported engaging in hazardous drinking (a pattern of alcohol consumption that increases the risk of harmful consequences for the user or others (Babor et al., 2001) on a monthly basis (Bickerdike et al., 2018). This would suggest that hazardous drinking is high amongst college students in Irish third level colleges. Furthermore, it has been reported that student athletes consume more alcohol than the general student population indicating that the issue is more pronounced within this group (Harris, 2021 & Taylor et al., 2017). Green et al. (2014) analysed a cohort of students (n = 24,799) across 119 universities in the U.S. using a 20-page questionnaire gathering information on personal characteristics and behaviour related to alcohol use. Results reveal student athletes reported higher levels of binge drinking (51.4%) than non-student athletes (39.5%).

In a recent study carried out by Drew and Matthews (2018), 45% of student athletes (n = 185) from a variety of sports (hockey, rugby, golf, canoeing, basketball) reported symptoms of depression and/or anxiety outside of the normal range, with 31% reporting moderate to severe symptoms. It was also reported that the majority (83%) of student athletes agreed that they felt bad when they played poorly (Drew and Matthews, 2018) which can lead to alcohol

consumption (Vernig and Orsillo, 2014). Cooper (1994) suggests, alcohol is used for coping with one's failings and the depressive symptoms experienced by 1st year male Gaelic Games student athletes for playing poorly may occur to this cohort. Cooper (1994) in a seminal article suggested that there are four primary motives behind the consumption of alcohol; (1) conformity (e.g. to be liked or peer-pressure), (2) coping (e.g. to forget about your problems), (3) social (e.g. to increase the enjoyment of social functions), and (4) enhancement (e.g. because you like the feeling). For those student athletes that struggle to cope with the pressure, or feel bad for performing poorly on and off the field have been found to be at an increased risk of becoming psychologically dependant on alcohol (Vernig and Orsillo, 2014). However, as alcohol is a natural depressant, it does not improve or help with these depressive symptoms felt by athletes after performing poorly (Roberts et al., 2019 & Van Slingerland et al., 2018). Alcohol can also have a negative effect on the quality and quantity of sleep, as the consumption of alcohol aggravates breathing related problems which can result in sleep disruption/broken sleep and not reaching optimal sleep (He et al., 2019).

The college experience results in many students moving away from home into new surroundings, environments and social groupings for the first time. Quality of sleep is important for physical health and wellbeing (Cho and Duffy, 2019; Buysse, 2014). Bickerdike et al. (2018) reported more than three quarters (79.3%) of college students did not meet the recommended 8-hour of sleep duration during the week (Monday to Friday). Among college student athletes, those who sleep for less than 6 hours a night have been found to have higher levels of depression, lower grades in their academic work and a greater chance of getting injured on the playing field (Mah et al., 2018; Ojile, 2017). Furthermore, research has shown neuro-cognitive function (e.g. attention and memory) and physical health can be affected negatively by insufficient sleep (Simpson et al., 2017). The Gaelic Players Association (GPA)

reported that 40% of student inter-county players regularly experienced less than 7 hours sleep daily, which is below the recommended guidelines for an athlete and the general population (Samuels and Alexander, 2013; GPA, 2019).

Dietary habits in a college student's life have been found to be sub-standard, particularly in year 1 as they move out of home and become independent and have to cook for themselves (Choi, 2020; Deshpande et al., 2009). The regular consumption of fast food and inadequate consumption of fruit and vegetables have been identified as dietary trends and habits of college students (Lahiri et al., 2019; El Ansari et al., 2012). Bickerdike et al. (2018) reported only 5.5% of Irish male students achieved 7 servings of fruit and vegetables which is the recommended intake in Ireland (Healthy Food for Life, 2016). These findings are supported by Breitenbach et al. (2016) who reported that 71.3% of Hungarian college students did not consume more than two servings of fruit and vegetables per day. Little national and international data exists on the dietary habits of student athletes and more research is warranted to analyse dietary habits and nutritional intake of student athletes to identify if support is warranted.

Relatively little research has been conducted to identify the health and wellbeing challenges facing student athletes, which warrants further investigation into larger samples of student athletes to identify what supports if any are needed for this cohort (Pflum et al., 2017). There were two objectives for the current study. The first objective was to analyse markers of health and lifestyle behaviours via a questionnaire among a cohort of 1st year male Gaelic Games student athletes. The second objective was to analyse key barriers and challenges identified by 1st year male Gaelic Games student athletes with their transition from second level to third level education. Therefore, the title of the current study was 'An investigation into the health,

wellbeing and lifestyle behaviours among 1st year male Gaelic Games athletes following their transition from secondary to tertiary level education in an Irish HEI'.

To gain a better understanding of the student athletes, sub-groups were created. Student athlete exam results were used to categorise students into High Academic Achievers (HAA) and Low Academic Achievers (LAA). These were classified by using the students grade point average (57.8%) which was calculated as the mean score across all 12 modules studied. The median value was then used to categorise students into equal HAA and LAA groups. Likewise, High Alcohol Consumption Drinkers (HACD) and Low Alcohol Consumption Drinkers (LACD) groups were also created. These were classified by number of alcoholic drinks consumed on a standard night out. Student athletes with a score of 0-6 drinks were considered to be in the low alcohol consumption group and those with a score of 7 + drinks were considered to be in the high alcohol consumption group.

3.3 Methods

3.3.1 Study Design

'A Healthy MTU' is a campus wide research project that commenced in 2016 and aims to positively impact the health and wellbeing of the students attending a third level University in Southern Ireland. 'A Healthy MTU' has examined and reported baseline findings relating to student health and lifestyle domains (Bickerdike et al., 2018). The current study is an extension of 'A Healthy MTU' initiative and is focused solely on 1st year male Gaelic Games student athletes. It collected data using a mixed-methods approach, with participants completing a cross-sectional, quantitative online questionnaire which examined health, wellbeing and lifestyle behaviours, sporting demands as well investigating challenges identified during the transition to university. A series of semi-structured focus group

discussions were conducted to collect qualitative data to further explore and examine the primary perceived challenges, facilitators, and impact entering into 3rd level education had on the student athlete's health and wellbeing. This study design was used to initially ascertain if the development, implementation and evaluation of a health, wellbeing and lifestyle promotion is warranted among this cohort and to provide guidance on the development of such an intervention.

3.3.2 Participants

Participants were 1st year male Gaelic Games student athletes in a university situated in Southern Ireland across the 2018/19 and 2019/20 academic years (2 separate groups). To participate in the study, participants had to be full-time students and a member of the MTU student GAA club. Participants were recruited at an information session (Appendix B) which took place 10 days' prior the data collection at a team training session. This session served to outline what would be required of participants as part of this in the study. Participant email addresses were collected of those that were interested in taking part in the study. A total of 166 [(111; football, 55; hurling) (Year 1 = 86, Year 2 = 80)] responses were recorded on the online questionnaire (mean age 18.6 ± 0.5 years). An email invitation containing a direct hyperlink to the questionnaire was sent to each of the participants' registered student email address. The email contained an access code for each of the students in which they could access the questionnaire. Participants for the focus groups were chosen at random (n = 6) using the random number generator function on Microsoft Excel. Participants were contacted via email and a follow up phone call to confirm their attendance at the focus group session.

Ethical approval was granted by the Research Ethics Committee in the university prior to data collection. Prior to the completion of the online questionnaire an online consent form had to

be ‘checked’ by participants indicating their consent to participate in this research project (online questionnaire and focus groups) which included explicitly consenting to the researcher being given access anonymously to the participants exam results. For this purpose, the Registrar of the university was provided with a list of student numbers of those who participated in the study and the exam results of these students were provided to the researcher. All data were stored confidentially on a password protected PC and only the research team had access to this data.

3.3.3 Data Collection

The questionnaire used in the current study was adapted from a pre-existing survey instrument used in the ‘A Healthy MTU’ study (Bickerdike et al., 2018). This online questionnaire (Appendix A) consisted of scales previously used in other related studies from previous Irish research examining factors relating to general health and wellbeing as well as lifestyle habits and behaviours (Hope et al., 2005; Mac Neela et al., 2012, Buysse et al., 1989). Notably, the tool used in the current study also included specific items examining sport participation levels and demands as well as, perceived values and priorities of the student athletes. The questionnaire was hosted on an online platform (‘Limesurvey’) and was completed in November of 2018 and 2019 with the respective participating 1st year male Gaelic Games student athletes. The questionnaire took approximately 20 minutes to complete. Following an initial pilot study with randomly selected year 1 students (n = 18), the instrument was refined and adapted prior to dissemination to the target population. Participants completed the questionnaire prior to a squad training session in a pre-arranged computer lab in the host university. Table 3.1 (Appendix A) provides details of the online questionnaire which was used in the current study. Seven items from the Alcohol Use

Disorders Identification Test (AUDIT) questionnaire were incorporated in the survey instrument. To evaluate internal consistency of these items, Cronbach alpha was calculated which resulted with an alpha level of 0.689. This is in agreement with previous research which has used this scale (Babor et al., 2001).

Table 3.1: Overview of Questionnaire Content				
	Variable Name	**Description**	**No. of Q's [Range of responses: 1 (very good), 5 (very poor)]**	**Source**
Demographics and Student Athlete Information	Demographics	Age, type of college accommodation, college funding, level of part time employment.	6 [n/a]	(Bickerdike et al., 2018)
	Perceived Values & Priorities	Importance of various aspects of their life e.g. sport, college study, physical health, paid work, healthy eating, night life.	6 [1,5]	n/a
	Sporting Demands	Volume of trainings/matches per week, number of teams they play for.	7 [n/a]	n/a
General Health	General Health	Overall perception of the level of their general health.	1 [1,5]	(Hope et al., 2005)
	Mental Health	Perceived level of mental health and wellbeing.	1 [1,5]	(Hope et al., 2005)
	Stressors Impacting Wellbeing	Level of stress caused by stressors such as exams, college workload, financial situation etc.	7 [1,4]	(Hope et al., 2005)
Lifestyle Habits and Behaviours	Food and Nutrition	Dietary habits and behaviours (frequency of fast food takeaways and supplements)	1 [1,5]	(Hope et al., 2005)
		Daily servings of fruit and vegetable	1 [n/a]	(Mac Neela et al., 2012)
		Number of days breakfast was consumed (weekday vs weekend)	2[1,5] [1,2]	n/a
	Alcohol Consumption Patterns	Alcohol Use Disorders Identification Test (AUDIT) examined level of consumption when drinking and frequency	7 [1,5]	(Babor et al., 2001)
		Age of first alcoholic drink	1 [n/a}	(Bickerdike et al., 2018)
		Behaviours when consuming alcohol	4 [1,4]	(Mac Neela et al., 2012)
	Sleep Patterns	Sleep quality and quantity (weekday v weekend)	3 [1,5]	(Mac Neela et al., 2012), (Buysse et al., 1989)

3.3.4 Focus groups

A series of semi-structured focus group discussions (n = 6, year 1, n = 3, year 2, n = 3) were conducted with a random sample of participants (year 1 n = 18, year 2 n = 18) and were 26-30 minutes in duration. The focus groups were conducted in March of each respective year of data collection. A total of 6 focus group discussions were carried out, 3 in year 1 and 3 in year 2. In year 1, the focus groups took place in a studio room at the Sports complex of the host university, while in year 2, the focus group discussions took place virtually using the Zoom video communications cloud-based platform (Zoom Video Communications, Inc.), due to COVID-19 restrictions. The focus groups were conducted by the primary researcher. Each focus group was conducted with 6 1st year male Gaelic Games student athletes who were chosen at random from the sample population. Data from the focus groups were recorded using a voice recorder and transcribed verbatim. The function of these focus group was to further examine and investigate in greater depth key constructs which were included in the questionnaire relating to athlete health and wellbeing. A pilot focus group was conducted with a group of student athletes (n = 6) which lasted 28 minutes in duration to initially refine the content, structure and format of the focus group discussions. The focus group format was based on 3 key questions (Table 3.2) and involved participants using sticky notes (Appendix D) to write down thoughts and key points relating to these key questions posed. These notes were then stuck on a notice board. The primary researcher used these notes to guide the discussion of the focus groups. These notes led the discussion of the focus groups by opening the floor to the participant's views and opinions on these points.

Table 3.2 Focus Group Interview Questions

1	Write down 3 challenges that you faced when starting university.
2	Write down 3 factors that helped you when starting university.
3	Write down 3 things that impacted your general/mental health positively/negatively since starting university.

3.3.5 Data Analysis

Questionnaire data were exported directly to Microsoft Excel initially and then transferred to the Statistical Package for the Social Sciences (SPSS) Version 25.0. The data were screened and cleaned to identify outlier values and missing data. The mean, standard deviation, and frequency values were calculated to summarise the questionnaire responses. Despite the data being non-parametrically distributed, mean values with supporting standard deviation scores are reported (as opposed to median values) as it is felt they provide a greater insight of the data scores of the participants, especially in scales with limited response options. To gain a better understanding of the student athletes, sub-groups were created. The exam results were used to categorise students into High Academic Achievers (HAA) and Low Academic Achievers (LAA). These were classified by using the students grade point average which was calculated as the mean score across all 12 modules studied. The median value was then used to categorise students into equal HAA and LAA groups. Likewise, High Alcohol Consumption Drinkers (HACD) and Low Alcohol Consumption Drinkers (LACD) groups were also created. These were classified by number of alcohol drinks consumed on a standard night out. Student athletes with a score of 0-6 drinks were considered to be a low alcohol consumption group and those with a score of 7 + drinks were considered to be high alcohol consumption group. These sub-groups were created post data collection to analyse key health, wellbeing and lifestyle behaviours and habits across groups. Chi-square tests for

independence and Mann-Whitney U tests were carried out to analyse differences in a variety of key variables across these sub-groups.

Semantic analysis was used during data collection of the focus groups. The focus groups were a minor part of this study and quotes from the focus groups were used to support and provide richness to the quantitative data. Data from focus groups used which was recorded and transcribed were content analysed based on the procedure of Côté et al. (1993). Content analysis organises the raw data into interpretable and meaningful themes and categories employing either a deductive or inductive approach (Jones et al., 2014). The current study employed an inductive approach which allowed themes to emerge from the data rather than fitting data into predetermined categories as would occurs in a deductive approach (Sheehan et al., 2018). Initially the transcribed audio from the focus group was typed into a Microsoft Word document. Following this all data was transferred to Microsoft Excel. The transcripts were organised per question on Excel spreadsheets and any comments taken at the time of the focus group by the primary researcher were put in a different font to distinguish between the participant's answers and primary researcher's comments. Different letters were used to distinguish the different focus groups (e.g., group 1 used the letter 'A', group 2 used the letter 'B' and so on) (Appendix E). Following this all data was transferred to a single Excel worksheet, generating a single column consisting of all answers/comments from the participants and primary researcher. The data was then analysed with a view to assigning themes (Bree and Gallagher, 2016). Each individual cell was reviewed and assigned to a thematic area, to which a cell colour code was applied. The sticky notes that initiated the conversation from the focus groups were also used to aid and determine themes. Reoccurring themes were identified throughout all six focus groups with key quotes presented to highlight these themes which also added an extra insight/context to the quantitative findings.

3.4 Results

Results are presented as per questionnaire structure. Firstly, demographic information is presented followed by general and mental health, stressors, lifestyle habits and behaviours and sub-group analysis on health, wellbeing and lifestyle behaviours. All data from the questionnaire has not been presented in the results section but can be viewed in appendix F.

3.4.1 Participant Demographic Information

A total of 166 responses were recorded over the two-year period on the Lime Survey platform (year 1 = 86, year 2 = 80). Table 3.3 illustrates the demographic data and part time job commitments of the participants. With regard to accommodation status, almost two thirds (65.7%) of participants were living away from home during the academic college year. In terms of employment, 61.4% of student athletes reported having a part time job with 32.5% of these reported working 15 hours or more per week in this job.

Table 3.3: Demographic information relating to participants

	Total	
	N = 166	%
Age		
17-18 years	63	37.9
19-20 years	103	62.1
College Accommodation		
Parents/Guardians	57	34.3
College Residence	82	49.5
Rented House	16	9.6
Lodgings	3	1.8
Own Home	8	4.8
Part time Job		
Yes	102	61.4
No	64	38.6
Weekly part time hours		
6 – 9	23	17.5
10 -14	37	28.5
15 – 19	20	15.5
20+	22	17.0
Don't Work	64	21.5

Sporting Demands and Commitments

The number of competition and training sessions completed by the student athletes on an average week during the months September-March was found to be 5.3 ± 1.7 and during the months of April-August was 5.9 ± 1.9. Figure 3.1 presents the number of different GAA teams represented by during the previous 12 months prior to completing the questionnaire. Almost one quarter (24.7%) of student athletes represented 9+ GAA teams in this time. Some participants reported playing with up to 11 different Gaelic games teams (n = 8) between football and hurling in the previous 12-month period.

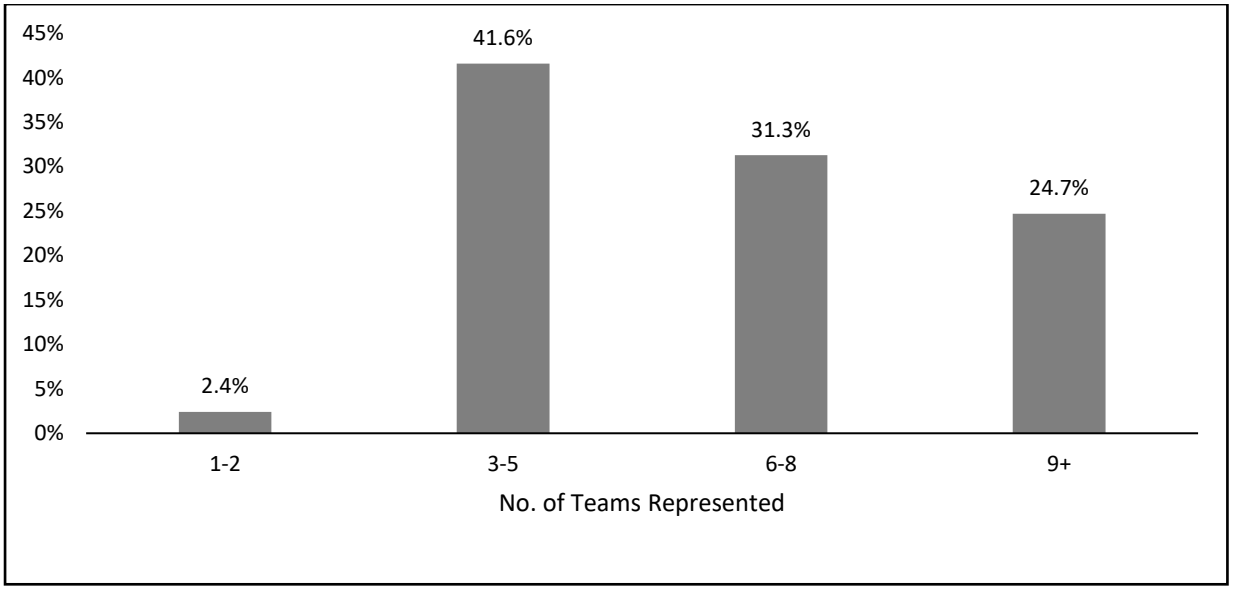

Figure 3.1: Number of Teams Student Athletes Represented

Perceived Values and Priorities

Table 3.4 illustrates the participants' rating of the level of importance of various aspects of their life on a Likert scale (1 = not important, 5 = very important). The highest ranked items were found to be sport participation followed by being physically healthy, and college studies.

Table 3.4 Importance of several aspects in the participants life

Variable	Mean Range [1–5]	Std. Dev.
Sport Participation	4.40	0.859
Physically Healthy	4.28	0.976
University Studies	4.08	0.884
Night Life	3.58	0.942
Eating Healthy	3.54	0.995
Paid Work	2.68	1.577

3.4.2 General and Mental Health

General health was assessed on a scale of 1 (very good) – 5 (very poor) (Hope et al., 2005; Bickerdike et al., 2018). A total of 95.0% of the student athletes rated their general health as being either 'very good' (31.1%) or 'good' (63.9%). Findings from the focus groups found that engagement in regular exercise was identified as being an important factor in the promotion

of positive general and mental health. For example, one student athlete stated that *'in-between lectures I go to the gym most days, I feel good after it'*.

Information regarding general health is sought by the student athletes through their family GP (69.9%), other health professionals (15.9%), family members (6.6%), the internet (4.6%), university medical centre (1.8%), HSE (0.6%) and social media (0.6%).

Mental health was assessed using a Likert scale of 1 (very good) – 5 (very poor) (Bickerdike *et al.,* 2018 &Ware, 1993). 79.5% of the student athletes rated their mental health 'very good' (22.9%) or 'good' (56.6%) with 20.5% rating it as 'poor' (13.3%) or 'very poor' (7.2%). A positive theme throughout the focus group was the contribution the GAA club within the university made; it helped student athletes settle into university by make new friends;

> *'We have all made new friends from playing GAA with the university. We are all from different clubs/counties that have similar interests. The GAA club have made it easier to settle into university and takes our minds of the stress of studying'.*

3.4.3 Stressors

Participants were asked to rate the impact of various stressors on their life on a Likert scale of 1 (highly stressed) to 5 (never stressed) (Bickerdike et al., 2018; Hope et al., 2005). The highest ranked stressors identified by the student athlete population related to college life, namely exams (60.9%), university studies (44.6%) and university workload (43.4%) (Figure 3.2). The thematic review of the focus groups revealed that academic-related stressors were very prevalent and caused the student athletes considerable stress, for example one student athlete stated that '*starting new subjects with no prior knowledge to them, was confusing and stressful'.*

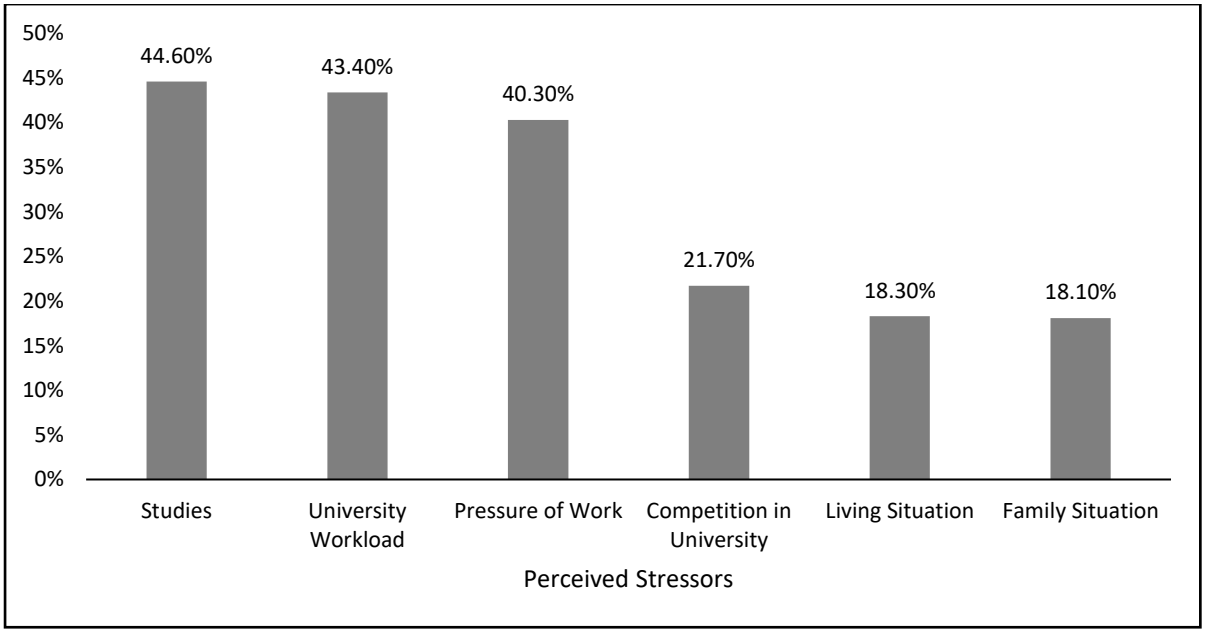

Figure 3.2: Perceived Stressors of college student athletes

3.4.4 Lifestyle habits and behaviours

Food & Nutrition

The mean number of servings of fruit and vegetables consumed per day among the student athletes was 3.51 ± 1.7. A total of 94.6% of the student athletes did not consume the recommended daily intake (RDI) of 7+ portions per day (Healthy Food for Life, 2016). In relation to breakfast patterns, almost two thirds of the participants (65.7%) reported consuming breakfast on the 5 weekday mornings (Monday-Friday). A higher proportion of the participants (84.3%) consumed breakfast both days of the weekend (Sat-Sun).

Analysis of fast food consumption found that 27.1% of participants consumed a fast food takeaway meal more than once a week with 67.5% consuming fast food meals 1-4 times a month. The focus groups revealed that factors impacting on nutritional habits and behaviours related to moving away from home, the temptation and ease of access of takeaway meals, as well as having limited knowledge and ability to cook for themselves. One student athlete

stated *'The dinner was always ready when I came home from school, now I have to try cook for myself or instead get takeaway on the way home'.*

Alcohol

The reported mean age of first alcoholic drink among this cohort was 15.6 ± 2.6 years, while a total of 90.4% of the student athletes reported drinking alcohol before they reached the legal age of 18. Figure 3.3 illustrates the quantity of alcoholic drinks consumed on a standard night out. Over half of the participants (59.6%) consumed more than 7 standard drinks, with 25.9% of participants reported consuming 10 or more alcoholic drinks on a night out.

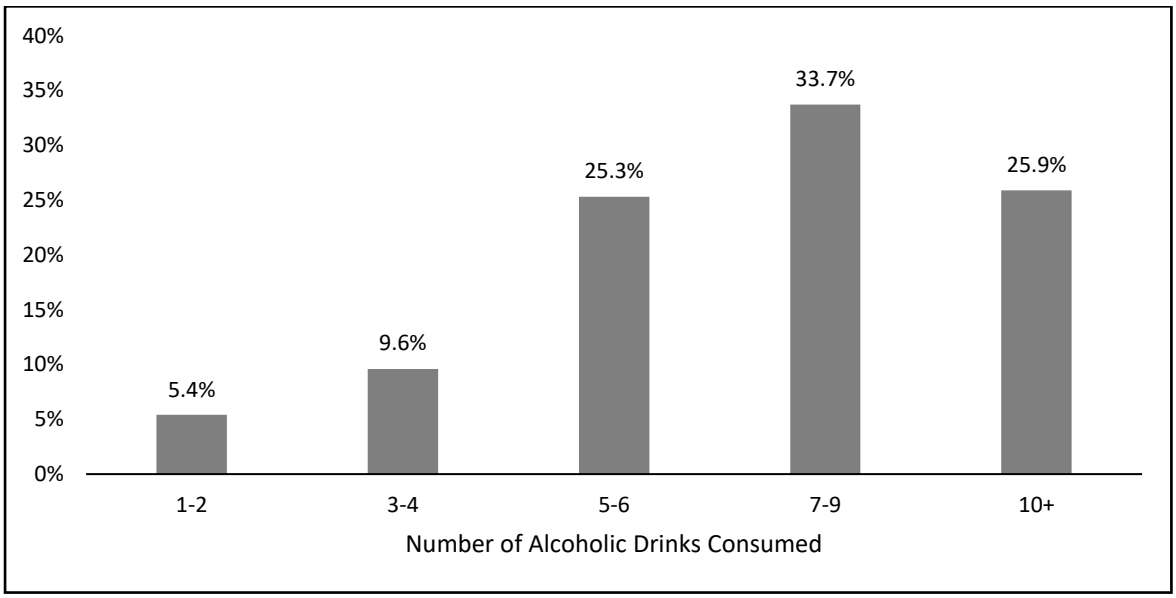

Figure 3.3: Number of alcoholic drinks consumed on a standard night out

Within the questionnaire participants were asked about issues remembering what happened on a night out due to alcohol consumption. Almost a quarter (24.7%) reported that on a weekly basis they had issues remembering what happened the morning after a night out as a result of alcohol consumption. Alcohol consumption episodes were found to have a detrimental impact on college attendance with 23.5% of student athletes agreeing or strongly agreeing to missing lectures on the day after a night out. Findings from the focus groups

suggest that increased independence at this life stage resulted in increased frequency of alcohol consumption and increased quantity of consumption. For example, one participant stated in the focus groups that *'it's much easier to go out and drink with friends because there are no parents to watch your every move'.*

Sleep Patterns

Half of the student athletes rated their sleep quality as 'very good' (11.4%) or 'good' (38.6%) on a Likert scale of 1 (very good) to 5 (very poor) with the remaining 50% reporting their sleep quality as 'poor' or 'very poor'. With regard to sleep duration, only 29.5% of student athletes met the recommended 8-hour recommended threshold during the week in comparison to 66.9% at the weekend. Focus group discussions revealed that challenges relating to moving away from home were found to disrupt sleep patterns. One student athlete stated that *'new surroundings, a new bed and a lot more noise in student accommodation takes getting use to'.*

3.4.5 Subgroup analysis on health, wellbeing and lifestyle behaviours

HAA v LAA

Sub-group analysis was carried out among HAA and LAA on a number of key health, wellbeing and lifestyle behaviours (Table 3.5). Table 3.5 presents the scale of measured variables, a higher score denotes less favourable health, wellbeing or lifestyle score.

Table 3.5: Health, wellbeing and lifestyle behaviours among HAA and LAA

Variable (Scale)	HAA (M±SD)	LAA (M±SD)	*P* Value
General Health (1 = v. good, 5 = v. poor)	1.65 ± 0.517	1.86 ± 0.540	**0.032* (χ2)**
Mental Health (1 = v. good, 5 = v. poor)	2.02 ± 0.805	2.12 ± 0.873	0.714 **(χ2)**
Part Time Job (1 = yes, 2 = no)	1.36 ± 0.482	1.42 ± 0.498	0.408 **(χ2)**
Pressure of Work Outside University (1 = v. stressed, 5= not stressed)	3.00 ± 0.676	2.75 ± 0.939	**0.010* (χ2)**
Sleep Quality (1 = v. good, 5 = v. poor)	2.49 ± 0.939	2.80 ± 1.063	0.283 **(χ2)**
Drinks (no. on average night out)	4.58 ± 1.537	4.76 ± 1.489	0.292 **(χ2)**
Part Time Job (Hours)	13.97 ± 6.284	14.29 ± 5.875	0.658 ***(U)***

P < 0.05
(χ2) = Chi-square test for independence
(U) = Mann-Whitney U test

A Chi-square test for independence indicated a more favourable perception of general health among the HAA compared to the LAA groups, (χ2 (1, *n* = 166) = 6.89, *p* = 0.032). There was a statistical association between academic achievement groups and perceived pressure of work outside college with the LAA group reporting higher levels of pressure of work outside of university (χ2 (1, *n* = 166) = 11.27, *p* = 0.01). With regards part time job hours worked, during the week there was no significant difference but mean scores reveal that participants in the HAA group worked less (13.97 ± 6.28) than those in the LAA group (14.29 ± 5.87). No significance was found on the remaining variables (mental health, part time job, sleep quality, alcohol consumption and part time job (hours)) however mean scores indicate a more favourable trend among the HAA group.

HACD v LACD

Table 3.6 presents findings from HACD and LACD subgroup analysis on a number of key health, wellbeing and lifestyle behaviours.

Table 3.6: Health, wellbeing and lifestyle behaviours among HACD and LACD

Variable (Scale)	HACD (M±SD)	LACD (M±SD)	*p* Value
General Health (1 = v. good, 5 = v. poor)	1.75 ± 0.590	1.73 ± 0.520	0.459 **(χ2)**
Mental Health (1 = v. good, 5 = v. poor)	1.98 ± 0.852	2.09 ± 0.815	0.695 **(χ2)**
Part Time Job (1 = yes, 2 = no)	1.38 ± 0.491	1.39 ± 0.489	0.987 **(χ2)**
Pressure of Work Outside University (1 = v. stressed, 5= not stressed)	2.90 ± 0.846	2.92 ± 0.766	0.608 **(χ2)**
Sleep Quality (1 = v. good, 5 = v. poor)	2.58 ± 1.144	2.61 ± 0.918	0.172 **(χ2)**
Part Time Job (Hours)	14.19 ± 6.784	14.03 ± 5.848	0.98 ***(U)***

(χ2) = Chi-square test for independence
(U) = Mann-Whitney U test

A Chi-square test for independence revealed no significant difference on the measured variables between the subgroups. A Mann-Whitney *U* test revealed no significant difference in part time hours worked between HACD and LACD drinkers (14.19 ± 6.784 v 14.03 ± 5.848, $U = 1116.50$, $z = -0.025$, $p = 0.98$).

3.5 Discussion

This study provides an insight into a wide range of health, wellbeing and lifestyle behaviours and challenges faced by 1st year male Gaelic Games student athletes entering into 3rd level education for the first time. The transition from secondary to third level education is a difficult time for first year students. University life brings many challenges such as increased independence, disruptive housemates, new surroundings and an unfamiliar sleeping arrangement which are all causes for declines in wellbeing (Kroshus et al., 2019 & Van

Slingerland et al., 2018). Two thirds of the 1st year male Gaelic Games student athletes in the current study left home to live on university campus/student accommodation for their first year in 3rd level education. As there is a lot of change for these 1st year male Gaelic Games student athletes it may impact their wellbeing and their overall academic and sporting careers (Van Slingerland et al., 2018 & Rothschild et al., 2012).

The majority (95%) of participants rated their perceived general health as 'good' and 'very good'. When compared to Bickerdike et al. (2018) study of the general student population in the same University (78.6%) the current study findings were found to be higher. To the authors' knowledge, no previous research has investigated the self-reported general health of student athletes thus making it impossible to compare the current findings against national and international datasets. Nonetheless, it appears that the self-reported general health of this cohort is positive. Perceived mental health scores were also higher than those reported in the general population of Bickerdike et al. (2018). Almost 80% of the 1st year male Gaelic Games student athletes rated their mental health 'very good' (22.9%) or 'good' (56.6%) in comparison to the general student population (65.7%). It would be expected that a student athlete population would prioritise and engage in a lifestyle which promotes physical health and wellbeing. Involvement in sport may promote positive general and mental health and therefore, it is not surprising that the 1st year male Gaelic Games student athletes scores were higher than the general student cohort.

Participating in physical activity such as Gaelic Games can have a positive impact on the social connections and social identity of student athletes (Lisack, 2016). The environment student athletes are in provides a space to express their emotions through their masculinity which they may not be able to do off the field. As males, it is common for them to perceive

themselves as strong and masculine so it is important that they can express their emotions which is often on the field of play (Chaplin, 2014). In a study by Graupensperger et al. (2020), it examined the differences in gender self-perception of health of 2,784 male (31.8%) and female (68.2%) participants using a survey. Self -perception of health was similar among both genders. Men reported health problems such as diabetes, hypertension and smoking. Women reported higher self-efficacy levels with maintaining a healthy diet. Male participants also reported significantly higher in taking part in physical activity in comparison to their female counter parts ($p < 0.001$). A student athletes' identity can be important to those participating in physical activity as it is a sense of belonging (Graupensperger et al., 2020). The 1st year male Gaelic Games student athletes were found to prioritise and place more value in their sports participation than other aspects of their lives e.g. university study and exams. This highlights the value and importance of sport participation within this cohort and how being an athlete is an important part of their identity. These findings are supported by international research. In a study by Pflum et al. (2017) of student athletes from a variety of sports (basketball/softball/soccer/baseball) it was found these participants identified themselves as being student athletes primarily over being a college student. In a study conducted by Cosh and Tully (2014) on 20 Australian student athletes, it reported their primary academic goal was to 'just pass', due to lack of time management skills and also their main focus was on being a student athlete. As the GAA is an amateur organisation with very few opportunities to make a career from these 1st year male Gaelic Games student athletes may perceive themselves as an 'athlete' first but need to see the bigger picture and should prioritise accordingly. These findings would indicate that greater support and assistance may be required to assist students with challenges relating to time management and to support their demanding schedules.

The main causes of stress among the 1st year male Gaelic Games student athletes in their life were; i) exams, ii) university studies and iii) university workload. A thematic review of the focus groups revealed that academic-related stressors were very prevalent with this cohort. As the 1st year male Gaelic Games student athletes in this study had only entered third level education for the first time they would not have encountered the academic challenges, demands and independent learning that is required of a student in university before. These academic pressures and sporting demands can be overwhelming. Linnér et al. (2019) reported findings from his study on Swedish university student athletes and their need to develop coping strategies to manage their dual careers of an academic student and student athlete. The ability to balance academic study and sport was the primary challenge for these students. Semi structured interviews were held and results revealed similarities to those 1st year male Gaelic Games student athletes in this study where it was identified there was a challenge balancing academic study and sport. As the 1st year male Gaelic Games student athletes were assessed in November of Semester 1 they may have been on a steep learning curve and in a period of adjustment. As the data were collected from the 1st year male Gaelic Games student athletes relatively early in their academic journey, it is recommended that future research tracks the health, wellbeing and lifestyle behaviours among this cohort throughout their time in third level education to assess changes during this time. Furthermore, future research should support the student athletes with educational workshops and knowledge on the topics of study skills, time management and coping strategies to help the 1st year male Gaelic Games student athletes as they commence university or alternatively a follow up session in 2nd year of university to see how these student athletes are coping.

Alcohol consumption analysis revealed that over half of the participants (59.6%) in the current study consumed more than 7 standard drinks on a standard night out, with 25.9% of participants consuming 10 or more alcoholic drinks. These findings highlight the hazardous consumption of alcohol by the participants which are consistent with Bickerdike et al. (2018) where 52.6% of male college students have been reported to engage in hazardous drinking. The findings from these studies suggests that hazardous drinking is a problem amongst college students in Irish third level universities but are also in agreement with Harris, (2021) who reported that student athletes consume more alcohol than the general student population. Harris (2021) also found alcohol had a symbolic value allowing individuals to negotiate a better position within a social hierarchy and also the availability of alcohol and its pricing contributed to these hazardous drinking episodes of student athletes. Ribadier et al. (2019) reports that alcohol can be a coping mechanism to help deal with anxiety and depressive thoughts. It may be that due to the highs and lows associated in sports involvement that this may lead to higher alcohol consumption among student athletes compared to the general population. Peer pressure is also associated with alcohol consumption and Robertson and Tustin (2018) revealed students may be stigmatized and their social identity may be threatened if they limit their alcohol consumption. Although students are aware of the consequences from heavy drinking episodes, they continue to peer pressure and label students who abstain from alcohol (Robertson and Tustin 2018). De Visser and Smith (2000) report male college students associate heavy drinking with masculinity which allows for the peer pressure and stigmatization of those that prefer not to consume alcohol. Educational interventions and support for alcohol consumption and the effects of alcohol should be provided to 1st year male Gaelic Games students due to the male population consumption habits and the peer pressure associated with alcohol.

Dietary behaviours indicated that a total of 94.6% of the 1st year male Gaelic Games student athletes did not report consuming the RDI of 7+ portions of fruit and vegetables per day (Healthy Food for Life, 2016). Previous research indicates that males generally report consuming fewer servings of fruit and vegetables than females which is consistent with the findings of Bickerdike et al. (2018) & El Ansari (2011). Bickerdike et al. (2018) reports only 5.5% of males attending university achieved the RDI of 7+ portions per day.

Gender stereotypes remain influential with men expected to eat more meat than vegetables to have a more muscular body (Rodrigues et al., 2020). As red meat is associated with masculinity, fruit and vegetables are associated with healthier diets and are a symbol for femininity (Rodrigues et al., 2020; Rozin et al., 2012). The behaviours of the 1st year male Gaelic Games student athletes may reflect their conformity with the stereotyping. This gender stereotyping along with the stark findings from the results warrants increased focus on education and increased awareness of dietary deficiencies among 1st year male Gaelic Games student athletes which may positively impact on their sporting prowess and overall wellbeing. It would also be worthwhile investigating intake of all macronutrients as well as fruit and vegetable intake for a more in-depth understanding of the student athletes' dietary habits. This would give a better insight into the intake of carbohydrates, proteins, fats, which are all very important for the student athlete.

As these 1st year male Gaelic Games student athletes train/compete up to 4 times per week they need to be fuelling their body with the appropriate quantity and quality of appropriate food which is important not only for performance but also for recovery post training. Participants revealed the high consumption rates of fast food meals (27.1% = more than once a week) were related to moving away from home, the temptation and ease of access of takeaway meals, as well as having limited knowledge and ability to cook for themselves. This

highlights another manifestation of gender difference that is more common among males than females, which is significant for health.

The importance of sleep quality and duration has been identified by Hamlin et al. (2021), reporting insufficient sleep can result in poor sporting performance and increased risk of injury (Hamlin et al., 2021). Over two thirds of the cohort in the current study obtained the recommended number of hours of sleep at weekends (66.9%) in comparison to weekdays (29.5%). Similarly, to Bickerdike et al. (2018) 79.3% of participants did not meet the recommended 8-hour of sleep duration during the week (Monday - Friday). Focus group analysis revealed superior sleeping arrangements in the family home when student athletes return home at the weekend with no disturbances in comparison to living in student accommodation. Inadequate sleep quality and sleep duration will affect the academic performance of the students (Chen and Chen, 2019). Chen and Chen (2019) found students who experienced sleep deprivation from their first year to final year in college had a lower chance of graduating than those who were not deprived of sleep. Student athletes frequently experience poor sleep quality due to new living arrangements and sleep disturbances (Mah et al., 2018). Student athletes at Stanford University (42.4%) reported poor sleep quality and 51% reported levels of daytime sleepiness due to insufficient sleep (Mah et al., 2018). To optimise performance on the sports field, inside in the lecture halls and indeed general wellbeing, an educational intervention with a focus to increasing knowledge relating to optimum sleep benefits appears warranted.

It is clear in the current study focus group analysis revealed that it is clear the GAA club has helped the 1st year male Gaelic Games student athletes settle into university life. The GAA club within the university has helped student athletes settle into university make new friends

and meeting people with similar interests within the GAA club in the university were all positives when entering into 3rd level education and make life that little bit easier for the 1st year male Gaelic Games student athletes. The challenges these student athletes face with time management, exams, part time jobs and moving away from home may have an impact on their lifestyle and dietary habits. The challenges which are associated with the transition from secondary to tertiary education for the general student population are even greater for young athletes trying to balance their sporting demands which can be supported by the GAA who could contribute to the promotion of educational workshops within the university GAA clubs across Ireland.

3.6 Strengths

A strength of the current study is that it focused on 1st year male Gaelic Games student athletes in an Irish 3rd level university, a cohort which has not previously been studied. A second strength of this study was that it incorporated a wide range of validated questions on the topics of health, wellbeing, academic and sports-based questions in a questionnaire for this cohort. Furthermore, the quantitative and qualitative research methods used to gather data in this study provided richness and depth to the findings.

3.7 Limitations

A limitation of this study was the single sex cohort sample size. The current data could be used to enable a comparison between male and female student athlete health, wellbeing and lifestyle habits. As data were collected early in the student athlete's university life this would be another limitation. As data were collected early in the student athlete's university life this would be another limitation. Future research could examine the student athlete's health, wellbeing and lifestyle habits later in the academic year when they have settled into

university. Data for the current study were collected in one university on Gaelic games student athletes, which is a limitation. Future research could conduct the study in multiple universities in Ireland and on the general population.

3.8 Conclusion

The challenges associated with the transition from secondary to tertiary education have been widely documented (e.g. independent living, work-study balance, etc.), and these are magnified for young athletes trying to balance their sporting demands with such challenges. 1st year male Gaelic Games student athletes were found to display good health and wellbeing and poor lifestyle habits which all can be improved. Furthermore, sport appears central to these students' identity. The results from this study are concerning and provides a justification for the development of a health promotion intervention among this cohort.

Chapter 4

An evaluation of a bespoke health and wellbeing intervention among a cohort of 1st year male Gaelic Games student athletes in an Irish University setting.

4.1 Abstract

Background: Due to the extensive academic, sporting and personal demands placed on 1st year male Gaelic Games student athletes, it is essential that appropriate guidance and supports are provided to this cohort to support and facilitate the achievement of their related goals (Lopes et al., 2020). The current study aimed to evaluate the effectiveness of a bespoke health and wellbeing intervention (focusing on the parameters of general and mental health, alcohol consumption, dietary habits and sleep quality) among a cohort of 1st year male Gaelic Games (Gaelic football and hurling) student athletes in an Irish university setting.

Methods: Participants comprised of 1st year male Gaelic Games student athletes (n = 80, mean age 18.6 ± 0.5 years) who were members of the student Gaelic Games club in a university in the south of Ireland. Data were gathered at baseline (November 2019) and post-intervention (March 2020) via an online health and wellbeing questionnaire. This instrument was adapted from previous research (Bickerdike et al., 2018) and comprised of questions related to participant's health, wellbeing, academic performance, and sports demands, which took approximately 20 minutes to complete. Wilcoxon Signed Rank Tests were used to examine variables from pre- to post-intervention. At follow up, semi-structured focus groups (n = 3) were conducted with participants (n = 18) to further explore and examine the key constructs that formed the basis of the questionnaire relating to athlete health and wellbeing and also the effectiveness of the intervention. The focus groups however were a minor element of this study design and tried to add an extra insight/ context to the quantitative findings. All focus groups were recorded, transcribed verbatim, and analysed using thematic analysis. The intervention consisted of (i) educational workshops (e.g. healthy eating and lifestyle behaviours and habits) delivered by qualified professionals in their respective fields

of expertise and (ii) peer mentoring supports, which were coordinated and delivered by the primary researcher.

Results: Data revealed a significant post-intervention improvement in general health (p = 0.008), fruit and vegetable consumption (p = 0.001), and sleep quality (p=0.01), in addition to a reduction in alcohol consumption (p < 0.05). Focus group analysis revealed that the transition to university was challenging for participants with time management proving a consistent concern across the 3 selected cohorts. Further, there was broad consensus that the GAA club within the university proved to be a familiar setting that served as a support structure for all participants.

Conclusion: The bespoke health and wellbeing intervention in this study proved to have a positive effect on the health and lifestyle habits of this targeted 1st year cohort. Dedicated student athlete-specific interventions like this show promise in addressing concerning factors such as poor general and mental health, ad hoc dietary habits, sub-optimal sleep quality, and high alcohol consumption. Increased health and wellbeing education and support should be provided to 1st year male Gaelic games student athletes to help reduce the challenges they face in the transition period from secondary education to third level university life.

4.2 Introduction

The life of a 1st year male Gaelic games student athlete is often associated with a multitude of complex pressures that can impact both wellbeing as well as academic and sporting performance (Hamlin et al., 2019). Inevitably, student athletes must manage both their sporting and academic demands, and therein lies the challenge for this student cohort. Commencing university is a time of increased independence; in many cases moving out of home and experiencing daily tasks for the first time, such as having to cook for themselves and do their laundry. Therefore, it is not surprising that these 1st year male Gaelic games student athletes are faced with a decline in their wellbeing, relative to their non-athlete counterparts as a consequence of the extra demands of their sporting commitments (Van Slingerland et al., 2018; Rothschild et al., 2012). To date, concern for the wellbeing of student athletes has traditionally been focused on physical health parameters and their influence on performance outcomes in sport and academia, which is often negatively impacted by time management (Sheehan et al., 2018). Therefore, it is essential that this cohort of 1st year male Gaelic games student athletes are provided with the support and guidance that they need to reduce the burden of these stressors, which will in turn improve their health, wellbeing and associated lifestyle behaviours.

University student athletes worldwide have been reported to be 50% more at risk of experiencing a mental illness that may impact their academic and sporting performance relative to their non-athlete counterparts (Linnér et al., 2019; Arnett, 2000). Anxiety and/or depression are considered important indicators for mental health, both of which are emotional responses to stress, difficulty in sleeping, muscle tension, and fatigue. Causes of stress during academic life for a university student athlete include study-related pressures such as exams and associated workload, concerns about not meeting parents' expectations,

social life peer pressure such as the consumption of alcohol and explicit substances, lack of leisure time, and sports performance anxiety (Rabin et al., 2020). Although sport and exercise are well-documented factors in preventing stress, depression and anxiety (Herbert et al., 2018), excessive training may also lead to mental health challenges (Schinke et al., 2018).

The diets of university student athletes are often lacking in variety and are typically high in processed foods (Lawson et al., 2020; Baranauskas et al., 2015). Furthermore, this cohort have high energy demands due to their level of training and competition; however, it has been reported that these athletes often fail to adequately fuel their body (Jenner et al., 2018). In a dietary quality and health study conducted amongst 46 male U.S. Division 1 university athletes (American Football, Basketball, Volleyball and Swimming), a consistent trend emerged that reflected a lack of energy reported across the teams (Jenner et al., 2018). Of concern, key findings revealed that students who completed a 7-day food diary, a nutrition knowledge questionnaire, and a body composition test did not meet their recommended energy intake or their carbohydrate recommendations (6–10 g/kg per day) (Jenner et al., 2018). This was likely to negatively impact performance, training and the recovery of this student athlete cohort, particularly during their competitive season (Riviere et al., 2021; Loucks et al., 2011). As carbohydrates and glycogen are the primary fuel sources during exercise/physical activity it is important the recommended intake (up to 7 servings per day (Healthy Food for Life, 2016) is met by the student athletes (Gonzalez et al., 2019). Those who engage or work with a qualified sports dietitian have demonstrated better dietary habits such as eating a greater amount of whole foods, not skipping meals, and also consuming fewer fast foods in comparison to those who seek advice from non-qualified general coaches (Hull et al., 2016). An education-based intervention targeting positive dietary behaviours was conducted among a cohort of 2,180 female U.S. Division 1 college baseball players (Tam et al., 2019). The

intervention consisted of 32 sport/general nutrition education strategies (e.g. presentations and workshops) to improve nutritional knowledge in athletes which was assessed through pre- and post-intervention questionnaires. Interestingly, the majority of interventions (n = 30 – 94%) contributed to nutritional knowledge improvement, with a mean increase of 16.1 ± 0.7%.

Student athletes have been found to consume alcohol more frequently than their non-athlete counterparts (Arnold et al., 2020; Barry et al., 2015). Of greater concern, several studies have reported that student athletes who consume higher volumes of alcohol experience a greater number of negative consequences resulting from these behaviours such as physically injuring themselves (Arnold et al., 2020; Barry et al., 2015; Doumas et al., 2007). Drinking alcohol after a competition or training session may negatively impact the body's ability to recover after a match/training or an injury, which inevitably extends the athlete's return-to-training (RTT) programme, and ultimately their return to competition (Peake, 2019; Vella et al., 2010). Bickerdike et al. (2018) reported that male students were more frequent binge drinkers than their female counterparts ($p = 0.0005$), which was consolidated by the work of Dillon et al. (2019) who also reported among the general student population that college males consumed more alcohol than females. The consumption of alcohol in the days leading up to training/competitions may also have an impact on performance, including a decrease in aerobic capacity and a reduction in the blood flow to the muscles around the body, which can cause injury (Barnes, 2014). Alcohol consumption post-competition may also lower academic performance on days following heavy drinking sessions with students often missing academic classes (Allen et al., 2020). A study conducted by Cimini et al. (2015) examined the effects of a targeted athlete-specific intervention on alcohol consumption behaviour among 170 National College Athletic Association (NCAA) Division 1 student athletes. The intervention

consisted of a 1-session discussion that provided personalised feedback highlighting the relationship between alcohol use and athletic performance with a follow up discussion held 3 months post-intervention. Interestingly, a significant reduction in the participant's alcohol use (p = 0.01) and alcohol-related harms such as injury (p = 0.07) were reported post-intervention (Cimini et al., 2015).

Sleep is essential for overall health and wellbeing (Viner et al., 2019). The NCAA reported that U.S. elite university student athletes spend on average 27-41 hours per week dedicated to their sport (Kroshus et al., 2019). Further, it was revealed that after allowing time for academic work, relaxation and socialising, this elite student athlete cohort were not attaining sufficient sleep (Kroshus et al., 2019). In addition, university life brings many challenges such as house parties, disruptive housemates, new surroundings, and even a different bed, which are all contributory factors to poor sleep or sleep being disrupted (Kroshus et al., 2019). Research conducted on 1,055 student athletes to assess sleep quality across 4 different NCAA institutions in the U.S. used the Athletic Sleep Screening Questionnaire and reported that over 65% of participants presented poor sleep quality (Rabin et al., 2020).

Brown et al. 2006 conducted a quasi-experimental study on 177 students in a university in the south of the US. The purpose was to determine if students who received the 30-minute Sleep Treatment and Education Program for Students (STEPS) over 6 weeks compared to a control group who received a 30-minute presentation about the scientific method, would report significantly greater improvement in their sleep hygiene knowledge, sleep practice and sleep quality. At baseline 82 participants were in the intervention group and 95 in the control group. Students in the intervention group had significantly lower scores in sleep hygiene at baseline than the control; group (M = 35.72, SD = 10.02; t (121) = 3.65, P ≤

0.001)65. At follow up 56 participants remained in the intervention group and 66 remained in the control group. The Pittsburgh Sleep Quality Index tool was used to measure sleep quality scores. Results show the intervention group reported statistically significant better overall sleep quality after the educational intervention when compared with the control group ($F[1, 120] = 5.83$, $P = 0.017$, $\eta^2 = 0.05$, $1 - \beta = 0.67$).

There were two objectives of the current study. The first objective was to plan, design and implement a bespoke health and wellbeing promotion intervention aimed at supporting a cohort of 1st year male Gaelic games student athletes based on the key challenges and difficulties identified. The second objective was to evaluate the effectiveness of a health and wellbeing intervention on the markers of health and lifestyle behaviours among a cohort of 1st year male Gaelic games student athletes.

Despite the multitude of factors that can negatively impact the health and wellbeing of student athletes, there is a dearth of evidence related to targeted university support programmes designed to positively impact lifestyle related behaviours and habits for this cohort. Therefore, the purpose of the current study was to examine the impact of a bespoke health and wellbeing intervention on the health and lifestyle behaviours of 1st year male Gaelic games (Gaelic football and hurling) student athletes.

4.3 Methods

4.3.1 Study Design

A quasi-experimental pre-post design with a mixed-methods approach was adopted to evaluate a health, wellbeing and lifestyle promotion intervention among a cohort of 1st year male Gaelic Games student athletes in a single Irish University setting. Data from Study 1 (Chapter 3) informed the design and creation of the bespoke intervention. Participants

initially completed an online health and wellbeing questionnaire (Appendix A) (adapted from Bickerdike et al., 2018) pre-intervention, and then repeated this process post-intervention. This data was further informed by a series of semi-structured focus groups (n = 3) that were conducted post-intervention. The intervention consisted of two components; (i) a series of educational based workshops and (ii) a peer mentoring programme that was co-ordinated and delivered by the primary researcher.

4.3.2 Participants

Participants were 1st year male Gaelic games student athletes registered for the 2019/20 academic year. To participate in the study, participants had to be full-time students and a member of the host institution's Student GAA club. Recruitment was facilitated at an information session (Appendix B) that took place 10 days prior to the data collection at a team training session. This session served to outline what would be required of participants as part of this in the study. All participants who were registered members of the host institution's student Gaelic Games club were invited to participate (N=130: 69 football, 61 hurling). Email addresses were collected from those that were interested in taking part in the study. A total of 80 (mean age 18.6 ± 0.5 years; 54 football [78%]; 26 hurling [43%]) Gaelic games student athletes accepted the invitation to participate in the research study. An email invitation containing a direct hyperlink an access code to the fully anonymised questionnaire was sent to each of the participants' registered student email address. At follow up, semi-structured focus groups (n=3) were conducted with participants (n=18) to further explore and examine the key constructs that formed the basis of the questionnaire relating to athlete health and wellbeing. Participants for the focus groups were randomly selected using the random number generator function on Microsoft Excel. Participants were contacted via email and a follow up phone call to confirm their attendance at the focus group session.

Ethical approval was sought and granted by the host institution's Research Ethics Committee prior to data collection. Consent forms were completed online by all participants in advance of their commencement of the questionnaire. Only those participants who completed the informed consent forms were permitted to proceed to the online questionnaire. All data were stored confidentially on a password protected PC, with sole access to this data permitted to the research team.

4.3.3 Data Collection

A mixed methods approach was employed to gather data. The questionnaire used in this study was adapted from the tool used in the work of Bickerdike *et al.* (2018) and was hosted on an online platform (*'Limesurvey'*). This instrument consisted of a selection of previously validated scales (e.g. SF-36 Health Survey, Alcohol Use Disorder Identification Test) used in related Irish research studies (Bickerdike et al., 2018; Hope et al., 2005; Mac Neela et al., 2012), in addition to newly developed questions designed by the primary researcher. In addition, the questionnaire included questions relating to sport participation levels (e.g. number of Gaelic Games teams played for and number of training sessions per week), health and lifestyle habits (e.g. general and mental health questions, sleep quality, dietary and alcohol behaviours), as well as knowledge of various support services available in the host university (refer to Table 3.1 in Chapter 3). Following an initial pilot study with randomly selected 1st year students (n = 18), the instrument was refined and adapted prior to dissemination to the target cohort. The questionnaire, which took approximately 20 minutes to complete, was initially completed pre-intervention in November 2019 (i.e. baseline), and again post-intervention during March 2020. At baseline, participants completed the questionnaire prior to a training session in a campus-based computer lab, whereby they were assigned individual computers upon arrival. An email invitation containing the respective

access codes and the related hyperlink to the questionnaire was sent to each of the participants via their registered student email address earlier that day to facilitate the efficiency of this data collection process. Post-intervention, data collection was completed remotely due to the government-invoked third level education campus closures nationally as a consequence of the COVID 19 global pandemic. Participants were requested to complete the questionnaire within a specified 3-day period - all participants adhered to this request and completed the post-intervention questionnaire before the deadline.

4.3.4 Health and Wellbeing Intervention Design and Content

The health and wellbeing intervention were comprised of two components. The first component was a series of education-based workshops that took place on the campus setting. Analysis of baseline data from Study 1 (Chapter 3) informed the workshop content. These interactive workshops took place prior to training sessions in a classroom for approximately 30 minutes. Content was delivered by qualified professionals in their respective fields of expertise across November and December. Table 4.1 presents the structure and thematic areas delivered in these workshops. In the research design stage, 6 workshops were planned for; however, only three were ultimately delivered due to the volume of training/matches during this competitive season period, with the annual inter-semester university Holiday period during the month of January.

Table 4.1: Education-based Workshop Schedule and Content

Session	Title	Focus	Delivered Workshop
1	Healthy Eating, Lifestyle Habits and Behaviours	Healthy eating, sports nutrition, rest and recovery, sleeping tips and alcohol usage.	Performance Nutritionist
2	Resilience and Determination	Personal Development.	Infant Military Quadriplegic
3	Time Management and Study Skills	Develop strategies and skills to improve their academic performance as well as organisational skills.	Academic Success Coaches - MTU

The second component of the intervention was a peer mentoring programme that was co-ordinated and delivered by the primary researcher (i.e. the mentor). The mentoring programme followed the framework of Kram and Isabella (1985) in which specific psychosocial functions were theorised; namely role modelling, acceptance and conformation, and counselling. The mentor's role was designed to assist, support, and guide the participating cohort with any questions or help that they sought or needed to aid their transition from secondary to third level education, in addition to helping with any challenges that they faced in other facets of their sporting and/or university life. The mentor was a mentee before engaging in the current study. Prior the commencement of the intervention the mentor engaged in a year long shadowing of an experienced mentor (Mentor A) with the same cohort (1st year male Gaelic Games student athletes). Mentor A, was the student Games Development Officer in the university with a Med in Guidance and Counselling. The mentor shadowed Mentor A for a year and advised the mentor to upskill through the different support services within the university. The mentor engaged with the various support services (e.g. medical, students union, counselling) to find out what supports/services they offer and how they can be contacted by the student athletes. The mentor was a reoccurring face around

the dressing rooms before training sessions (4 times per week: football X2, hurling X2) and competitions. The mentor was present 30mins prior training sessions and competitions for informal chats and any queries the student athletes had. A WhatsApp group was set up for group communication purposes, where the mentor was the only person allowed send messages into the group and the mentors work email was provided for individual communication. The mentor was always present for the participants if they required help or advice. General information relating to the university's support services (e.g. medical centre, counselling service, exams supports) was continually provided on the WhatsApp group for the student athletes. The mentor essentially served as a facilitator for the participants in terms of guiding them towards respective services that may have been required from time to time. A positive relationship was established and developed between the mentor and all participants. Mentor A and the support services in the university were a means of support to the mentor should issues arise.

Due to the unforeseen and unprecedented global COVID-19 pandemic, delivery of the post-intervention questionnaire and focus groups were communicated via email and phone calls, while the focus group discussions were held on Zoom. The mentor was an undergraduate student in the university and also a member of the student Gaelic Games club prior undertaking the research study. This was important for the role of the mentor, as they were extremely familiar with the support services, their locations and understood the running of the Gaelic Games club in the university.

4.3.5 Focus Groups

A series of semi-structured focus groups (n = 3) were conducted in March 2020 to explore the perceived impact of the intervention. The focus group interviews took place virtually using the Zoom video communications cloud-based platform (Zoom Video Communications, Inc.),

due to the aforementioned COVID-19 restrictions. Each focus group was conducted with 6 participants who were randomly selected from the sample cohort. The purpose and function of these focus groups was to further examine in greater depth the key constructs that were included in the questionnaire relating to athlete health and wellbeing. A pilot focus group was conducted with a group of student athletes (n = 6) initially to refine the content, structure and format of the process to follow. The format involved participants using sticky notes to write down thoughts and key points relating to key questions posed (Appendix D). These notes were then stuck on a notice board which led the discussion of the focus groups by opening the floor to the participant's views and opinions on these points. The focus groups were recorded and transcribed verbatim. Table 4.2 presents the 4 questions included in the focus group discussions.

Table 4.2: Focus Group Interview Questions

1	Write down 3 challenges that you faced when starting university.
2	Write down 3 factors that helped you when starting university.
3	What did you find helpful from the intervention?
4	Is there anything that could improve this intervention?

4.3.6 Data Analysis

Data were exported directly to Microsoft Excel and Statistical Package for the Social Sciences (SPSS, Version 25.0), where it was screened and cleaned to identify outlier values and missing data. The mean, standard deviation and frequency values were calculated to summarise the data. Mean values and median values were reviewed during data analysis. Despite the data being non-parametrically distributed, mean values with supporting standard deviation scores are reported (as opposed to median values) as it was felt that they provided a greater insight

into the data scores of the participants, particularly in scales with limited response options. Wilcoxon Signed Rank Test, a non-parametric statistical hypothesis test, was used to analyse the changes in health-related variables from pre- to post-intervention. Effect sizes (r) were calculated to support the *p* value using Cohen's (1988) criteria of 0.1 = small effect, 0.3 = medium size, 0.5 = large effect. The semi-structured focus groups followed the same format as in Study 1 (Chapter 3, Section 3.3.5). Semantic analysis was used during data collection of the focus groups, and relevant quotes were used to support and provide richness to the quantitative data.

4.4 Results

Results are presented as per questionnaire structure. Firstly, demographic information is presented followed by general and mental health, stressors, lifestyle habits and behaviours and sub-group analysis on health, wellbeing and lifestyle behaviours. All data from the questionnaire has not been presented in the results section but can be viewed in appendix F.

4.4.1 Participant Demographic Information

Participants were 1st year male Gaelic Games student athletes (n = 80; 54 Gaelic football, 26 hurling; mean age 18.6 ± 0.5 years). Table 4.3 presents information relating to demographic variables of the cohort. With regard to living arrangements, 71.3% of participants were living away from home during the academic year. In addition, 65% of participants reported having a part time job. Among those who reported having a part time job, the mean number of hours per week in work was 14.2 ± 6.9 hours at baseline.

Table 4.3: Demographic information relating to participants

	Total	
	N = 80	**%**
College Accommodation		
Parents/Guardians	23	28.7
College Residence	44	55
Rented House	8	10
Lodgings	1	1.3
Own Home	4	5
Part time Job		
Yes	52	65
No	28	35
Weekly part time hours		
6 – 9	11	13.8
10 – 14	22	27.6
15 – 19	7	8.4
20+	12	15.2
Don't Work	28	35

Sporting Demands

Data relating to the demands of playing Gaelic games revealed that the number of training sessions and matches completed by the cohort (in the 12 months prior to the data collection) on an average week during the months of September-March was 5.46 ± 1.70, increasing slightly to 5.98 ± 1.90 in the months of April-August. Worryingly, from a workload and over-training perspective, almost one quarter (24.7%) of participants had represented 9+ Gaelic games teams in the previous 12 months.

Perceived Values and Priorities

Table 4.4 illustrates the participants' rating of the level of importance of various aspects of their life on a Likert scale ranging from 1-5 (1 = not important, 5 = most important; higher scores denote greater importance). The highest mean value was associated with sport

participation, followed by being physically healthy, and then college studies. At both pre- and post-intervention time points, participants reported that their highest priority was sports participation followed by college studies, being physically healthy, night life, healthy eating and paid work.

A series of Wilcoxon Signed Rank Tests were conducted to examine the change in each value/priority variable from pre- to post-intervention. Results revealed a decrease in the priority placed on paid work (z = -3.450, *p* = 0.001; medium effect size), and an increase on eating healthy (z = -3.787, *p* = 0.001; medium effect size) post-intervention. A clear trend in the qualitative focus group analysis revealed that employment opportunities became more available in grocery stores and supermarkets during the COVID-19 pandemic. One participant stated that, *'Shops are essential and they need people to work with the demand so my hours have increased.'*

Table 4.4: Perceived values and priorities pre- and post-intervention

Variable	Pre-Intervention (M±SD) Range [1-5]	IQR	Post-Intervention (M±SD) Range [1-5]	IQR	Z Value	*P* Value	Effect Size (r)
Sport	4.47±0.886	1	4.38±0.885	1	-0.368	0.713	-0.041
College Studies	4.36±0.815	1	4.38±0.736	1	-0.322	0.747	-0.036
Physically Healthy	3.94±1.035	1	3.98±0.954	1	-0.321	0.748	-0.035
Night Life	3.89±0.827	1	3.64±1.022	1	-1.875	0.061	-0.209
Eating Healthy	3.18±1.003	1	3.59±1.002	1	-3.787	**<0.001***	-0.423
Paid Work	3.76±0.430	1	3.37±0.919	1	-3.45	**<0.001***	-0.385

p<0.05

4.4.2 General and Mental Health

A Wilcoxon Signed Rank Test revealed a statistically higher level of general health post-intervention with a medium effect size, (Pre=1.66 ± 0.50 vs Post = 1.57 ± 0.52; z =-2.65, p < 0.008, r = -0.21).

In total, 68.8% of participants rated their overall mental health as either 'very good' (15%) or 'good' (53.8%) post-intervention which is an increase from pre-intervention ('very good' = 10% and 'good' = 43%). Findings from all three focus group discussions identified being part of the student GAA club within the university made the transition to university easier. For example, one participant stated that;

> *'Walking into the dressing rooms in MTU felt like walking into my club dressing rooms. Meeting people with similar interests and making new friends really helped me and others settle into college. It put my mind at ease, because we were all in the same situation and you would just feel better about yourself'.*

4.4.3 Stressors

Participants were requested to rate the impact of a variety of different stressors (n = 8, Table 4.5) that impacted their health and wellbeing, with higher scores reflecting higher stress levels).

Academic and university-related stressors were identified as the primary factors causing the student athletes stress pre- and post-intervention. Despite the decrease of time spent on campus due to the pandemic, university-related issues (exams, college studies, college workload) were still found to be the greatest stressors for participants due to studying from home in Semester 2. 'University studies' and 'pressure from part-time work' were the only key stressors that significantly increased. Moving home and studying online was reported as

proving difficult for the participants. Even though the focus group data revealed satisfaction with the intervention, studying online for the first time increased their stress levels. Several participants consolidated this feeling in the focus group interviews, with one stating;

> *'The intervention was very helpful; the nutrition workshop, learning how to study properly and manage our time was very useful. The mentor was a great support. It was hard starting college with completely new subjects but then the pandemic hit and now it is even more difficult due to everything online. It will take getting use to'.*

Table 4.5: Stressors in GAA student's life

Variables	Pre-Intervention (M±SD) Range [1-5]	IQR	Post-Intervention (M±SD) Range [1-5]	IQR	Z Value	*P* Value	Effect Size (r)
Exams	2.77±0.746	1	2.85±0.748	1	-1.613	0.107	-0.180
Studies	2.49±0.675	1	2.70±0.736	1	-3.354	**<0.001***	-0.374
College Workload	2.45±0.634	1	2.55±0.710	1	-1.814	0.07	-0.202
Financial Situation	2.30±0.802	1	2.40±0.851	1	-1.395	0.163	-0.155
Competition in College	2.19±0.713	1	2.19±0.713	1	0.001	1.000	< 0.000
Pressure Work	2.07±0.792	0.75	2.39±0.921	1	-3.308	**<0.001***	-0.369
Living Situation	1.89±0.763	1	1.89±0.763	1	<0.001	1.000	< 0.000
Family Situation	1.74±0.759	1	1.89±0.871	1	-2.434	0.015	-0.272

p<0.05

4.4.4 Lifestyle Habits and Behaviours

<u>Food & Nutrition</u>

There was a significant increase in self-reported intake of fruit and vegetables servings consumed per day post-intervention (Pre = 3.43 ± 1.813; Post = 4.46 ± 1.359, z = -4.707, *p* = 0.001), with a medium effect size (r = -0.372).

A Wilcoxon Signed Rank Test revealed a statistically significant decline in fast food consumption on a monthly basis post-intervention (Pre = 3.78 ± 0.503 vs Post 3.85 ± 0.453, z = -2.449, p = 0.014) with a small effect size (r = -0.193). A common theme across the three focus groups was the value placed on the Healthy Eating and Lifestyle behaviours and Habits workshop; *'After the nutrition talk I became more interested in food and saw I was eating way too many takeaways and unhealthy foods.'*

Alcohol

Figure 4.1 illustrates the average number of alcoholic drinks consumed on a typical night out pre- and post-intervention, with an evident decline in the number of drinks consumed in the 7/8 category on a typical night out post-intervention (16.2% vs 20% pre-intervention). A Wilcoxon Signed Rank Test revealed this decrease in the consumption of alcohol post intervention as significant (z = -2.06, p = 0.04), with a large effect size (r = -0.16). It warrants a mention that this positive trend in alcohol consumption may also have been supported by the government-enforced closure of bars, restaurants and nightclubs during the national lockdown.

Analysis from the focus groups revealed a higher prevalence of drinking taking place post-match or post-training, with one participant stating that;

> *'It is good craic going out after a match or training together, it brings the team closer together but sometimes it goes too far'.*

'By going too far', the group expanded and mentioned *'risky behaviour and having to be taken home'* as two reasons for misconduct within the group as the night progresses (e.g.; excessive drinking and verbal abuse towards others).

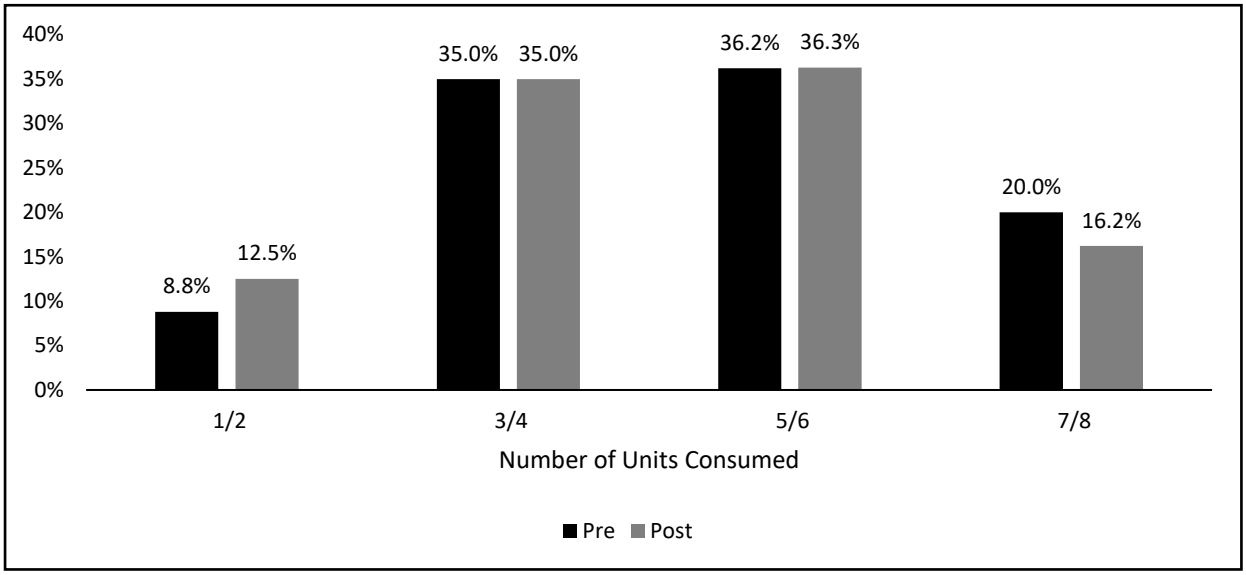

Figure 4.1: Alcohol Consumption on a Typical Night Out

Sleep

Participants rated their sleep on a scale of 1 (very good) to 5 (very poor), with sleep quality metrics focusing on 'good' and 'very good' responses presenting increased scores post-intervention (63.7% vs 47.5% pre-intervention). A Wilcoxon Signed Rank Test revealed a statistically higher level of sleep quality post-intervention with a medium effect size (Pre; 2.65 ± 1.045, Post; 2.33 ± 0.808, z = -3.570, p = 0.000, r = -0.399). Figure 4.2 illustrates the percentage of participants that met the recommended 8-hour threshold of sleep (i) during the week and (ii) at the weekend pre- and post-intervention. An increase in sleep duration was evident at both stages of the week (i.e. weekdays and weekend) post-intervention.

The critical theme that emerged from the focus groups was that moving home when the university closed at the onset of the COVID-19 pandemic helped with their sleep quality; '*When we had to move home when the college closed, my sleep routine improved and so did the quality of my sleep'.*

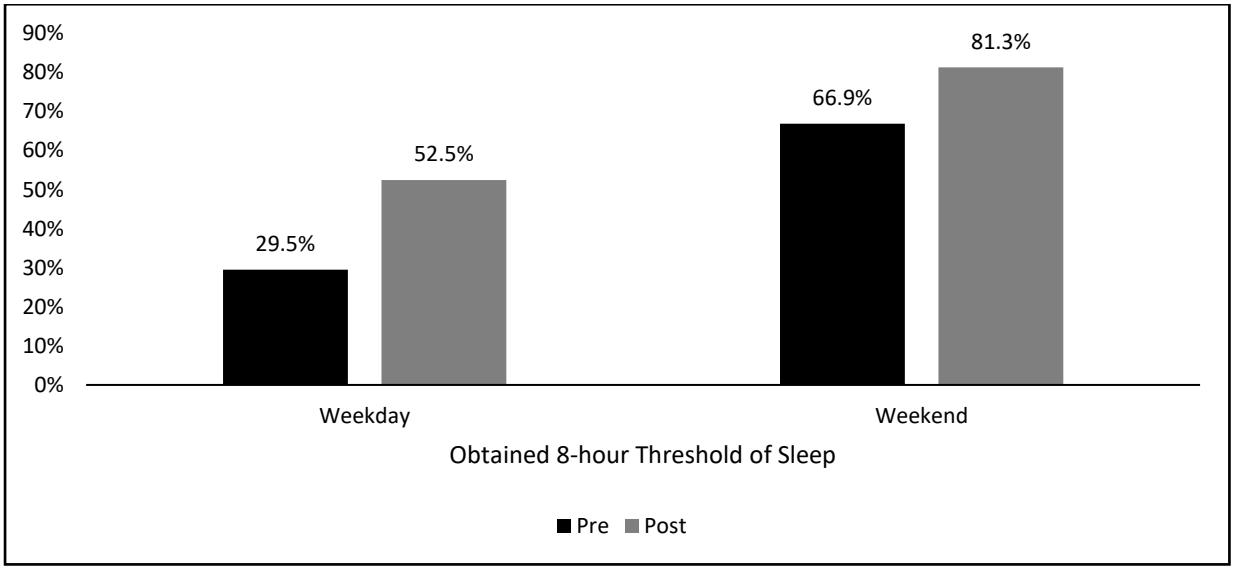

Figure 4.2: Percentage of participants that obtained the recommended 8-hour threshold of sleep during the week and weekend pre- and post-intervention

4.5 Discussion

This study provides an insight into the impact of a health, wellbeing and lifestyle promotion intervention on 1st year male Gaelic Games student athletes in a university setting in southern Ireland across a single academic year. The COVID-19 pandemic struck in March of 2019 and universities across Ireland closed, forcing the interaction between the primary researcher and the participant cohort to take place remotely via email and over the phone, which proved challenging. The pandemic also impacted the participants' training schedule and matches, which were also forced to stop. As a result of this, the post-intervention questionnaire took place at the end of March and the focus groups were held over Zoom in April. As this was an unprecedented and uncertain time, a plethora of new learnings took place; in fact, it was the first time that many of the student athletes took part in Zoom meetings.

In the 12 months prior to completing this survey (i.e. pre-intervention), 24.7% of participants stated that they played with 9+ different Gaelic games teams between football and hurling. Typically, a Gaelic games team would train three nights a week with one of those days/nights being a competitive match. Although sport and exercise are well-documented factors in

preventing stress, a student athlete playing on 9+ Gaelic Games teams is excessive. This may lead to mental health challenges, player burnout (Schinke et al., 2018), as well as difficulties in successfully dividing their time amongst other aspects of their lives (e.g. study, family, etc.).

Furthermore, a large portion of the participants in the current study were found to engage in part time work and spend a large number of hours per week in the workplace (14.2 ± 6.9hrs/wk). Evans et al. (2014) conducted a study on students' perceptions of balancing part time work while being a full-time student. Participants were 30 students (male = 15, female = 15) attending a university in the UK. 6 participants were in year 1 of their studies, 10 were in year 2 and 11 were in year 3 of their studies. Data were gathered through a 16-question interview process. Results revealed 93% of participants stated financial reasons as the main motivator to undertake part time work. 4 out of the 11 third year students felt that they would have achieved a better grade if they had not worked during university, as this reduced the time that they could spend studying. 50% of participants experienced difficulties balancing their work and study. It was also students found balancing work, meeting assessment deadlines, achieve good grades while maintaining a social life problematic. Similar to the participants in Evans et al. (2014) study, the 1st year male Gaelic games student athletes in the current study must balance, their part time work, their academic studies and their sporting commitments. With so many hours in the week consumed by part time work and their sporting commitments, time is limited for the 1st year male Gaelic Games student athletes to concentrate on their academic endeavours. With increased education on time management and planning, it is possible that these students find a healthy balance between their commitments (work, academic and sport) and enjoy some social time with their friends and family.

Key findings also suggest that the participants placed greater value on sport participation over other aspects in their life such as college study and exams, both pre- and post-intervention. This highlights the value and importance of sport participation within this cohort and how the notion of being an athlete is a critical part of their identity. These findings are supported by Pflum et al. (2017) who, in a study conducted on 141 mixed sample of college students competing in multiple different sports (basketball/softball/soccer/baseball), completed a questionnaire based on their experiences within the college. It was reported that the students identified themselves as being 'student athletes' primarily over being a college student. A major challenge for the participants in the current study was to adequately balance all aspects of their lives. Focus group analysis revealed that time management was a major issue, with these findings substantiated by Gomez et al. (2018), who worked with 9 elite student athletes who took part in semi-structured interviews, and found that time management was the most common challenge for that cohort, with some describing it as a 'struggle'. Of greater concern in the work of Gomez and colleagues (2018) was that several participants in that study experienced academic setbacks due to overtraining and burnout. With the ever-increasing commitments that these student athletes encounter, it can become a juggling act to balance academic and sporting endeavours, along with social life and other commitments. In particular, 1st year student athletes can become overwhelmed by the pressures of the many aspects in their lives. Interestingly, and of great importance, participants in the current study improved on their time management skills post-intervention and were found to have more time for study and socialising with their peers.

There was a significant increase in self-reported general health post-intervention ($p = < 0.008$) Mental health scores (83.8%) post-intervention was found to be 'very good' or 'good', which demonstrated an improvement from respective pre-intervention scores (53%). Evidently, the

increased support and guidance from the educational workshops and peer mentoring programme eased the participants into university life, creating an enjoyable experience. To the author's knowledge, no previous research has investigated the self-reported general health of student athletes internationally. The current findings can, however, be compared to a study conducted by Bickerdike et al. (2018) of the general student population from the same university whereby it was found that a lower percentage of the student population rated their general health (78.6%) and mental health (65.7%) as 'good' or 'very good'. Analysis from all three focus group discussions revealed that the environment of the student GAA club within the university played a significant role in creating a support network and friendship circle for the participants, which may have had a positive impact on the mental health within this cohort. Furthermore, it would be expected that a student athlete population would prioritise and engage in a lifestyle that promotes physical health and wellbeing; therefore, it is not surprising that this cohort's values are higher than those of a related general student cohort. This is consolidated by similar findings in studies conducted by Korhonen et al. (2020) and Lingard (2007). These studies report that the organisation or environment of a sports club can improve the mental health of an individual. Interestingly, the self-reported general health and mental health were found to be significantly higher post-intervention compared to pre-intervention (p = 0.005). These findings indicate the positive impact that the intervention had on the participants' general and mental wellbeing. It may also be partly explained by the support structures designed to facilitate participants making more friends and developing more social supports through the Gaelic games club. Initial data collection was completed when the participants were relatively new to university life and in the interim period between baseline and follow up data collection periods, the participants may have developed this support structure with help from the intervention.

At baseline, academic exams and college workload were identified as the highest ranked factors causing the greatest levels of stress. These findings are not surprising as the participant cohort were in Year 1 of their studies and the level of academic demand that they encountered would not have been faced previously. From baseline to post-intervention, it was found that both 'university studies' and 'pressure from work outside of university' significantly increased as stressors for his cohort. Possible explanations for this may be explained by the commencement of part time work at the start of the academic year when the college workload would have been lighter. While there is a dearth of extant literature examining this, part time jobs increased post-intervention (65%) as essential workers (e.g. in supermarkets) were needed when COVID-19 struck, which evidently suited many students who were no longer attending university on-site. To compound this matter, there was also an increase in the volume working hours available for those participants who already worked part time. These findings would indicate a multitude of factors (academic studies, part time job, and sporting commitments) that resulted in the participants reporting challenges balancing commitments in their lives. Previous research by Cosh and Tully (2014) revealed that 20 Australian student athletes reported that they had challenges with time management and, more worryingly, that their primary academic goal was to 'just pass', due to lack of time management skills and also their main focus on being a student athlete. Further, Linnér et al. (2019) reported that students create their own flexibility by having poor time management skills and prioritise sport by postponing their studies and other social activities.

Post intervention results revealed a significant increase ($p<0.001$) of consumption of fruit and vegetables. However, it was still found to be lower than the recommended servings of 7+ per day (Healthy Food for Life, 2016). This data substantiates the findings of Bickerdike et al. (2018) who reported that only 5.5% of university males (n=1,094) in the general student

population achieved the recommended servings. The findings from Randles (2018) support the findings in the current study, whereby insufficient fruit and vegetable intake was reported from 272 student athletes from two Universities in Midwestern America. Although there are still deficiencies in levels of fruit and vegetable consumption within the cohort in the current study, significant improvements were evident post-intervention, indicating that the intervention had a positive impact on healthy eating habits. The educational workshop on 'Healthy Eating, Lifestyle Habits and Behaviours' gave the student athletes 'food for thought' about what they are consuming on a daily basis, hence the improvements post-intervention. Future research is warranted to investigate barriers in 1st year male Gaelic games student athlete's consumption of fruit and vegetables in an Irish university setting.

The consumption of fast food takeaway (measured on a monthly basis) was found to significantly decrease from baseline to post-intervention (Pre = 3.78 ± 0.503 vs Post 3.85 ± 0.453, z = -2.449, p = 0.014). Research has shown that increased consumption of healthier food groups (e.g. fruit and vegetables) over fast food takeaways benefits the student athletes and aids their recovery post-match/training (Owens et al., 2019). In a study by Hull et al. (2016), university athletes from 10 different colleges in the U.S. who used a sports dietician on campus were reported as being less likely to consume fast foods. This is similar to the current study where fast food consumption scores improved post-intervention as a consequence of the aforementioned nutrition and healthy eating workshop. Focus group analysis revealed that the information from this workshop was positive in assisting the participants in positively improving their dietary habits, particularly as a dietician or nutritionist is not accessible within the host university to the Gaelic games teams. As university student athlete diets are often lacking in variety and are typically high in processed foods, education on nutrition and food groups remains as important as ever (Lawson et al.,

2020; Baranauskas et al., 2015). However, although the healthy eating workshop in the current study proved beneficial, analysis from the focus groups revealed that students would benefit more from having a sports nutritionist on campus.

Another promising finding from the current study related to the significant decrease in levels of alcohol consumption on an average night out post-intervention ($p < 0.05$). These findings are similar to those of Cimini et al. (2015), who explored the effects of a single session motivational interview intervention on the effects of alcohol consumption behaviour in a cohort of 170 National Collegiate Athletic Association Division 1 student athletes. Data were collected through a questionnaire and individual athlete-specific feedback sessions with trained sport psychologists took place. Follow up questionnaires were conducted 3-months prior the feedback sessions. The authors reported a significant reduction in the participant's alcohol use and alcohol-related harms such as injury post-interventions after a 3-month intervention. Interventions such as this would lead to positive effects on student athletes. Results in the current study were positive in terms of reduced alcohol consumption rates post-intervention, focus group analysis revealed participation in university team sports promoted hazardous drinking behaviours as a way of team bonding early in the college year. These findings agree with Pitts et al. (2019) who reported similar findings, substantiating the notion that drinking after team sports was associated for team bonding. Interestingly, Kulesza et al. (2014) and Brenner et al. (2007) reported that a high consumption rate of alcohol is associated with team sport athletes 'more so than those involved in individual sports', due to peer pressure and team bonding. There is a greater concern for 1st year male Gaelic games student athletes within the university setting as it is more likely that they will engage in worrying drinking habits with their team mates as they must get to know one another. Although the healthy eating, and lifestyle habits and behaviours educational workshop was beneficial,

there is a need to focus specifically on alcohol consumption and raise awareness of the effects of high consumption rates especially when it comes to team bonding and peer pressure.

A statistical increase in sleep quality scores was revealed post-intervention ($p < 0.01$). An increase of 23% of participants reached the threshold of 8 or more hours of sleep per night during the week post-intervention, which is positive for the wellbeing of this cohort (Viner et al., 2019). Sleep quality and duration are vital for student athletes' training, academic work and sporting performance (Mah et al., 2018). Sufficient sleep quality and duration may help in reducing injuries on the field and prevent sleepiness and fatigue during the day (Ramar et al., 2021). Sleep hygiene tips and pointers were described and discussed during the educational workshops, which undoubtedly contributed to these positive results. The results of the current study are similar to Bickerdike et al. (2018), who reported that students slept less during the weekdays and compensated at the weekend when they had more time to sleep when they were at home in their own beds. There are many potential explanations for this, such as new surroundings, a new bed, and living in noisy student accommodation. Although the educational workshops couldn't help with this, key pointers shard with the participants were used as focus group analysis reveals. No data exists examining the long-term effectiveness of an intervention for sleep on university athletes so further research is warranted in this domain.

4.6 Strengths

The current study is the first of its kind to examine the effectiveness of a bespoke health promotion intervention on a cohort of 1st year male Gaelic games student athletes in an Irish university setting. The integration and examination of a broad range of health-related variables via the web-based questionnaire within a single study is a core strength of this novel

work. The use of validated scales adapted from the work of Bickerdike et al. (2018) facilitate both national and international comparisons based on previous research in this domain. Furthermore, the mixed methods design, incorporating both quantitative and qualitative tools to gather data, provides a richness and depth to the findings. The delivery of the educational workshops by experts in their respective fields was also a key strength. The role of the mentor was another key strength in this study, as their primary function was to guide, assist and support participants as they encountered new experiences and difficulties (i.e. entering 3rd level education for the first time). As the mentor attended the same university and was part of the same Gaelic games club, they could empathise with what the participants were experiencing.

4.7 Limitations

A limitation of this study relates to the fact that the sample population focused on male student athletes only. There is potential for further research to examine the impact of an intervention on the health profile of a female student athlete cohort. Also, due to the COVID-19 pandemic, the full cohort of student athletes were forced to move home and the educational workshops were not completed. Only 3 out of the 6 proposed educational workshops were completed, which suggests an area for future research. Finally, post questionnaire data was conducted 3 weeks after the participants had moved home due to COVID-19. As a result, the findings at follow up need to be interpreted with caution as lifestyle behaviours and patterns may have been impacted by living at home with their family and the responses to the questionnaire may have been affected.

4.8 Conclusion

In conclusion the key finding in this study suggest that the intervention was a considerable success. Data analysis from the online questionnaire revealed significant improvements post-intervention in general health, alcohol consumption, fruit and vegetable consumption, and sleep quality. Focus group analysis revealed time management and juggling the various aspects (e.g. academic work, sport, social life) of the participants life was difficult. Additional focus group analysis also revealed the Gaelic games club within the university proved to be a familiar setting for the participants, which gave them a sense of belonging. These results are extremely positive and through the educational workshops and the mentor programme student athletes gained knowledge on various topics such as nutrition, alcohol, and sleep; and also learned new skills such as study tips and time management while having the support and guidance of the mentor. The bespoke health and wellbeing intervention proved to have a positive effect on the health and lifestyle habits of this targeted cohort. Student athlete specific interventions like the one used in the current study show promise in addressing factors such as poor general and mental health, alcohol consumption, dietary habits and sleep quality. Increased health and wellbeing education and support focusing on the topics of health and wellbeing should be provided to 1st year male Gaelic games student athletes, and indeed all student athletes, to help reduce the challenges they face in the transition period into university life.

Chapter 5

Conclusion and Recommendations for Future Research

5.1 Introduction

This thesis was based on four research objectives. The first objective was to analyse markers of health and lifestyle behaviours among a cohort of 1st year male Gaelic Games student athletes using a questionnaire (adapted from a pre-existing survey instrument used in the '*A Healthy MTU*' study – Bickerdike et al., 2018). It examined areas of health, wellbeing and lifestyle behaviours; in addition, customised questions were added related to the topics of sporting demands and investigating challenges identified during the transition to university. It consisted of scales previously used in other related studies from previous Irish research (Hope et al., 2005, Mac Neela et al., 2012). Study 1 titled, which investigated the health, wellbeing and lifestyle behaviours among 1st year Gaelic games players following their transition from secondary to tertiary level education in an Irish HEI revealed General health (GH) and Mental health (MH) markers were rated 'very good' and 'good' (GH = 95%, MH = 80%). Alcohol patterns found 59.6% of 1st year male Gaelic Games student athletes consuming greater than 7 standard drinks on a night out with 23.5% missing lectures the following day after a night out. Sleep duration revealed a higher percentage of 1st year male Gaelic Games student athletes having obtained the recommend 8-hour threshold of sleep at the weekend (66.9%) in comparison to midweek (29.5%), when they were living in student accommodation.

The second objective was to analyse key barriers and challenges identified by 1st year male Gaelic Games student athletes in their transition from second level to third level education (e.g. independent living and the necessity to cook for themselves). Diet and nutritional analysis in Study 1 revealed breakfast consumption was more favourable at the weekend (84.3%) than midweek (65.7%). Analysis of fruit and vegetable consumption found 94.6% of the 1st male Gaelic Games student athletes did not consume the RDI of 7+ portions per day (Healthy Food for Life, 2016), while 27.1% ordered takeaway up to 4 times per week. Sport

participation was the main priority for these 1st year male Gaelic Games student athletes followed by exams, their studies and part-time work. University exams were identified as the primary stressor (60.9%), followed by academic studies (44.6%). Focus group analysis revealed time management as a major issue among the 1st year male Gaelic Games student athletes along with moving away from home into new accommodation and becoming more independent.

The third objective focused on the design, planning and implementation of a bespoke health, wellbeing and lifestyle behaviour intervention aimed at supporting 1st year male Gaelic Games student athletes. The rollout of the educational workshops was not fully completed in Study 2 due to the COVID-19 pandemic. However, the 3 educational workshops that were completed, which were given by qualified professionals in their respective fields, revealed positive results. The 1st year male Gaelic Games student athletes gained valuable advice and knowledge on a range of topics such as healthy eating, sleep quality tips and personal development. The second part of the intervention, the peer mentoring programme moved from in-person to an online platform as a result of COVID-19. The mentor was always present to support and guide the 1st year male Gaelic Games student athletes with any concerns or challenges they encountered, but due to COVID-19, interaction and communication took place via emails, phone calls and video chats on Zoom.

Finally, the fourth objective associated with this research project was to evaluate the impact of a bespoke health and wellbeing intervention on the markers of health and lifestyle behaviours on this cohort. Study 2 data revealed a number of significant post-intervention improvements in general health ($p < 0.008$), alcohol consumption ($p = 0.04$), fruit and vegetable consumption ($p < 0.001$) sleep quality ($p < 0.01$) and a reduction in consumption of takeaways ($p < 0.014$) respectively. Focus group analysis revealed the transition to university

was difficult with time management and moving away from home as the primary concerns for this cohort. Focus group analysis also revealed the student Gaelic games club within the university gave them comfort as it was a familiar setting. The health and wellbeing intervention in the current research was found to positively impact the health, wellbeing and lifestyle behaviours of these 1st year male Gaelic Games student athletes.

5.2 Limitations

The limitations of this thesis are outlined below.

1. Despite Study 1 being completed on campus, Study 2 was negatively impacted by COVID-19. Participants were forced to move home due to the pandemic and they were located off campus for the final 3 weeks of the data collection process. This resulted in the cessation of personal interaction with their peers, with all subsequent interactions taking place via email, over the phone or online (Zoom Calls). This also impacted their training and competition schedules which were put on hold until it was safe to return.
2. Due to impact the of COVID-19, the educational workshop intervention was not fully completed. As there were 3 remaining educational workshops to be completed, they may have further positively impacted the 1st year male Gaelic Games student athlete's health, wellbeing and/or lifestyle behaviours and thus positively impacting the student's results in the final data collection.
3. In year 1 of the study, the semi-structured focus group interviews took place in a studio room at the Sports Complex where the teams trained. In year 2, these were held online (via Zoom) due to COVID-19. This was a limitation as, at that time, Zoom was an unfamiliar online platform to the 1st year male Gaelic Games student athletes.

Due to the different WIFI coverage/strengths of each of the 1st year male Gaelic Games student athletes who were living at home, there were a number of connectivity issues that increased the time spent on the Zoom call that subsequently delayed this part of the research process.

4. Sample size was relatively small which was a limitation in this study. Also conducting the research study in one university while focusing only on 1st year male Gaelic Games student athletes was another limitation.
5. The primary researcher of the current study was also the mentor in Study 2 for the mentoring programme. The mentor also conducted and evaluated the focus groups which may question the validity of some of the findings, although the mentor took every step for the participants to speak freely.

5.3 Recommendations for future research

A number of recommendations that future research should consider are outlined below.

1. Key findings revealed that there were significant improvements across a number of the (i) health and wellbeing and (ii) lifestyle behaviours among the 1st year male Gaelic Games student athletes. Health, wellbeing and lifestyle interventions such as the one carried out in this research study would be beneficial to 1st year male Gaelic Games student athletes nationally. Supporting the student athletes and providing educational interventions (educational workshops and peer mentoring programmes) could aid in the improvement in academic and sporting performances.
2. Based on the key findings of the current study, health and lifestyle behaviour interventions would not only benefit student athletes but it may also benefit the general student population as they are faced with similar challenges such as

independent living, new surrounds and lifestyle choices such as nutritional and alcohol consumption. Governing bodies, Government Departments and Universities across Ireland should collaborate to increase the educational support and guidance for the student population of Higher Education Institutions in Ireland. As this period in the students' life cycle is a significant opportunity for influencing adult behaviours (e.g.; healthy eating, alcohol consumption, sleep), it may improve academic performance and provide valuable lessons on health and lifestyle behaviours.

3. While the current study focused on a wide range of health, wellbeing and lifestyle behaviours, it would be beneficial to examine all aspects (e.g. nutrition, sleep, alcohol) without disruption (e.g. COVID-19). This would facilitate a deeper understanding on each single variable without disruption and furthermore provide a richer data set for that variable alone.
4. Longitudinal research to follow the 1st year male Gaelic Games student athlete cohort throughout the university life cycle (2nd year, 3rd year etc.) until graduation may provide a clearer insight into health and lifestyle behaviours over a prolonged period of time and not just a single academic year.
5. Educating current 2nd, 3rd and 4th year student athletes to develop positive healthy habits and lifestyle behaviours would be beneficial. This will help them maintain healthy habits and lifestyle behaviours for life after graduation.
6. The current health and lifestyle intervention was carried out among 1st year male Gaelic Games student athletes in a single university setting. There is potential for further research on female Gaelic Games student athletes where one could then compare and contrast both cohorts of participants and also potential for future

research across multiple universities in Ireland. Future research could also compare Gaelic Games student athletes to non-Gaelic Games students.

5.4 Conclusion

The challenges associated with the transition to 3rd level education have been widely documented in the literature (e.g. independent living, work-study-sport balance, etc.). These challenges are amplified for 1st year male Gaelic Games student athletes as they try to juggle their academic and sporting endeavours. The health and wellbeing intervention in the current study has revealed many positive effects on the health and lifestyle habits of this targeted cohort. Student athlete specific interventions like the one used in the current study show promise in addressing factors such as poor general and mental health, alcohol consumption, dietary habits and sleep quality. Increased health and wellbeing education and support focusing on the topics of health and wellbeing should be provided to student athletes to help reduce the challenges they face in the transition period into university life.

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Appendix A

Research Questionnaire

This survey is part of a MSc. Research study I am conducting in the Dept. of Sport, Leisure and Childhood Studies, under the supervision of Dr. Con Burns, Dr. Cian O'Neill, and Dr. Edward K. Coughlan. An evaluation of a health, wellbeing and lifestyle promotion intervention among a cohort of 1st year male Gaelic Games players in an Irish University setting.

This questionnaire aims to gather up-to-date information regarding the health, wellbeing and lifestyle behaviours of 1st year male Gaelic games players along with the challenges they encounter with the transition to 2rd level education. It contains general questions about you and your course of study, questions on the topics of general and mental health, nutrition and diet, alcohol consumption and sleep quality.

The answers to this questionnaire are private and confidential. Once your answers are submitted they will be stored in a password protected PC which only the primary researcher and supervisory team will have access to. Information from the study will be used to write a thesis. Results may be used in scientific papers and at conferences. Exam results will be accessed by the registrar of the College to assist in this study. Consent is voluntary and you can withdraw at any stage of this study.

By partaking in this study, you will have to complete an online questionnaire, take part in focus group sessions and engage with the primary researcher. Once you click on the 'continue' button below you;

1. **Are consenting to taking part in this study.**
2. **Have read the information provided regarding the study, or it has been read and explained to you.**
3. **Have had the opportunity to ask questions and as such understand the purpose and nature of the research.**
4. **You are aware of what you are required to do.**
5. **You understand that the results of this study may be used in scientific papers and at conferences.**
6. **You consent voluntarily to be a participant in this study and understand your rights to withdraw at any stage.**

Completion of the survey should take you no longer than 20 minutes. We appreciate the time that you take to participate in this study.

If you have any further queries, please do not hesitate to contact me by email. Thank you for your participation.

Kind regards,

Anthony Casey, Post-Graduate Research Student, Dept of Sport, Leisure andChildhood Studies.

Email: [redacted]

Principal Investigators: Dr. Con Burns, Dr. Cian O'Neill & Dr. Edward K. Coughlan, Dept. Sport, Leisure and Childhood Studies

Section A: About You

A1. What age are you?

A2. What is your present area of study?

- [ ] Business
- [ ] Engineering
- [ ] Science
- [ ] Recreation Leisure/Sport
- [ ] Education
- [ ] Tourism/Hospitality
- [ ] Social Sciences
- [ ] Architecture/Construction
- [ ] Agriculture
- [ ] Art (CCAD)
- [ ] Music/Drama (CSM)
- [ ] Maritime (NMCI)

A3. On which CIT campus do you spend most of your time?

- [ ] Bishopstown
- [ ] National Maritime College of Ireland (NMCI)
- [ ] Crawford College of Art and Design (CCAD)
- [ ] Cork School of Music (CSM)
- [ ] Clonakilty Agricultural College (CAC)
- [ ] Other

Other

A4. Where do you live during college term time?

- ☐ With parents/guardians
- ☐ College residence
- ☐ Rented house/flat (not your family home)
- ☐ Lodgings (not your family home)
- ☐ In your own home

A5. Are you currently in receipt of any of the following?

- ☐ Full fee student grant and maintenance grant (SUSI)
- ☐ Partial fee student grant (SUSI)
- ☐ Financial assistance from the CIT Student Assistance Fund
- ☐ Back to education Allowance (BTEA)
- ☐ No grant or financial assistance
- ☐ Don't know

A6. Do you have a a job?

- ☐ Yes
- ☐ No
- ▼ If yes please specify your hours weekly

If yes please specify your hours weekly

Section B: General Health

B1. In general would you say your health is:

- ☐ Very good
- ☐ Good
- ☐ Neither poor nor good
- ☐ Poor
- ☐ Very poor

B2. Where do you get your information about your health?

- [ ] Family GP
- [ ] Other Health Professional
- [ ] College Medical Centre
- [ ] Students' Union
- [ ] Social Media (Facebook, Twitter or similar)
- [ ] Internet
- [ ] Health Organisations (Asthma Society of Ireland, Irish Heart Foundation etc.)
- [ ] Family
- [ ] HSE or Health Promotion Unit
- [ ] Friends
- [ ] Media
- [ ] Other

Other

Section C: Food Habits and Nutrition

C1. Do you follow any of the following diets?

- ☐ Vegetarian
- ☐ Vegan
- ☐ Diabetic
- ☐ Gluten Free
- ☐ Weight Reducing
- ☐ Low Cholesterol
- ☐ High Protein
- ☐ No Special Diet
- ☐ Other

Other

C2. How often do you consume or use the following foods?

	Several times a day	Daily	Several times a week	1 to 4 times a month	Never
Sweets, chocolate	☐	☐	☐	☐	☐
Cake, biscuits	☐	☐	☐	☐	☐
Protein shakes/bars	☐	☐	☐	☐	☐
Crisps, peanuts etc.	☐	☐	☐	☐	☐
Fast food (pizza, chips, burgers)	☐	☐	☐	☐	☐
Meat	☐	☐	☐	☐	☐
Fish	☐	☐	☐	☐	☐
Vegetables	☐	☐	☐	☐	☐
Fruit	☐	☐	☐	☐	☐
Butter or margarine as a spread or for cooking	☐	☐	☐	☐	☐
Low fat or polyunsaturated spread as a spread or for cooking	☐	☐	☐	☐	☐
Salt (while cooking or at the table)	☐	☐	☐	☐	☐
Vegetable oil	☐	☐	☐	☐	☐

C3. How many servings of fruit and/or vegetables do you eat on average every day?

1 serving = 3 dessert spoons of vegetables or 1 piece of fruit

C4. How many days during the week do you normally eat breakfast?

C5. How many days at the weekend do you normally eat breakfast?

C6. **Do you feel that the food and beverage facilities on the CIT campus enable students to make healthy food choices?**

- ☐ Yes
- ☐ No
- ☐ Don't know

C7. **On an average week, how often do you consume food and/or beverages from a food and beverage facility at the CIT campus?**

- ☐ Never
- ☐ 1-2 times
- ☐ 3-4 times
- ☐ 5-6 times
- ☐ 7 times
- ☐ More than 7 times

C8. **On an average week, how much do you spend in total on food and beverages at the CIT campus?**

- ☐ Less than €5
- ☐ €5-€10
- ☐ €10-€15
- ☐ €15-€20
- ☐ €20-€25
- ☐ €25-€30
- ☐ €30-€35
- ☐ More than €35

C9. **Do you consume supplemenets? (e.g. protein shake/bars, creatine etc)**

- ☐ Yes
- ☐ No
- ☐ If yes please specify

If yes please specify

Section D: Training and Match Performance

D1. Please tick all GAA sporting teams you have participated with during the last 12 months.

- U18 Club Hurling ☐
- U18 Club Football ☐
- U18 School Football ☐
- U18 School Hurling ☐
- U21 Club Football ☐
- U21 Club Hurling ☐
- U18 County Football ☐
- U18 County Hurling ☐
- College Football ☐
- College Hurling ☐

D2. Please list any other competitive sports that you haven't mentioned in the previous question that you have participated in the past 12 months.

D3. On an average week in the Summer (April - August) how many times would you train or play matches per week? (Please fill out the table below)Gym sessions

D4. **On an average week in the Summer (April - August) how many times would you train or play matches per week? (Please fill out the table below)Training/pitch session**

D5. **On an average week in the Summer (April - August) how many times would you train or play matches per week? (Please fill out the table below)Match**

D6. **On an average week in the Winter (September - March) how many times would you train or play matches per week? (Please fill out the table below)Gym session**

D7. **On an average week in the Winter (September - March) how many times would you train or play matches per week? (Please fill out the table below)Training/pitch session**

D8. **On an average week in the Winter (September - March) how many times would you train or play matches per week? (Please fill out the table below)Match**

D9. Section 4.1: Injuries and Motivation

Injury is defined as any trauma *'sustained during training or competition resulting in restricted performance or time lost from play'* (O' Connor, 2016).

For each statement tick how you have felt/and are feeling in the past 12 months and now.

	Almost never	Rarely	Sometimes	Frequently	Almost always
I'm accomplishing many worthwhile things in sport	☐	☐	☐	☐	☐
I feel so tired from my training that I have trouble finding the energy to do other things	☐	☐	☐	☐	☐
The effort I spend in sport would be better spent doing other things	☐	☐	☐	☐	☐
I feel overly tired from my sport participatin	☐	☐	☐	☐	☐
I am not achieving much in sport	☐	☐	☐	☐	☐
I don't care as much about my sport performance as I used to	☐	☐	☐	☐	☐
I am not performing up to my ability in sport	☐	☐	☐	☐	☐
I feel 'wiped out' from sport	☐	☐	☐	☐	☐
I'm not into sport like I used to be	☐	☐	☐	☐	☐
I feel physically worn out from sport	☐	☐	☐	☐	☐
I feel less concerned about being successful in sport than I used to	☐	☐	☐	☐	☐
I am exhausted by the mental and physical demands of sport	☐	☐	☐	☐	☐
It seems no matter what I do, I don't perform as well as I should	☐	☐	☐	☐	☐
I feel successful at sport	☐	☐	☐	☐	☐
I have negative feelings towards sport	☐	☐	☐	☐	☐

D10. If you have been injured in the last 12 months, please fill out the following table:1

Injury type										
Cause of injury										
Sport injury received										
Recovery time (before back to full participation)										

D11. **If you play on more than one team, do your managers know this?**

Yes ☐

No ☐

D12. **Do you feel comfortable talking to your managers about the other teams you train/play for?**

Yes ☐

No ☐

Section E: Alcohol

E1. **How often do you have a drink containing alcohol?**

Never ☐

Monthly or less ☐

2-4 times a month ☐

2-3 times a week ☐

4 or more times a week ☐

E2. **How many drinks containing alcohol do you have on a typical night when you are drinking?**

Please note a 'standard drink' is;

- A half pint or a glass of beer, larger or cider

-A single measure of spirits (e.g. whiskey, vodka, gin)

- A single glass of wine, sheery or port

- A bottle of alcopop (long neck)

1 or 2 ☐

3 or 4 ☐

5 or 6 ☐

7 to 9 ☐

10 or more ☐

E3. **How often during the last year have you failed to do what was normally expected from you because of drinking? (E.g. attend college, work, trianing/match)**

- Never ☐
- Less than monthly ☐
- Monthly ☐
- Weekly ☐
- Daily or almost daily ☐

E4. **How often during the last year have you had feelings of guilt or remorse after drinking?**

- Never ☐
- Less than monthly ☐
- Monthly ☐
- Weekly ☐
- Daily or almost daily ☐

E5. **How often during the last year have you been unable to remember what happened the night before becuase of your drinking?**

- Never ☐
- Less than monthly ☐
- Monthly ☐
- Weekly ☐
- Daily or almost daily ☐

E6. **Have you or someone else been injured becuase of your drinking?**

- No ☐
- Yes but not in the last year ☐
- Yes during the last year ☐

E7. **Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?**

- No ☐
- Yes but not in the last year ☐
- Yes during the last year ☐

E8. **At what age did you start drinking?**

E9. During the last 12 months, how many times have you experienced any of the following as a result of your own drinking.

	None/Never	1-2 times	3-5 times	More than 5 times
Waking up with a hangover	☐	☐	☐	☐
Missing lectures the next day	☐	☐	☐	☐
Getting sick	☐	☐	☐	☐
Regretting something you did	☐	☐	☐	☐
Difficulty walking (falling, staggering)	☐	☐	☐	☐
Walking home alone after a night out	☐	☐	☐	☐
Blacking out (not being remember parts or all of the night before)	☐	☐	☐	☐
Being asked to leave a party or pub/club because of drinking and/or other behaviour	☐	☐	☐	☐
Having to be taken care of by someone (e.g. needing to be brought home, being looked after while getting sick)	☐	☐	☐	☐
Passing out	☐	☐	☐	☐
Getting into a verbal row	☐	☐	☐	☐
Hitting or assaulting someone (e.g. without causing them serious injury)	☐	☐	☐	☐
Damaging property or vandalising (e.g. wrecking an apartment or house)	☐	☐	☐	☐
Doing pranks like setting off a fire alarm	☐	☐	☐	☐
Having protected sex with someone you don't really know	☐	☐	☐	☐
Having unprotected sex with someone you do't really know	☐	☐	☐	☐
Driving knowing you are under the influence of alcohol	☐	☐	☐	☐

E10. During the last 12 months, how many times have you experienced any of the following as a result of someone else's drinking?

	None/Never	1-2 times	3-5 times	More than 5 times
Having to take care of someone who has drunk too much (e.g. having to bring someone home; looking after someone while they are getting sick)	☐	☐	☐	☐
Being a passenger in a car with an intoxicated driver	☐	☐	☐	☐
Being verbally abused, insulted or offended by someone	☐	☐	☐	☐
Being hit or assaulted by someone	☐	☐	☐	☐
Having property damaged or vandalised	☐	☐	☐	☐
Having sleep disrupted (e.g. being woken up by drunk people)	☐	☐	☐	☐
Unwanted physical/sexual advances without consent (e.g. being kissed, groped, grabbed, touched)	☐	☐	☐	☐
Being forced or pressured into having sex with someone	☐	☐	☐	☐

E11. Please tick the box which best descibes how you feel about each of the following statements

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
I don't think I drink too much	☐	☐	☐	☐	☐
I am trying to drink less than I used to	☐	☐	☐	☐	☐
I enjoy my drinking, but sometimes I drink too much	☐	☐	☐	☐	☐
Sometimes I think I should cut down on my drinking	☐	☐	☐	☐	☐
I have just recently changed my drinking habits	☐	☐	☐	☐	☐
Anyone can talk about wanting to do something about drinking, but I am actually doing something about it	☐	☐	☐	☐	☐
I am at the stage where I should think about drinking less alcohol	☐	☐	☐	☐	☐
My drinking is a problem sometimes	☐	☐	☐	☐	☐
There is no need for me to think about changing my drinking	☐	☐	☐	☐	☐
I am actually changing my drinking habits right now	☐	☐	☐	☐	☐
Drinking less alcohol would be pointless for me	☐	☐	☐	☐	☐

Section F: Tobacco and Other Substances

F1. Do you smoke tobacco now?

- [ ] No
- [ ] Yes, regularly
- [ ] Yes, occasionally (usually less than 1 per day)

F2. Did you ever smoke tobacco in the past?

- [ ] No, never
- [ ] Occasionally (usually less than 1 per day)
- [ ] Yes, regularly

F3. Do you smoke e-cigarettes?

- [ ] No
- [ ] Yes, regularly
- [ ] Yes, occasionally (usually less than 1 per day)

F4. Have you smoked at least 100 cigarettes in your entire life? (5 packs = 100 cigarettes)

- [ ] Yes
- [ ] No

F5. Do you want to

- [ ] Carry on smoking
- [ ] Stop smoking
- [ ] Stop smoking at some point in the future
- [ ] Stop smoking in the next 12 months
- [ ] I have given up smoking

F6. Would you be in favour of the introduction of a smoke-free policy at your CIT campus? (Bishopstown, CCAD, CSM, NMCI OR CAC)

- [ ] Yes
- [ ] No
- [ ] Don't know

F7. Would you be in favour of the introductin of a smoke-free policy at all campuses?

Yes ☐

No ☐

Don't know ☐

F8. How many occasions (if any) have you used marijuana (grass, pot) or cannabis (hash, hash oil)?

	Never	Once or twice	3-5 times	6-9 times	10-19 times	20-39 times	40 times or more
In your life	☐	☐	☐	☐	☐	☐	☐
In the past 12 months	☐	☐	☐	☐	☐	☐	☐
In the past 30 days	☐	☐	☐	☐	☐	☐	☐

F9. On how many occasions (if any) have you used any of the following drugs?

	Never	Ya but not in the past 12 months	Once or twice in the past 12 months	3 or more times in the past 12 months
Tranquilisers or Sedatives (Smarties, Xanax Bars, D10s, Benzos, Upjohn's, Lily's) without a doctor's prescription	☐	☐	☐	☐
Amphetamine (Speed, Whizz)	☐	☐	☐	☐
LSD (Acid, Trips)	☐	☐	☐	☐
Cocaine (Coke, Crack)	☐	☐	☐	☐
Relevin (Whoops)	☐	☐	☐	☐
Heroin (Smack, Skag)	☐	☐	☐	☐
Ecstasy (EXTC) or MDMA ('Bombing')	☐	☐	☐	☐
Drugs by injection with a needle (e.g. Heroin, Cocaine, Amphetamines)	☐	☐	☐	☐
Solvents (Gas, Glue)	☐	☐	☐	☐
Magic Mushrooms (Mushies, Pucai)	☐	☐	☐	☐
Head Shop Products	☐	☐	☐	☐

Section G: Sleep and Mental Health

The World Health Organisation defines mental health as 'a state of well-being in which every individual recognises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfull'.

G1. During the past 30 days, how would you rate your sleep quality overall?

- ☐ Very good
- ☐ Good
- ☐ Neither poor nor good
- ☐ Poor
- ☐ Very poor

G2. On average, how much sleep do you get?

	Less than 4 hours	4 hours	5 hours	6 hours	7 hours	8 hours	9 hours or more
On Weekdays	☐	☐	☐	☐	☐	☐	☐
On Weekends	☐	☐	☐	☐	☐	☐	☐

G3. To what extent do you currently feel stressed by the following factors?

	Highly stressed	Often stressed	Not often stressed	Never stressed
Studies in general	☐	☐	☐	☐
College workload	☐	☐	☐	☐
Competition at college	☐	☐	☐	☐
Exams	☐	☐	☐	☐
Pressure of work outside of college	☐	☐	☐	☐
Living situation	☐	☐	☐	☐
Financial situation	☐	☐	☐	☐
Family sitaution	☐	☐	☐	☐
Relationship/sexuality	☐	☐	☐	☐
Circle of friends	☐	☐	☐	☐
Illness	☐	☐	☐	☐
Social media	☐	☐	☐	☐

G4. **How would you rate your own mental health?**

- Very good ☐
- Good ☐
- Neither poor nor good ☐
- Poor ☐
- Very poor ☐

G5. **Have you used any of the support services in CIT?**

- Yes ☐
- No ☐
- If yes please specify ☐

If yes please specify

G6. **If you felt down in yourself would you talk to a friend/family member or someone you trust?**

- Yes ☐
- No ☐

Section H: College Life

H1. **For each of the following headings, rate their importance in your life from 1-5.**

(1=not important, 5=very important)

	1	2	3	4	5
Paid work	☐	☐	☐	☐	☐
Being physically healthy	☐	☐	☐	☐	☐
Sport	☐	☐	☐	☐	☐
College study	☐	☐	☐	☐	☐
Night life	☐	☐	☐	☐	☐
Eating healthy	☐	☐	☐	☐	☐

H2. **Do you know where the following offices/support services are on campus?**

	Yes	No
Sports and Societies Office	☐	☐
Counselling and Careers Office	☐	☐
Medical Centre	☐	☐
Students Union Office	☐	☐
Disability and Support Services	☐	☐
Administration Offices	☐	☐
Exams Office	☐	☐
Head of Departments Office	☐	☐
Melbourne Building	☐	☐
Sports Hall	☐	☐
Year Coordinators Office	☐	☐
Bishopstown GAA Hall	☐	☐

H3. **What woud prevent you from using/seeking assistance from any of these offices?**

- ☐ Too shy
- ☐ Embarrasment
- ☐ Don't know where they are
- ☐ Nobody to go with
- ☐ Other

Other

H4. **Rate your attendance on a scale of 1-5**

(1-not attending, 5-rarely, if ever missing a class)

1 ☐
2 ☐
3 ☐
4 ☐
5 ☐

H5. **On a scale of 1-5 how 'on top' of your college work are you?**

(1=falling behind, 5= up to date with everything)

1 ☐
2 ☐
3 ☐
4 ☐
5 ☐

H6. **Are you meeting course work deadlines?**

Yes ☐
No ☐

H7. **Are you struggling with your college course?**

Yes ☐
No ☐
If yes are you seeking help for this? ☐

If yes are you seeking help for this?

H8. **Is there anything that would make your time here in CIT more enjoyable and less stressful?**

That concludes the questionnaire. Thank you for your participation.

The contact details of the relevant health and welfare services available for students are;

1. Student Health Centre, Student Centre, Bishopstown Campus. Tel: 021-4335780.

2. Cork Samaritans (www.corksamaritans.ie). Drop in service available between 9am and 10pm every day at 7/8 Coach Street, Cork. Freephone 116123 or text 087-2609090. Email: jo@samaritans.org

3. CIT Counselling Service, Second Floor, Student Centre, Bishopstown Campus. Tel: 021-4335772, Email: counselling.admin@cit.ie.

4. Chaplaincy Student Support, First Floor, Student Centre, Bishopstown Campus. Tel: 021-4335060. Email: chaplaincy@cit.ie.

5. Students' Union Welfare Officer, Ruth O' Leary. Tel: 021-4335273, Mob: [redacted]. Email:suwelfare@cit.ie.

Appendix B

Information Sheet for Participants

Information Sheet for Participants

Study title: An evaluation of a health, wellbeing and lifestyle promotion intervention among a cohort of 1st Year male Gaelic Games players in an Irish University setting.

Background: The Munster Technological University Department of Sport Leisure & Childhood Studies along with the student GAA club want to investigate the challenges faced by 1st Year GAA players following the transition from secondary to tertiary education. A questionnaire, focus groups and peer mentoring will be utilised during this research project to monitor the health and wellness markers of the students.

Aim: The aim of this research project is to develop an understanding of the difficulties 1st Year male GAA players face in their transition from second level to third level education. We want to investigate and gain a greater understanding of the sporting demands that this cohort encounters. Finally, we want to increase the athlete's awareness of their physical health and the importance of their wellbeing both on and off the pitch.

Who is organising the study? This research study is being organised by the Department of Sport Leisure & Childhood Studies. Anthony Casey, a Masters student will be the primary researcher along with his supervisors Dr. Con Burns, Dr. Cian O' Neill & Dr. Edward K. Coughlan.

What is required of me? If you participate in this study, you will be required to complete a questionnaire based on themes such as health, wellbeing, training load and college life. All these questions will help us to obtain a global picture of your current lifestyle, wellbeing and your training schedules, including matches. Athletes will be asked to contribute to focus groups also.

Ethical Approval has been granted from Department Sport Leisure & Childhood Studies. Participation in research voluntary and you may withdraw at any stage of the project. Your data will be Confidential and stored on a password protected PC and only my lecture and I will be able to view them. No reference will be referred to an individual's name.

Appendix C

Focus Group Check List

Focus Group Check List;

Voice Recorder/Video Camera ☐
Sticky Notes ☐
A2 Sheets ☐
Bluetac ☐
Markers ☐
Notepad ☐
Biros ☐
Stopwatch ☐

Focus Group Questions;

Table 4.3 Focus Group Questions

1	Write down 3 challenges that you faced when starting college.
2	Write down 3 factors that helped you when starting college.
3	What did you find helpful from the intervention?
4	Is there anything that could improve this intervention?

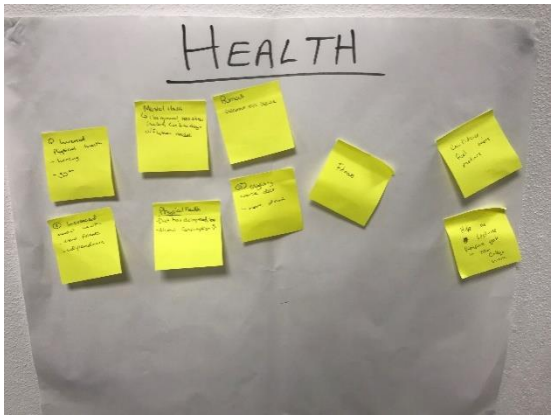
Appendix D

Focus Group Session Discussions

Focus Group Session Discussions

Participant answers on the various questions posed to them. Each Topic had a different colour sticky note.

These led the discussion of the focus groups.



Appendix E

Screenshot of Thematic Review on Excel

A screenshot of the focus group analysis on Excel. Thematic review of the challenges that student athletes faced when they started university.

	Focus Group	
	Q1 - Challenges that you faced since starting college	
A	I don't drive so commuting to college was hard for me, I had to wait for lifts home at evenings or someone had to collect me after training.	
A	Starting new subjects with no prior knowledge to them, was confusing and stressful.	College/Course
B	Longer days in college than secondary school	Time Management
B	The coursework is hard and challenging	Sleep
B	Settling into my course was tough. I didn't know if I would like it.	Cooking
C	Not knowing where the classrooms are was difficult at the start. The signage of the lecture rooms is very small.	Friends
A	Trying to balance college life, social life and sports is very tricky and one always suffers.	Moving from home/
B	Adapting to college life and the hours was challenging for me. Long days with no time of some days and not having any food.	Accomodation
B	All assignments and exams fall together so it is hard to balance them.	
C	Balancing social life with college work can be hard most of the time. At the start of the year we had more time to go out.	
A	Time management and trying to balance everything is challenging.	
B	New surroundings, a new bed and a lot more noise in student accommodation takes getting use to.	
C	Late parties in student accomodation keep me awake some nights.	
C	I found t difficult at the start to get sleep with a new bed and bedroom.	
A	Learning how to cook for myself. I never cooked at home so pasta and chicken are my main dinner.	
A	Cooking for myself was a new learning experience that I am not very good at. I can do the basics.	
B	Learning how to cook for myself was a big big challenge. My parents usually have dinner ready for me after school.	
B	The dinner was always ready when I came home from school, now I have to try cook for myself or instead get takeaway on the way home'.	

Appendix F

Results of Questionnaire

Questions not included in the results of Study 1 and Study 2 are shown below and will be included in the appendices:

Section A: About You

This section asked questions on demographics of the participants including age, area of study and campus, living arrangements and part-time job. Nearly 100% of Galeic Games student athletes are based on the main MTU Bishopstown campus. Business (39.8%) is the most popular area of study with this cohort followed by engineering (32.5%) and architecture/construction (13.3%). 59.6% of the participants were not receiving a Student Universal Support Ireland (SUSI) grant.

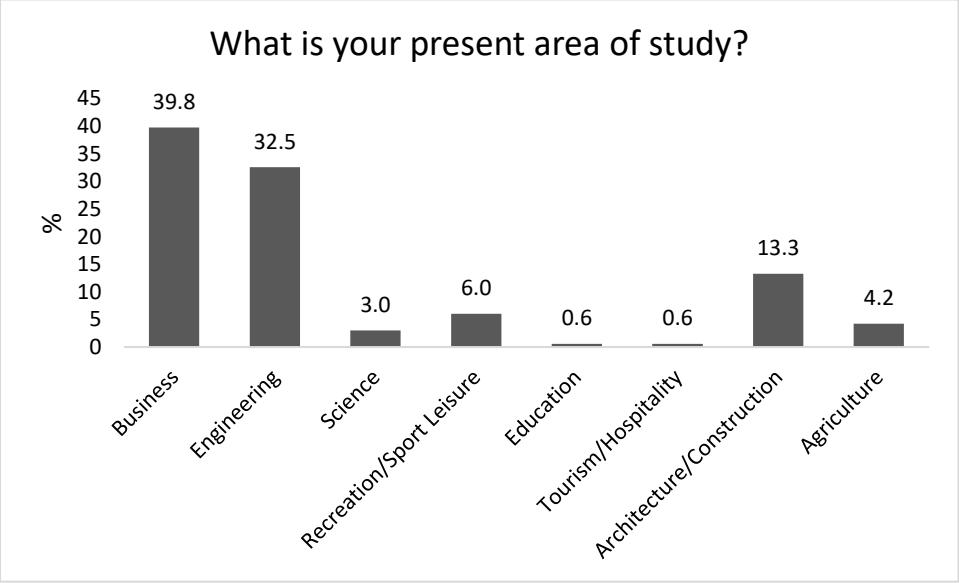


Figure 1.

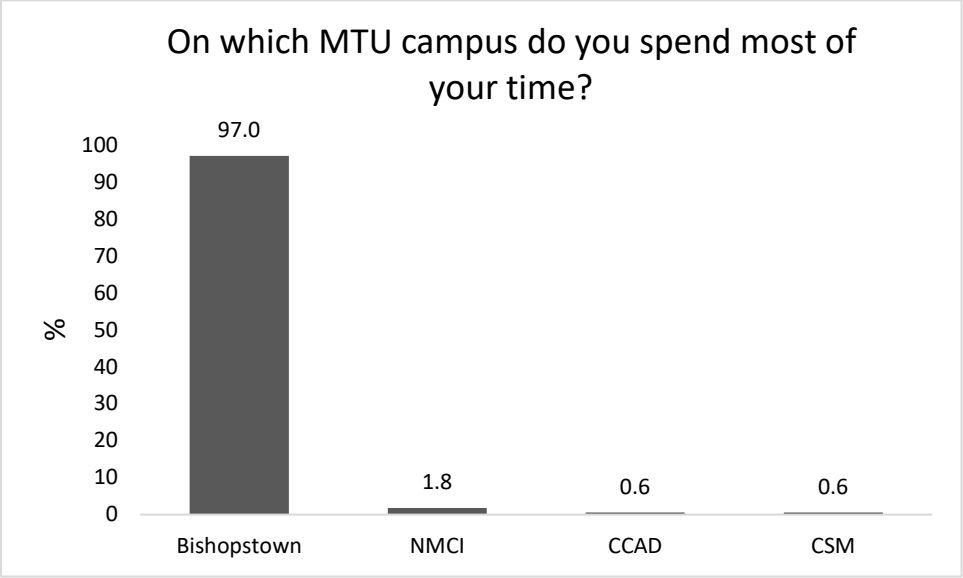


Figure 2.

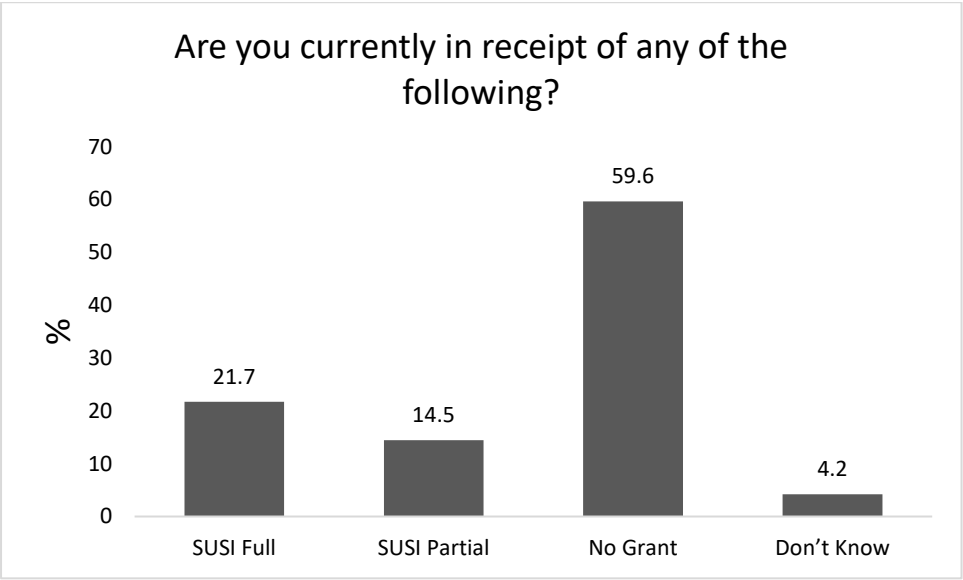


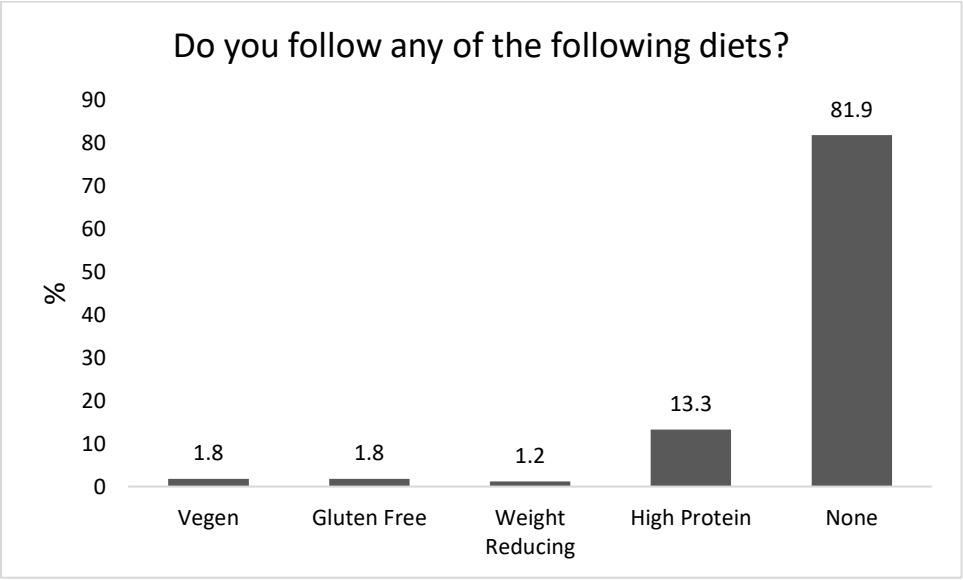
Figure 3.

Section B: General Health

This section asked questions on general health of the participants. All data has been used in the main thesis.

Section C: Food Habits and Nutrition

This section asked questions on various diets, food habits, nutrition and consuming food and beverages on the MTU campus. Majority (81.9%) of the Gaelic Games student athletes were not following any specific diet, with 13.3% on a high protein diet. 30.7% of the Gaelic Games student athletes feel the food and beverage facilities in MTU do not enable students make healthy food choices on campus with 22.3% spending €15 or more on food and beverages on MTU campus (shop/canteen/restaurant).



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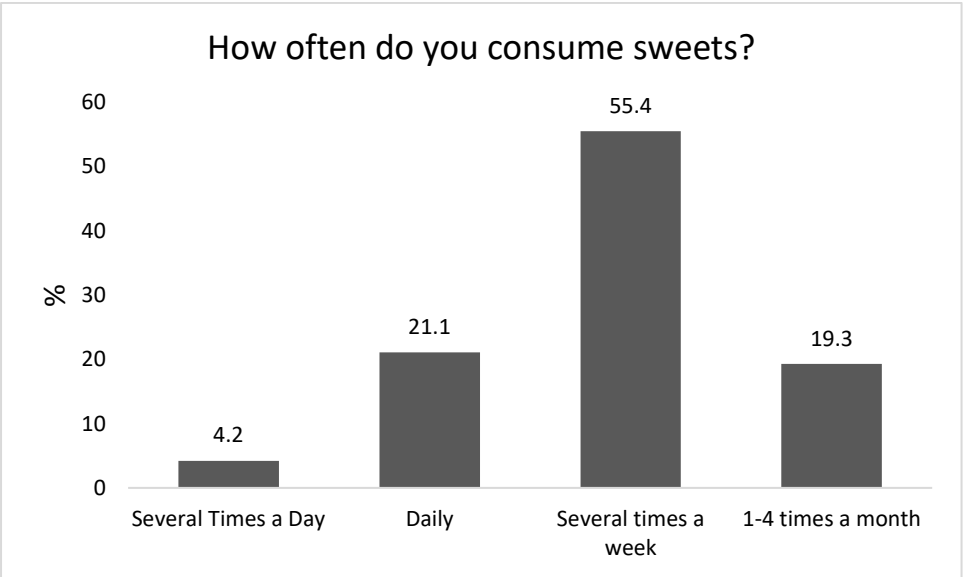

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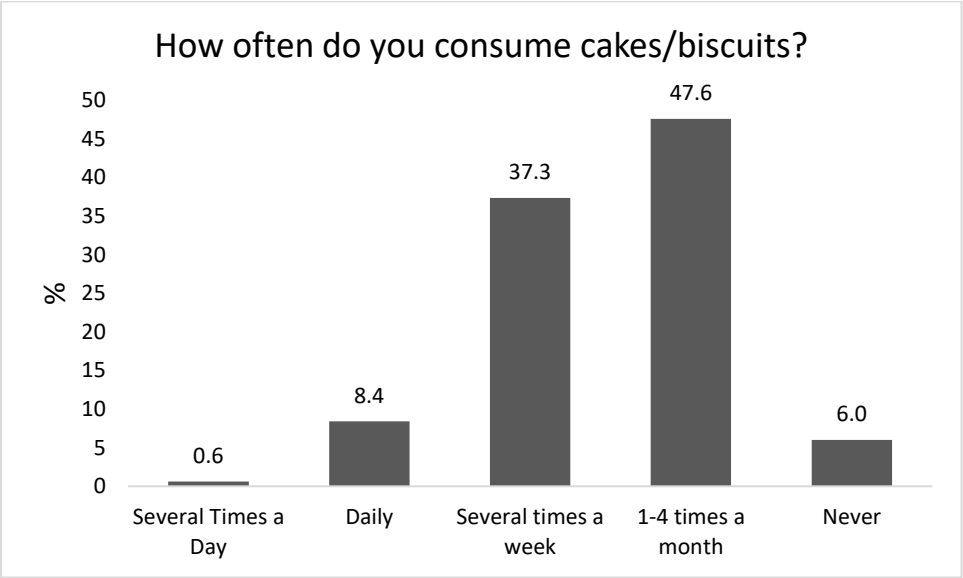

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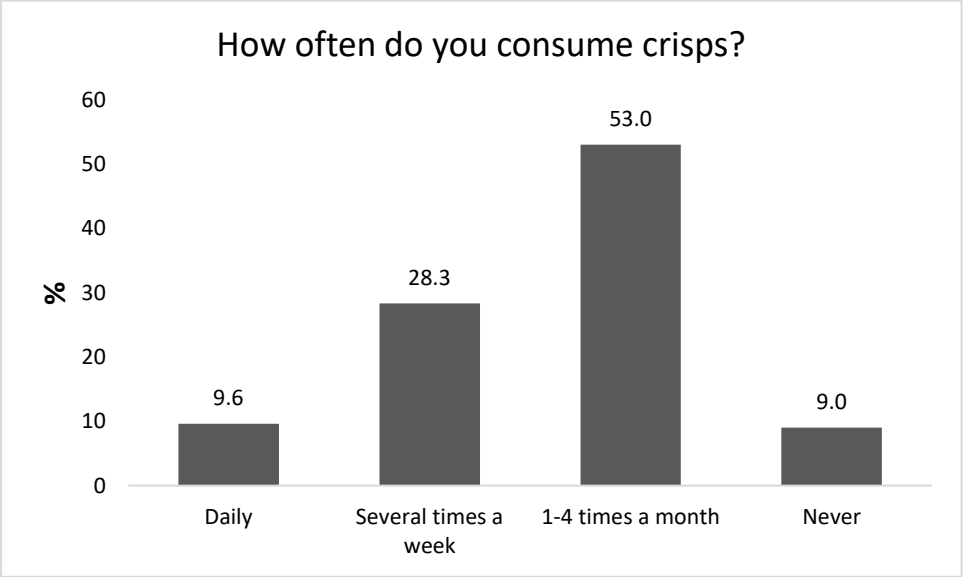

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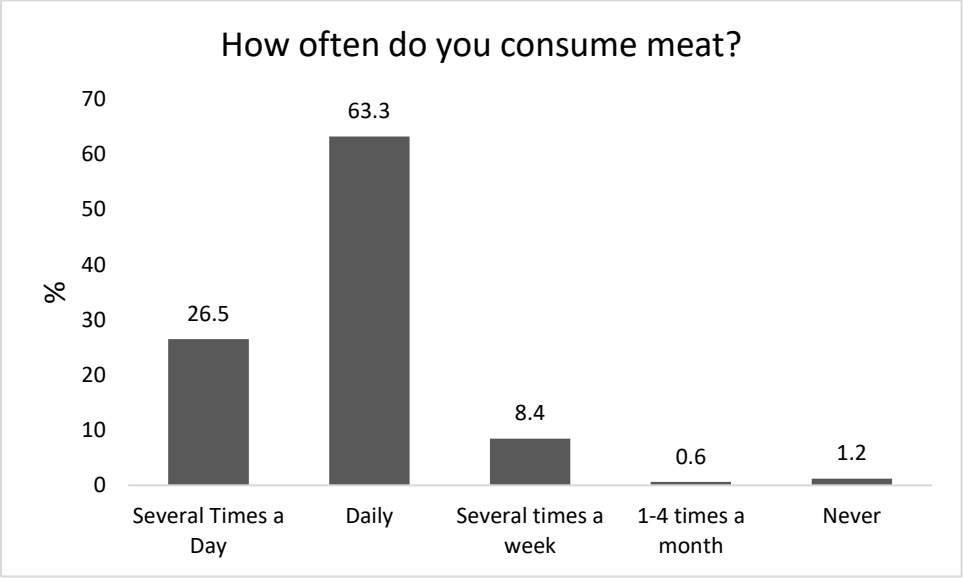

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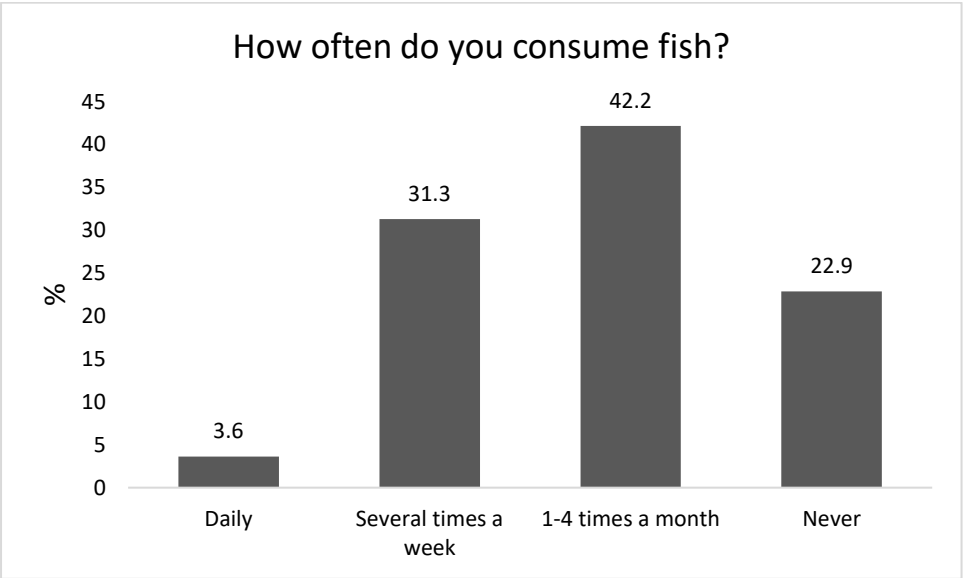

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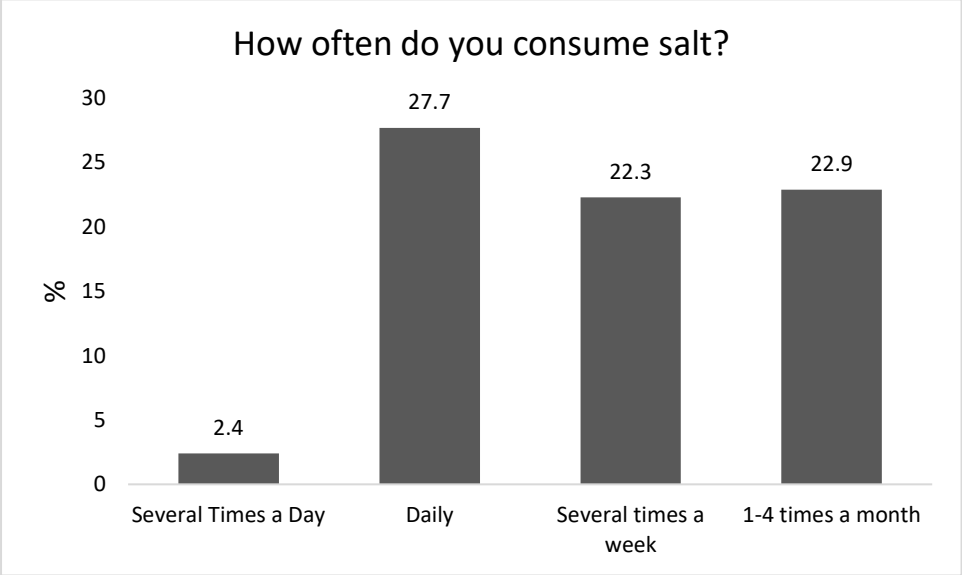

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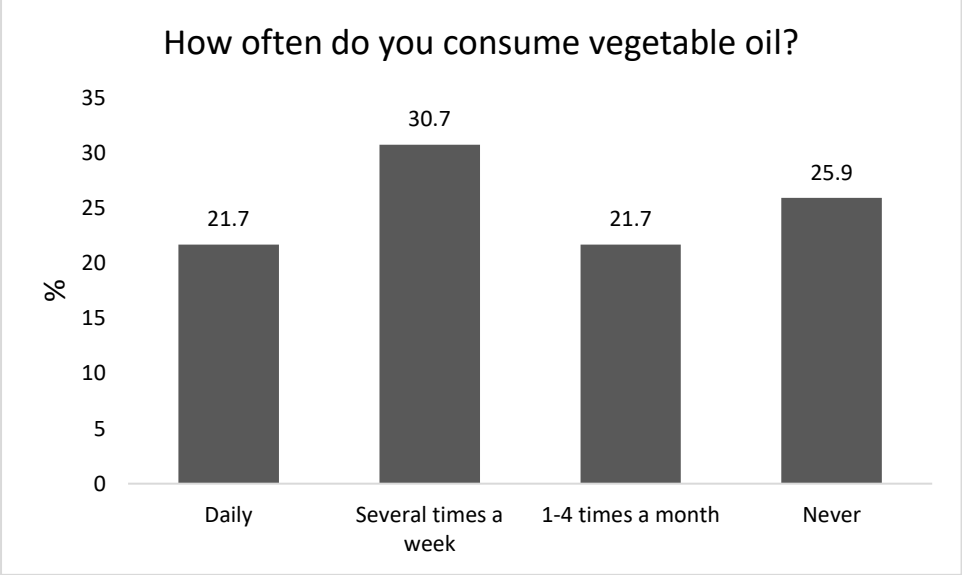

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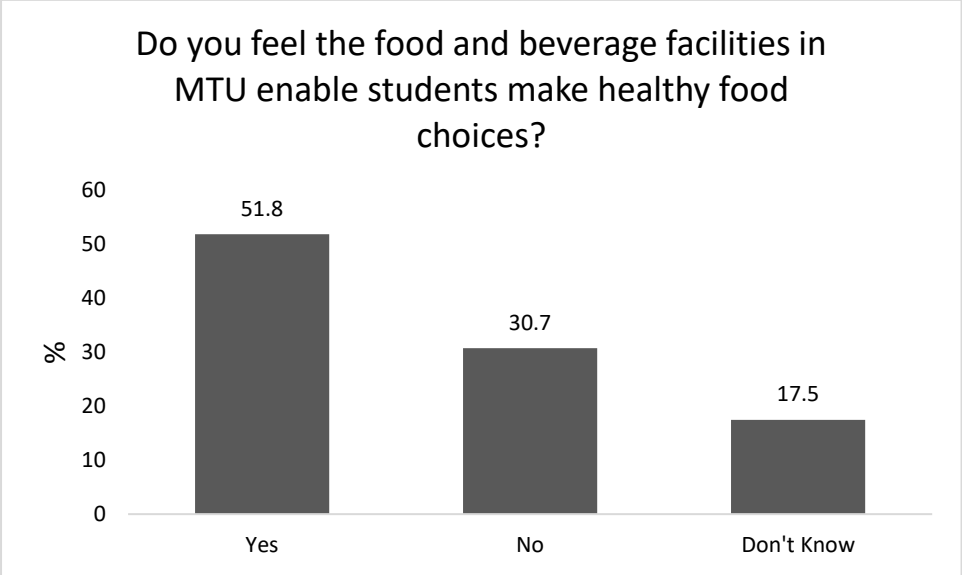

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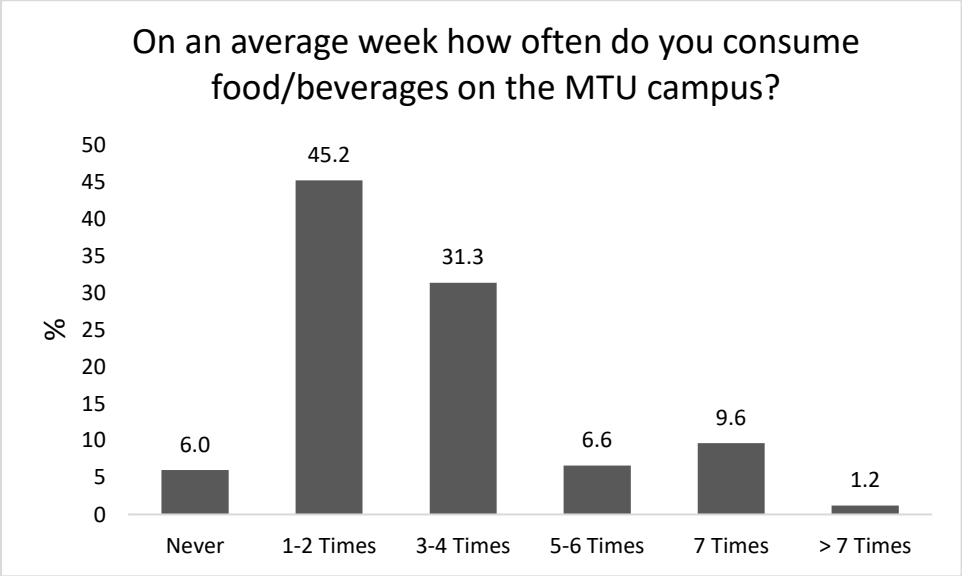


Figure 13.

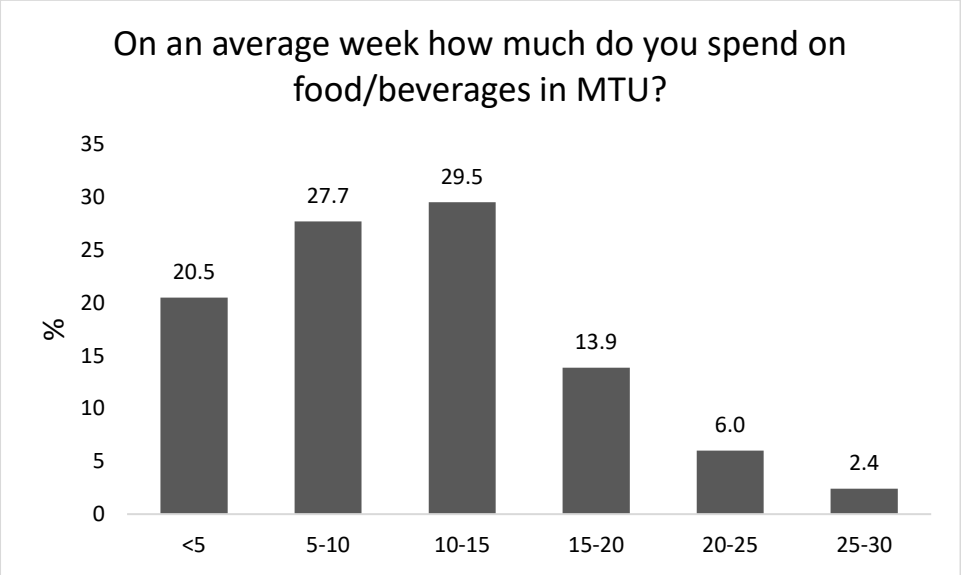
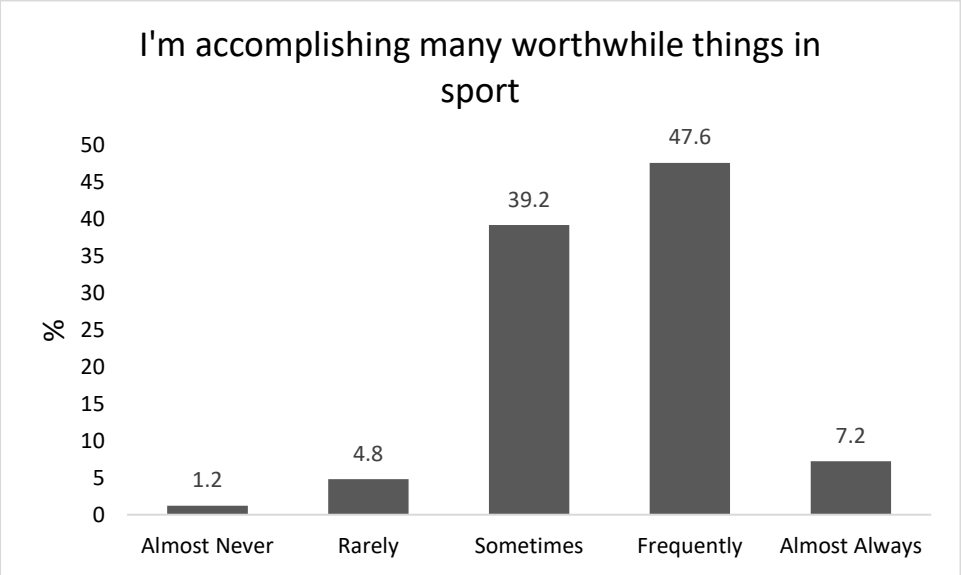

On an average week how much do you spend on food/beverages in MTU?
%
35
30
25
20
15
10
5
0
20.5
27.7
29.5
13.9
6.0
2.4
<5
5-10
10-15
15-20
20-25
25-30

Figure 14.

Section D: Training and Match Performance

This section asked questions on training and match performance. Also included are questions on player burnout/motivation in sport and injury. 13.9% of 1st year male Gaelic Games student athletes felt the effort they spend in sport would be better spent doing other things, while 30.1% of participants felt they were not achieving much in sport. Student athletes had trouble finding energy to do other things after training due to being tired (44%). The most common injury was due to over training (22.3%).



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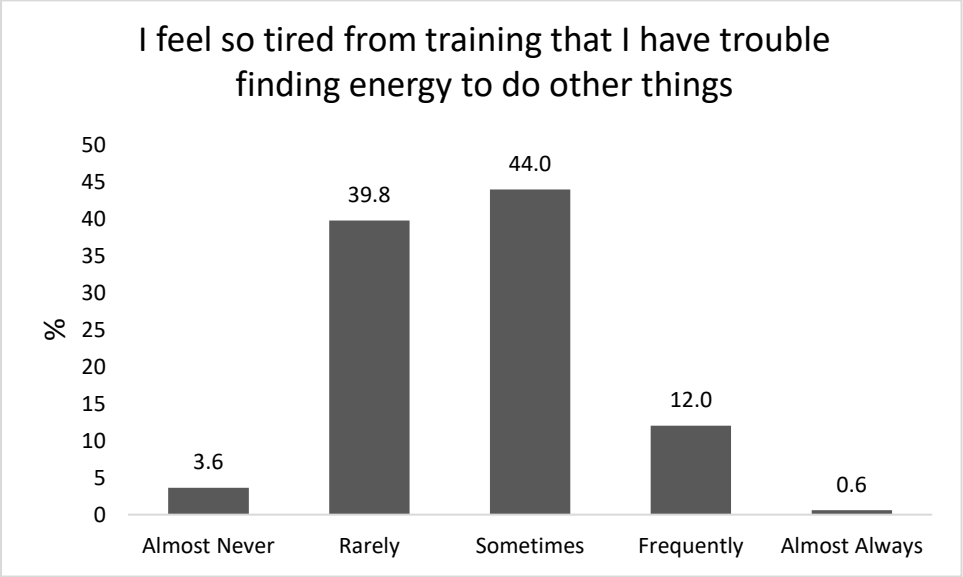
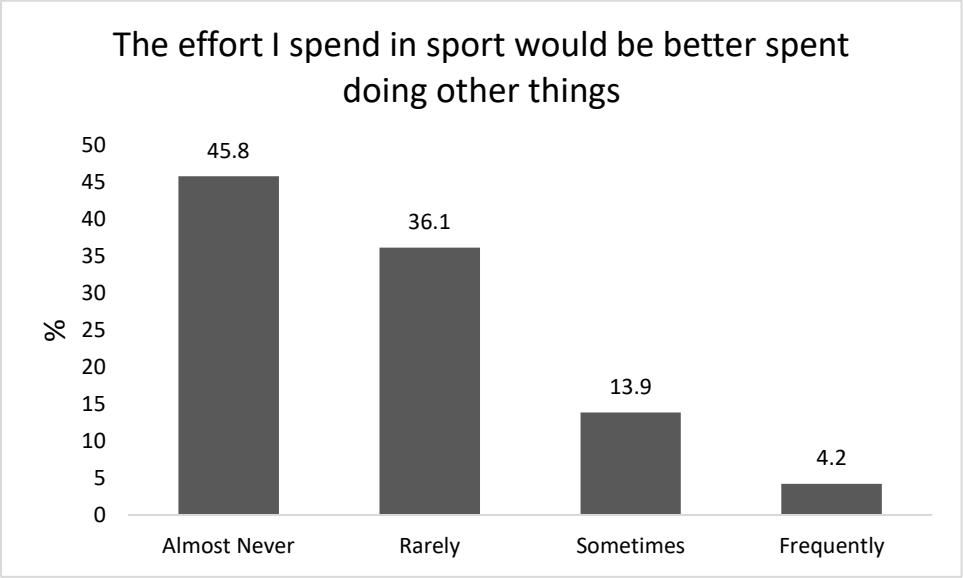


Figure 16.



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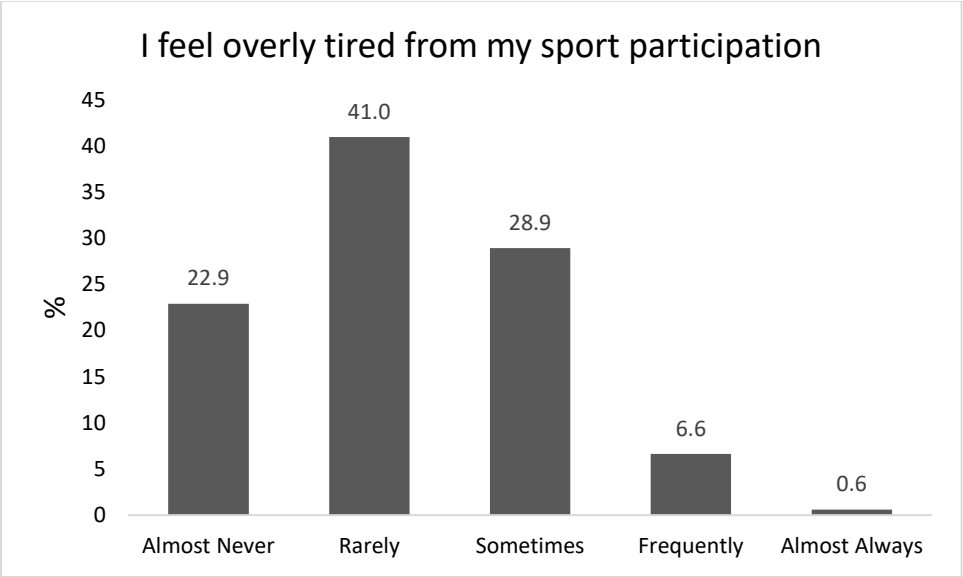

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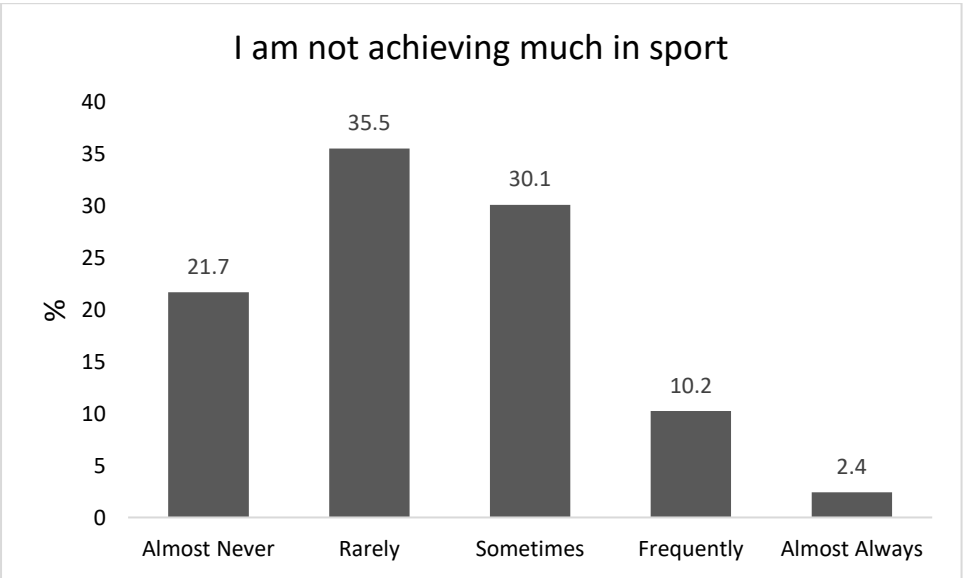

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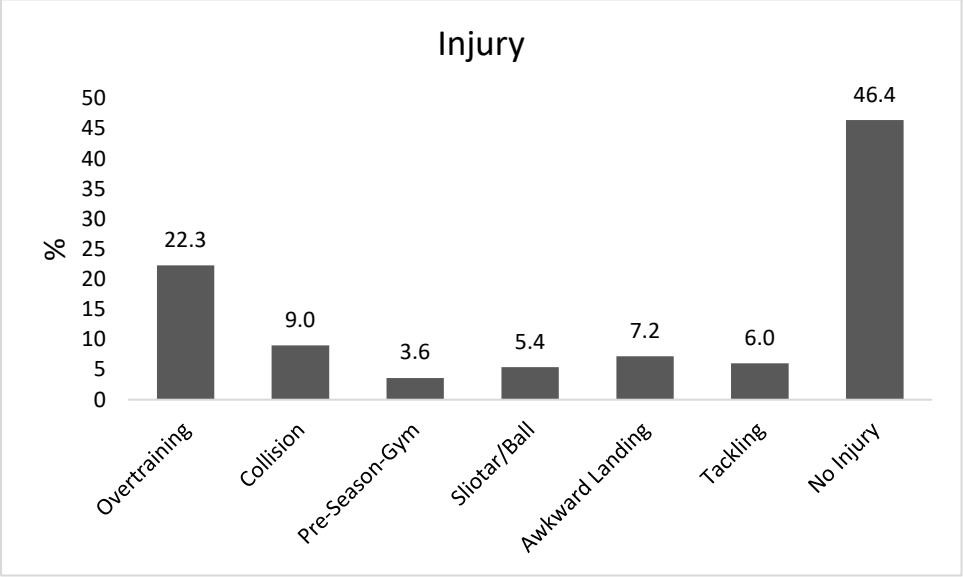
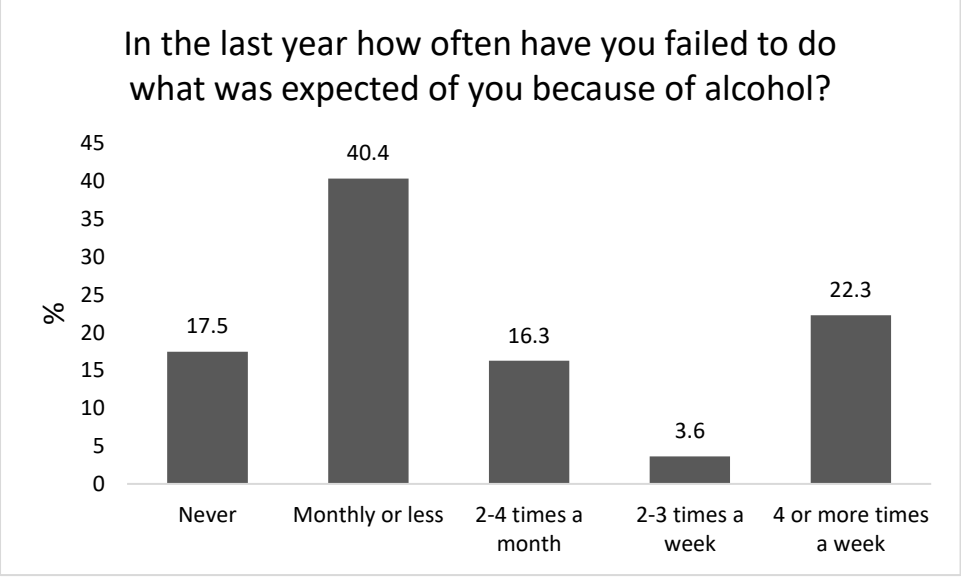

Injury
%
50
45
40
35
30
25
20
15
10
5
0
22.3
9.0
3.6
5.4
7.2
6.0
46.4
Overtraining
Collision
Pre-Season-Gym
Sliotar/Ball
Awkward Landing
Tackling
No Injury

Figure 20.

Section E: Alcohol

This section asked questions based around the consumption, habits and behaviors of alcohol. 22.3% of 1st year male Gaelic Games student athletes failed to do what was expected of them because of alcohol with 38.6% of this cohort having feelings of guilt or remorse after drinking. 50.6% of the cohort have experienced themselves or someone else get injured due to their drinking and 30.1% are trying to drink less than they use to.



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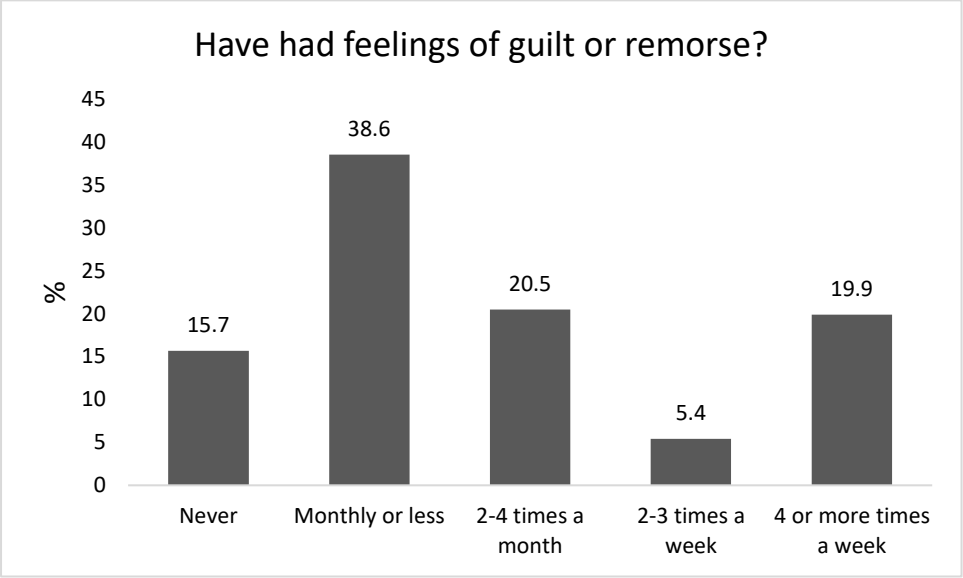

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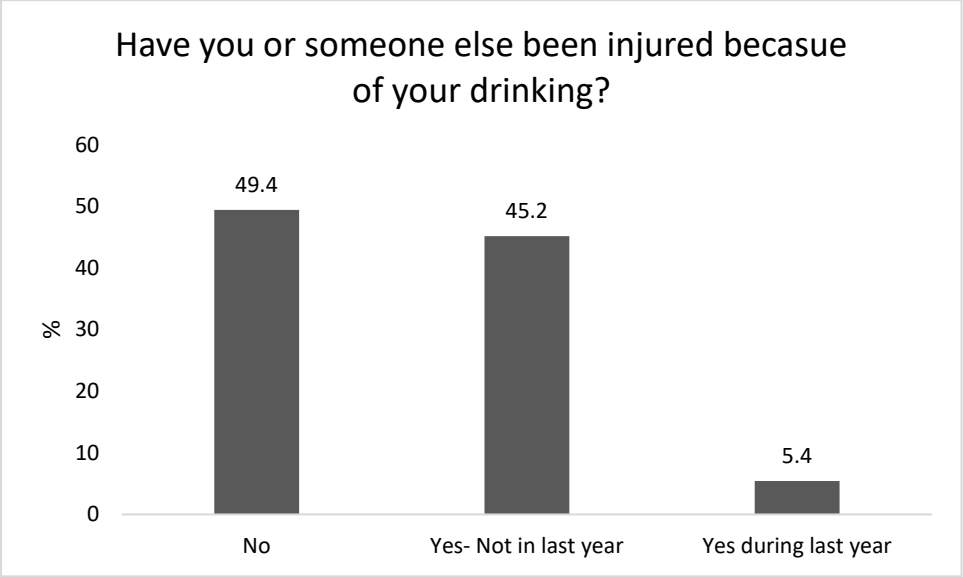

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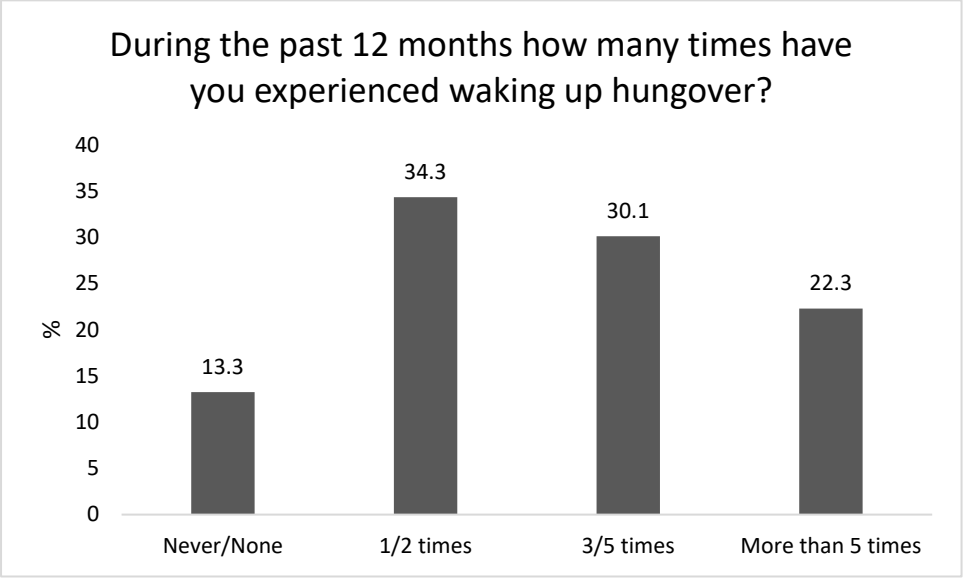

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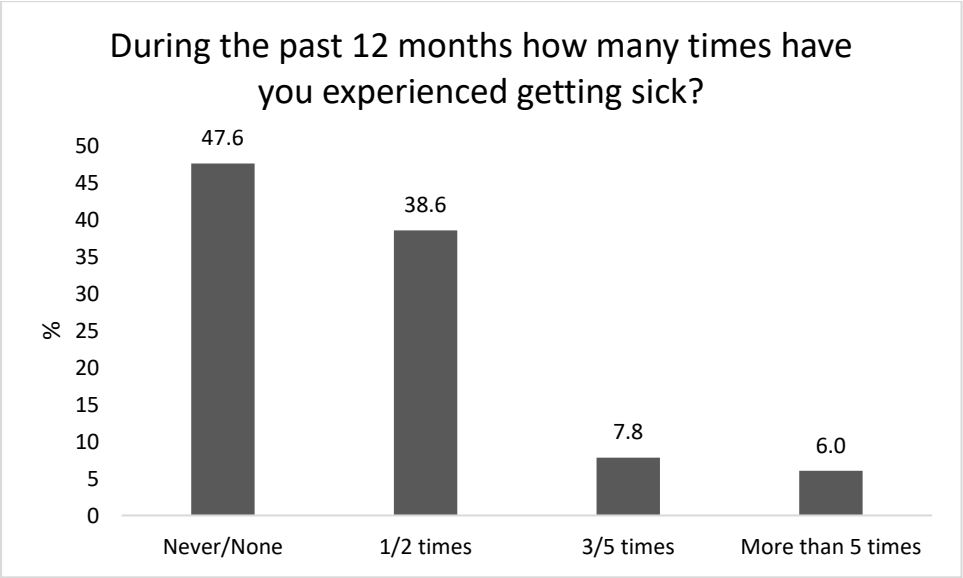

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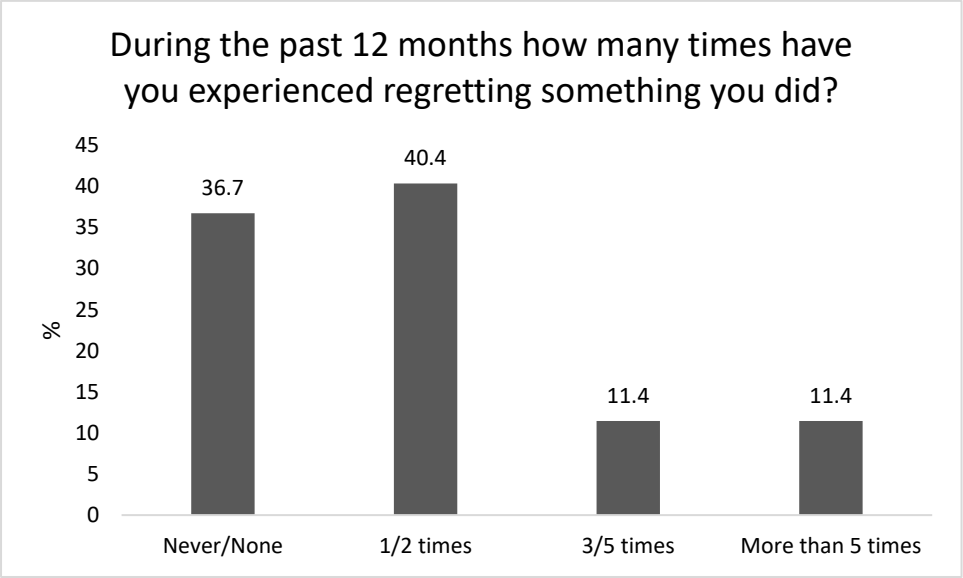

During the past 12 months how many times have you experienced regretting something you did?
%
45
40
35
30
25
20
15
10
5
0
36.7
40.4
11.4
11.4
Never/None
1/2 times
3/5 times
More than 5 times

Figure 26.

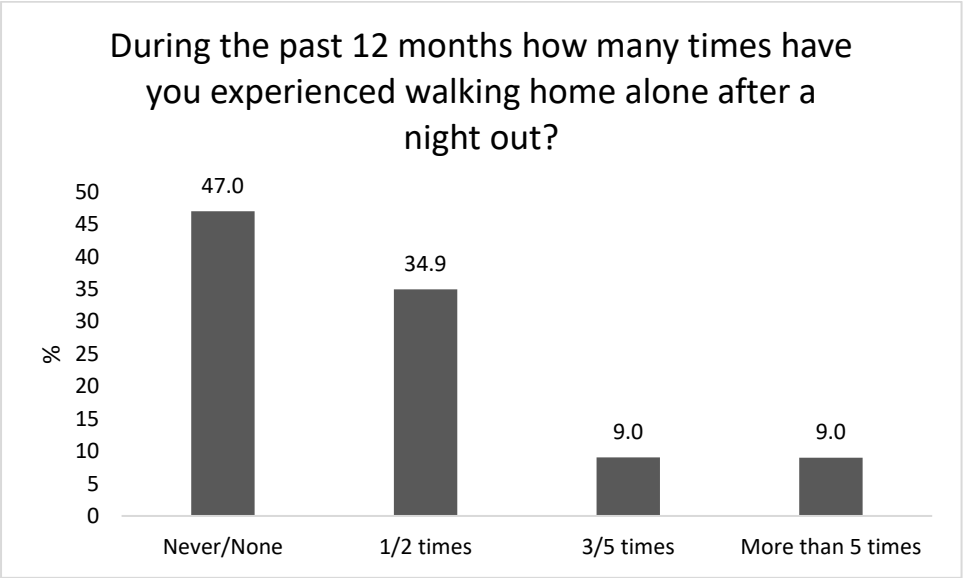
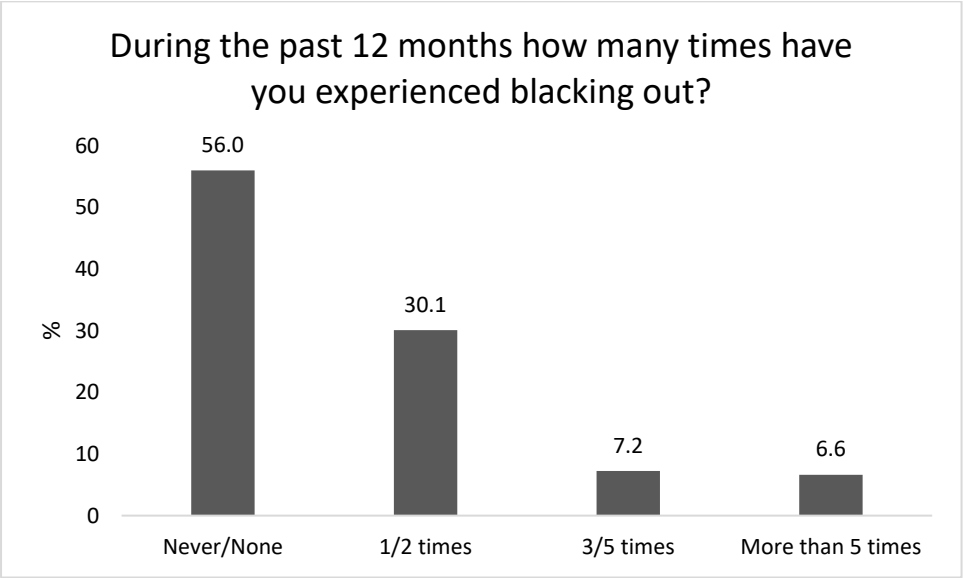

During the past 12 months how many times have you experienced walking home alone after a night out?
%
50
45
40
35
30
25
20
15
10
5
0
47.0
34.9
9.0
9.0
Never/None
1/2 times
3/5 times
More than 5 times

Figure 27.



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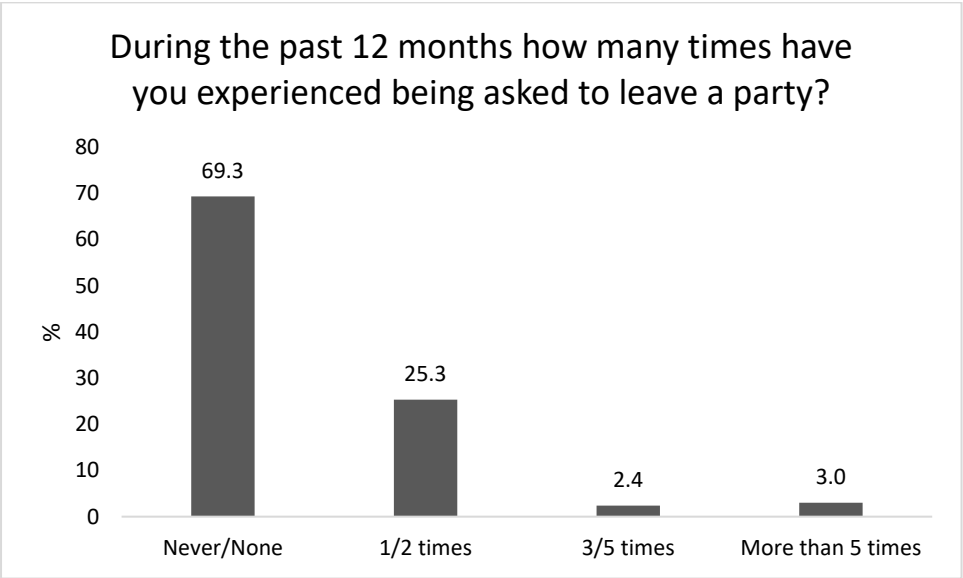

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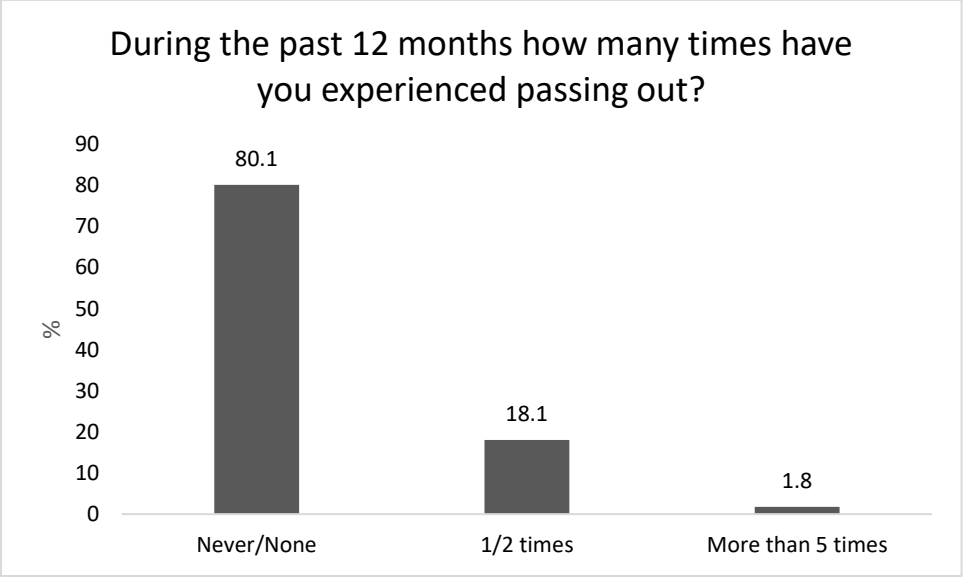
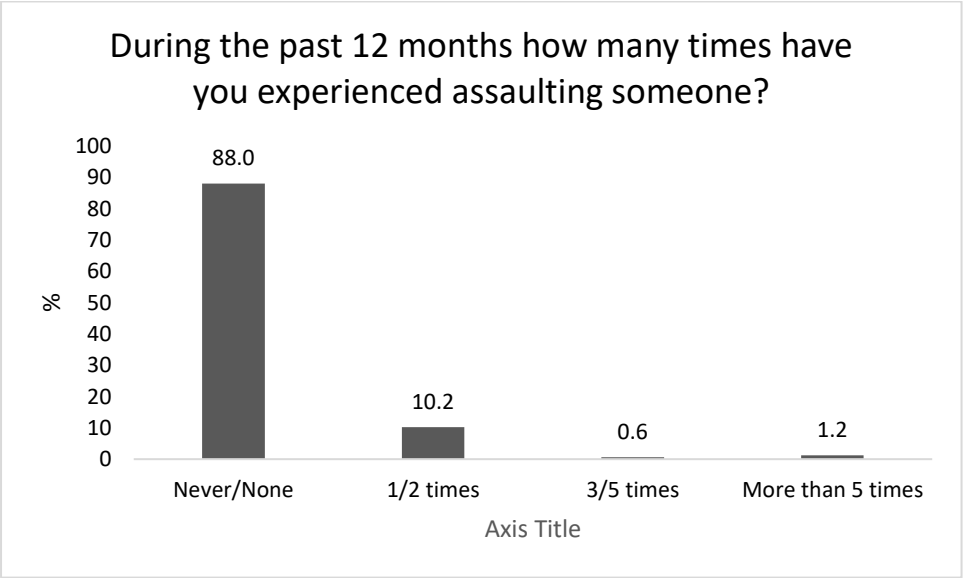


Figure 30.



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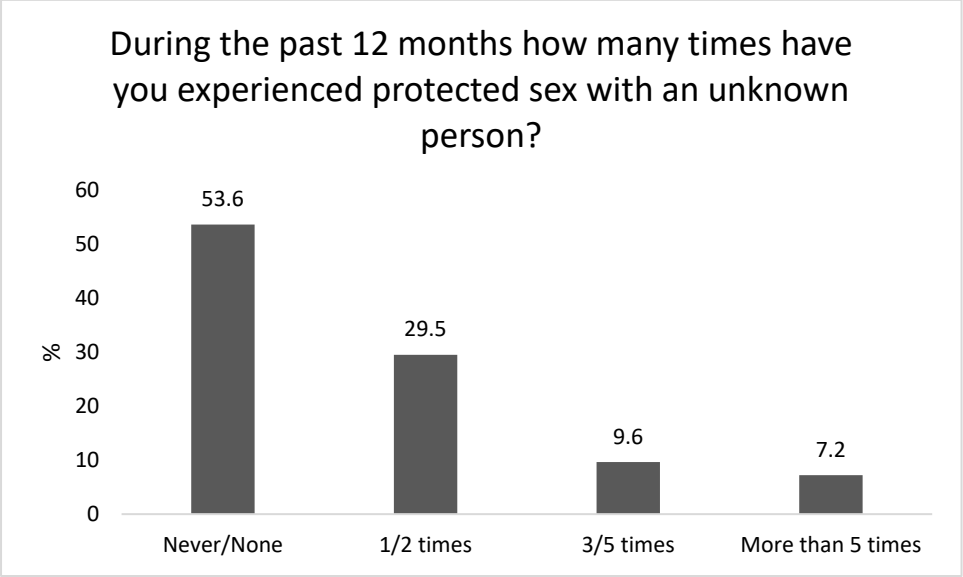


Figure 32.

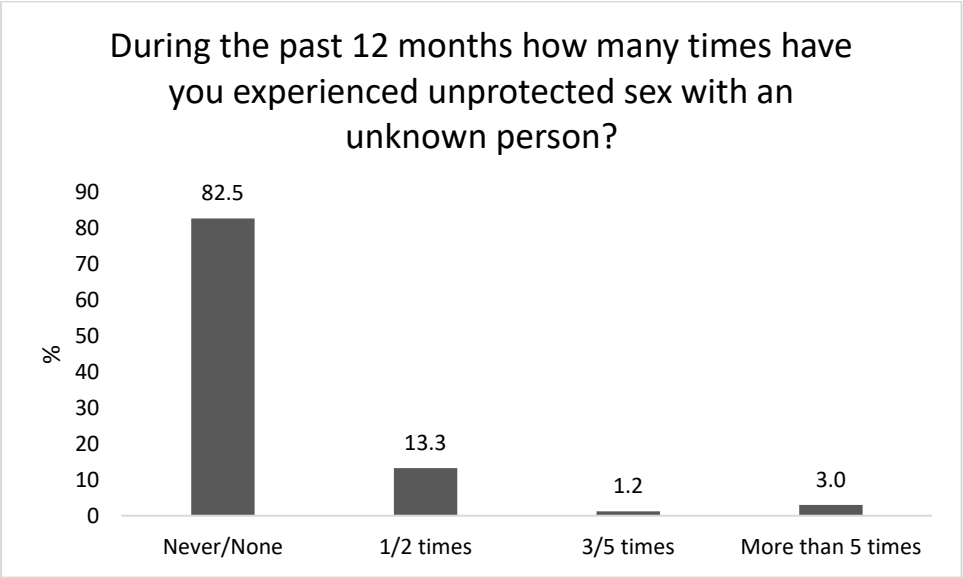
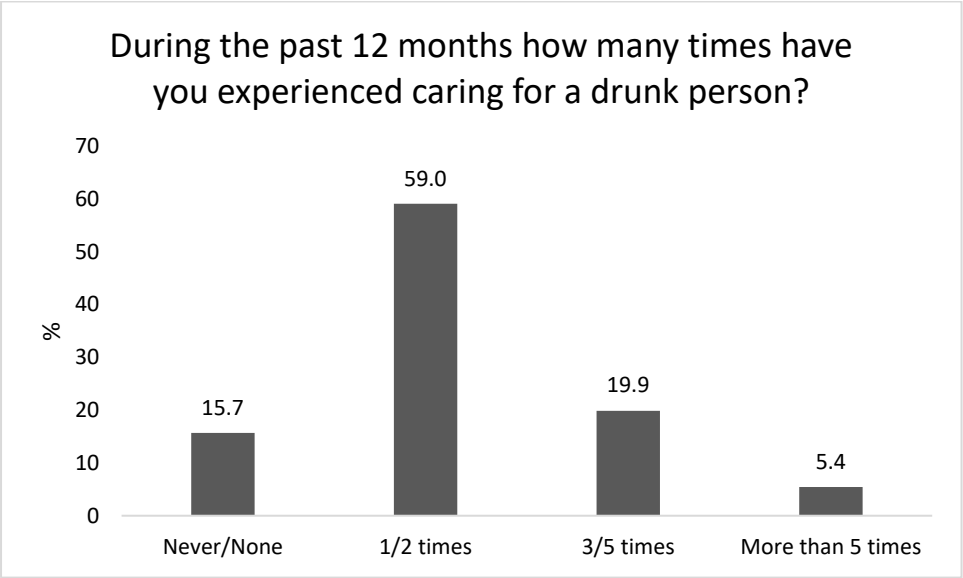


Figure 33.

Figure 34.



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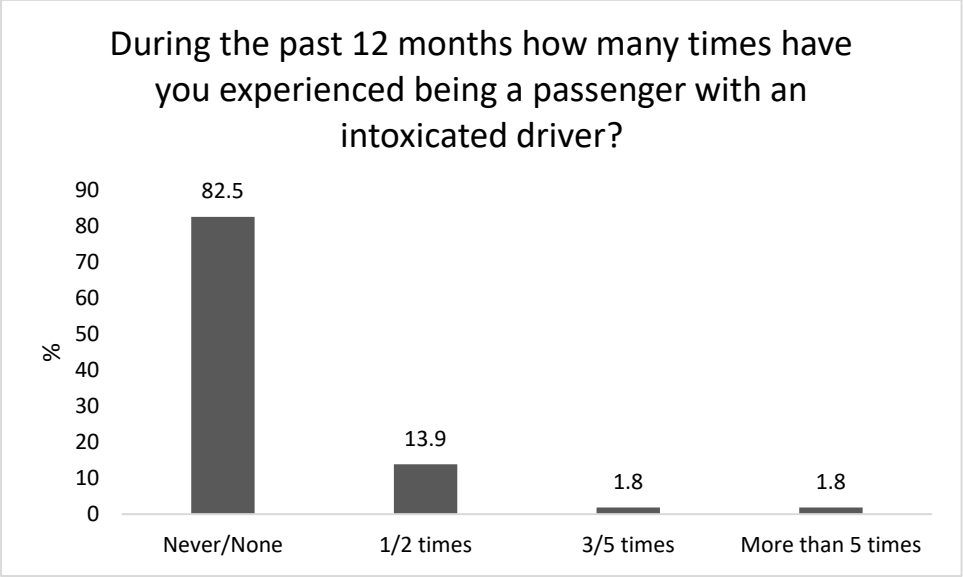

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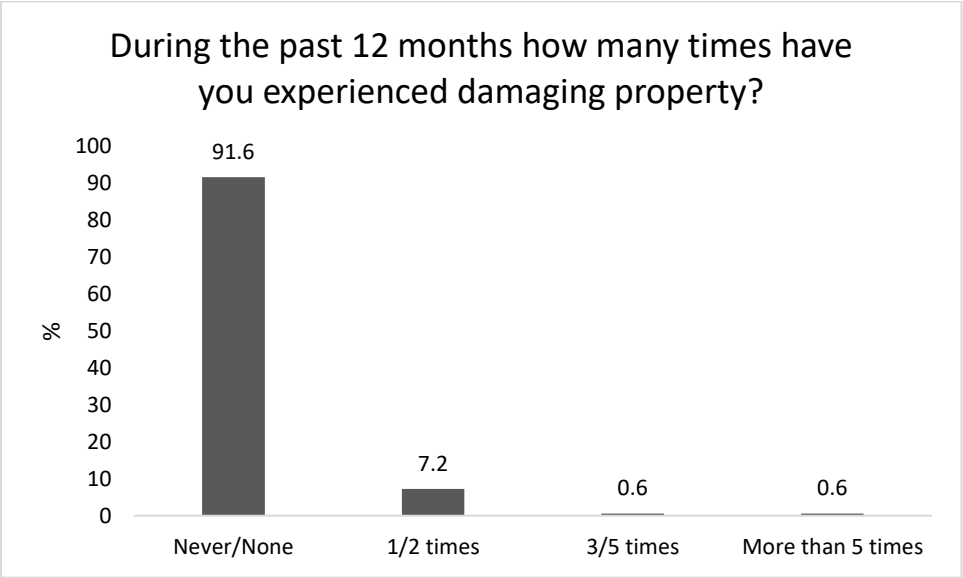
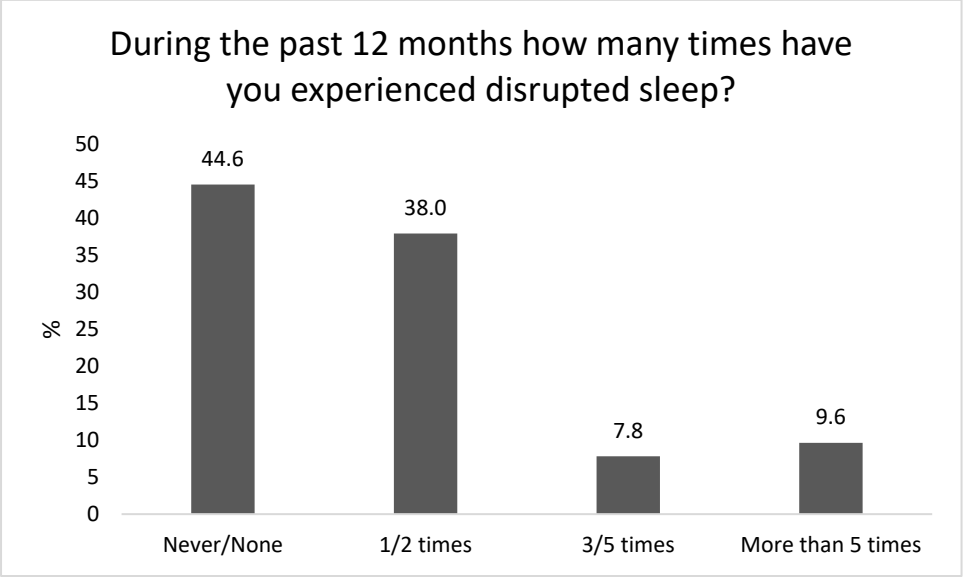


Figure 37.



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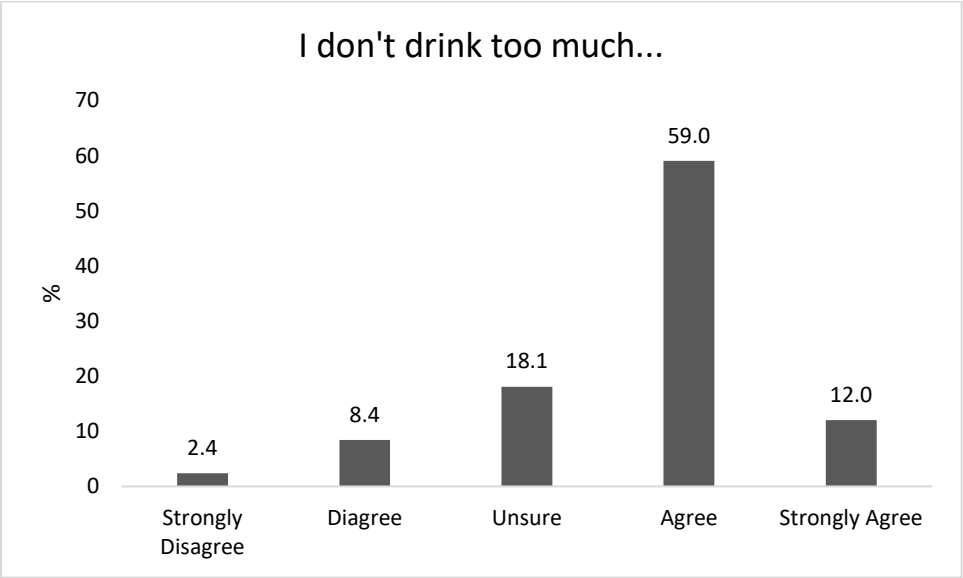

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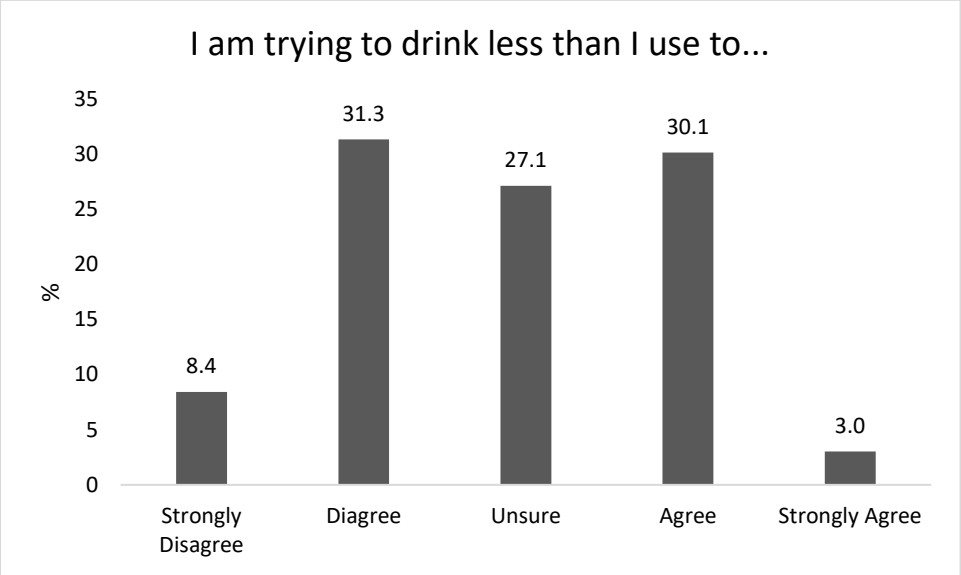

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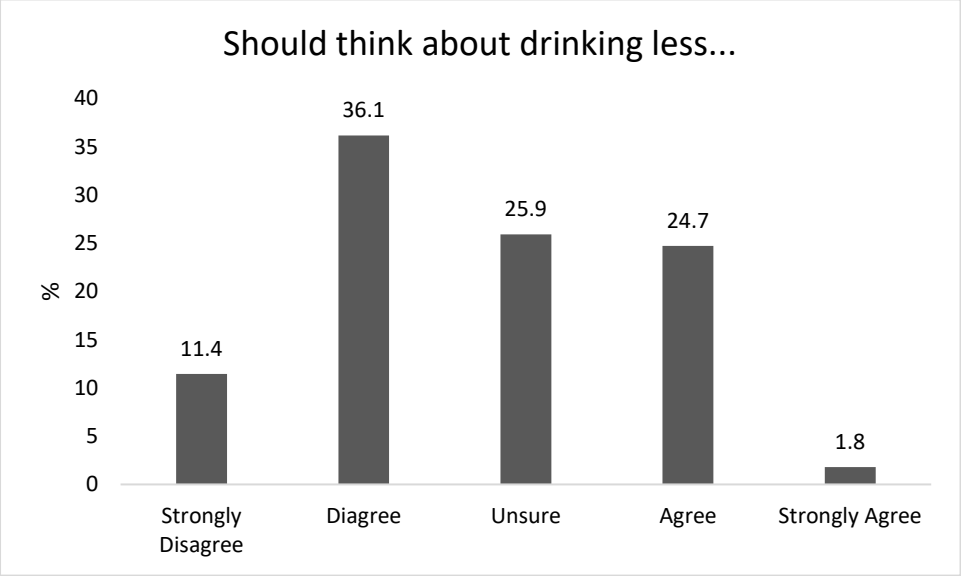

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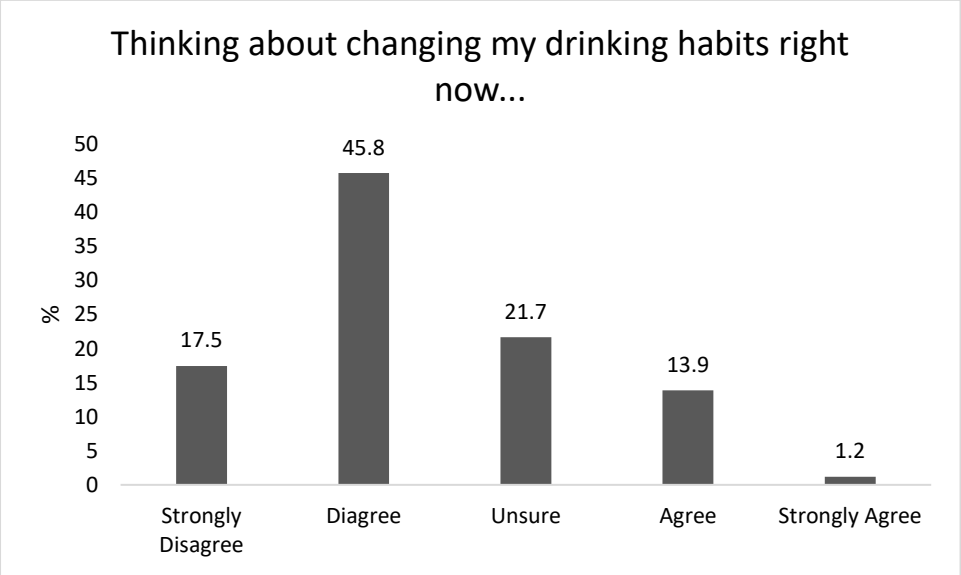

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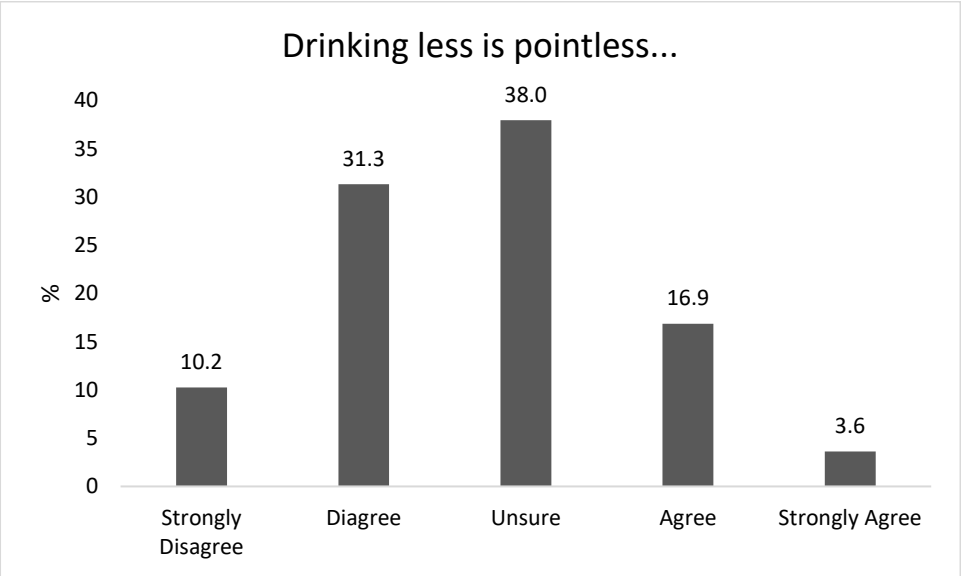
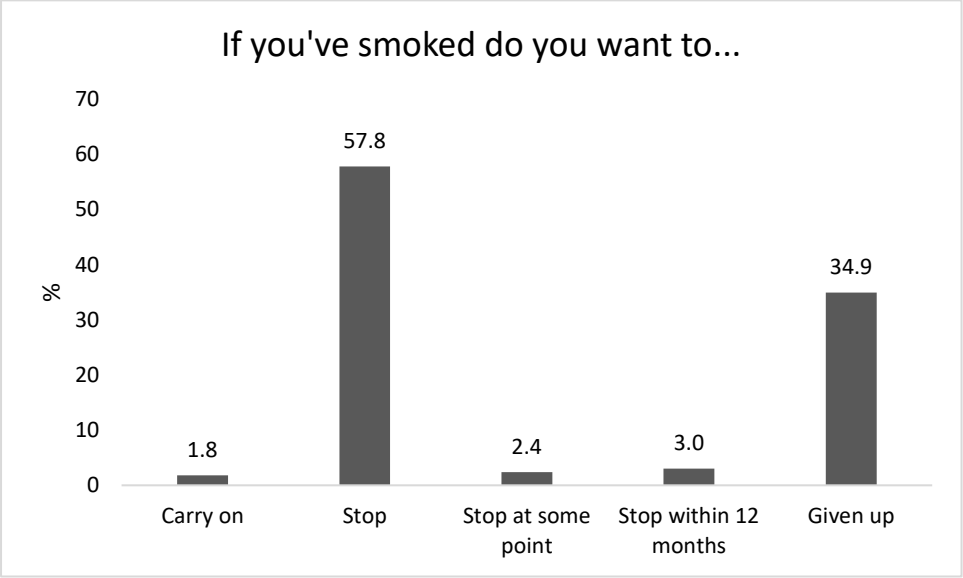


Figure 43.

Section F: Tobacco and other substances

This section asked questions based on tobacco smoking, e-cigarettes and other substances such as a variety of drugs. Over half of the 1st year male Gaelic Games student athletes (57.8%) wanted to stop smoking. 37.3% would like a smoke free campus and the majority of student athletes have never used/consumed illicit drugs.



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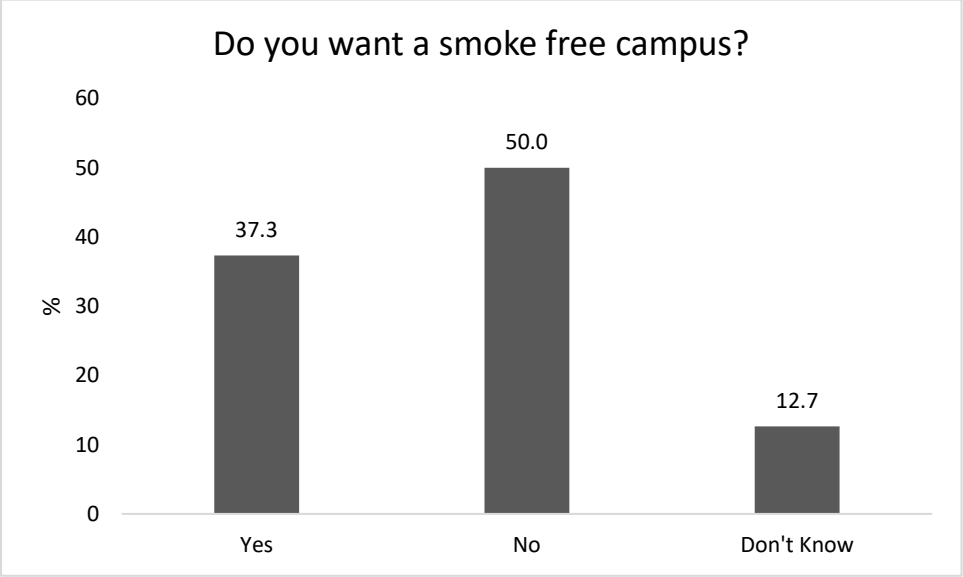

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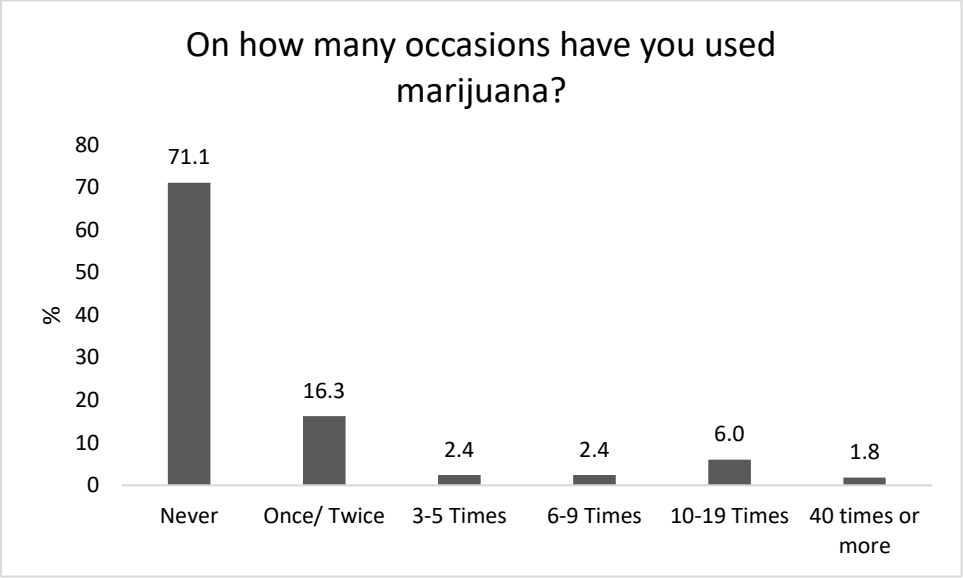

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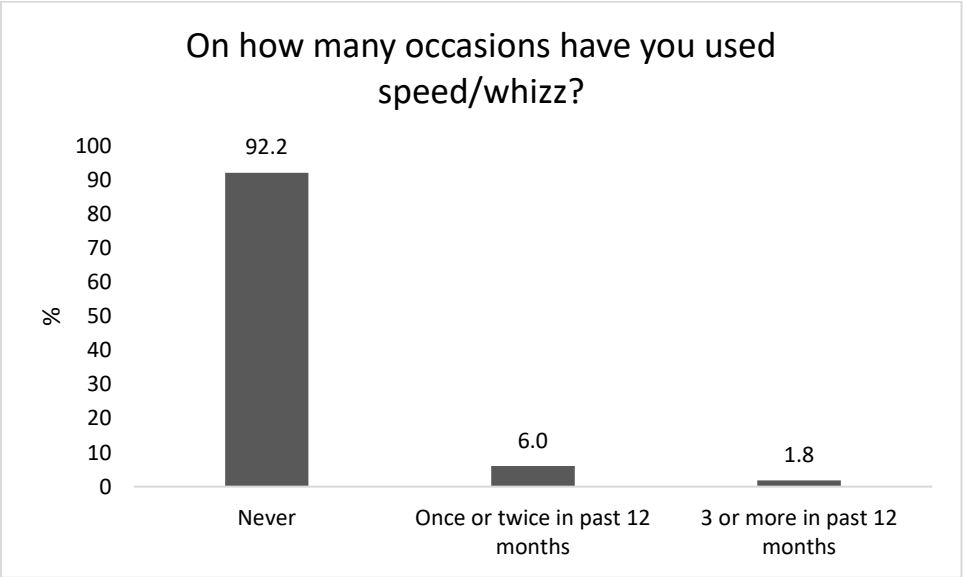

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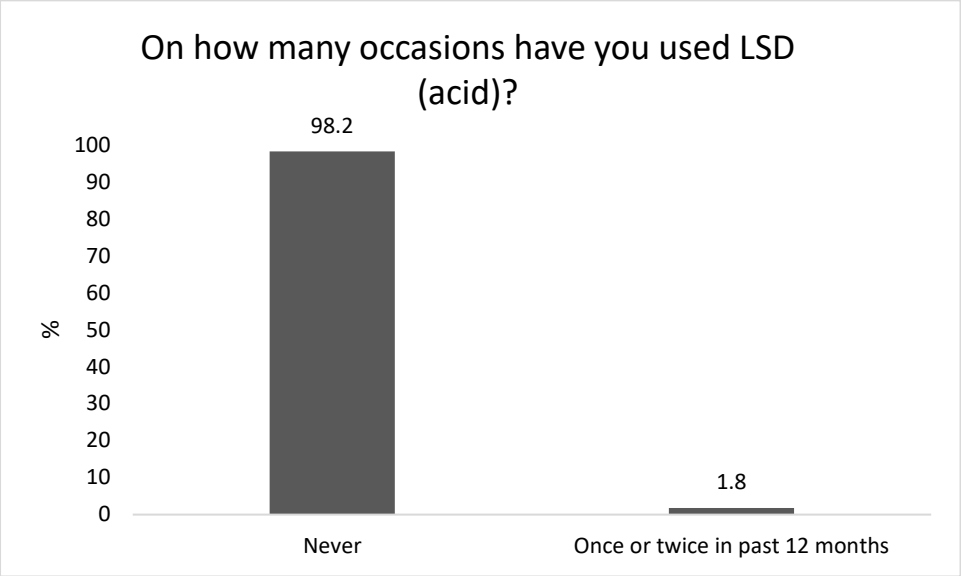

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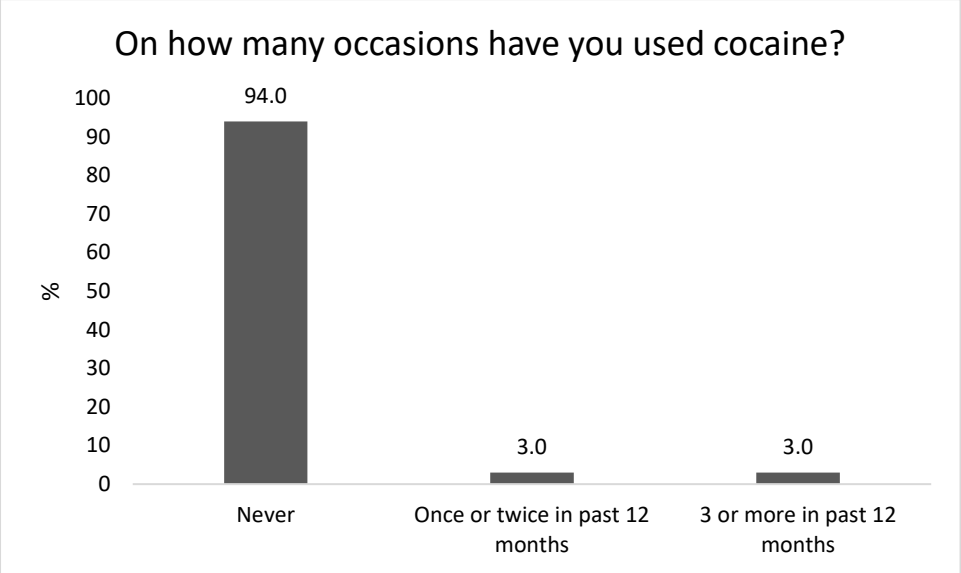

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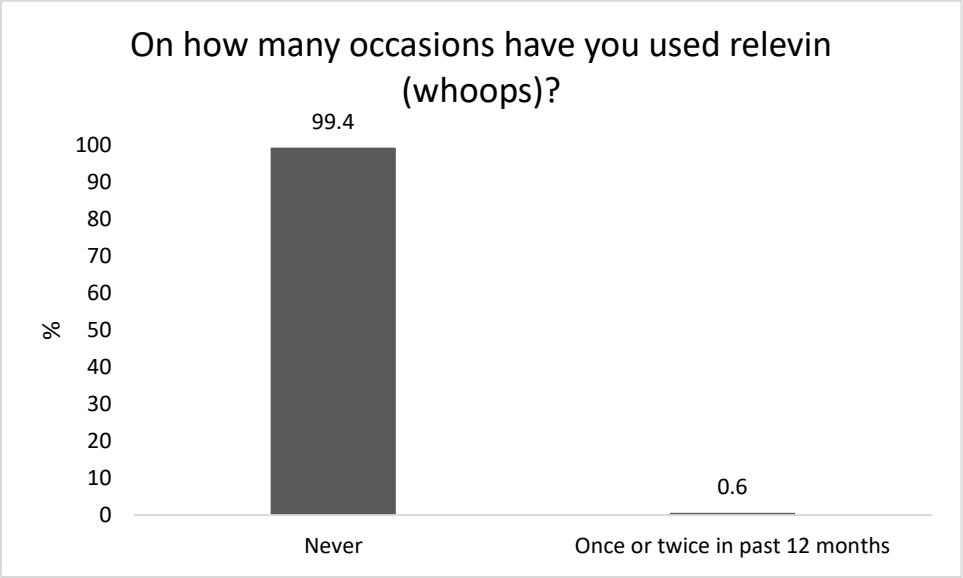

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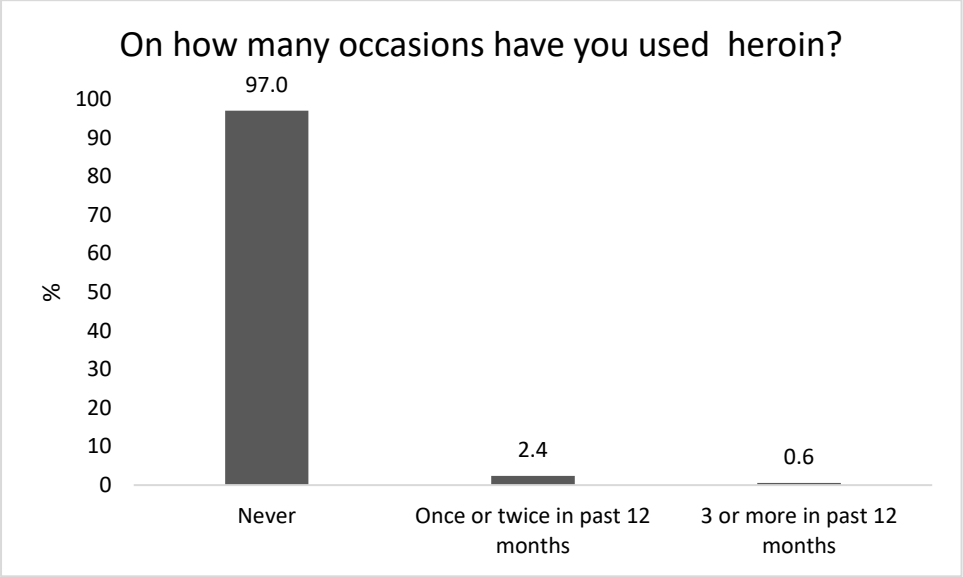

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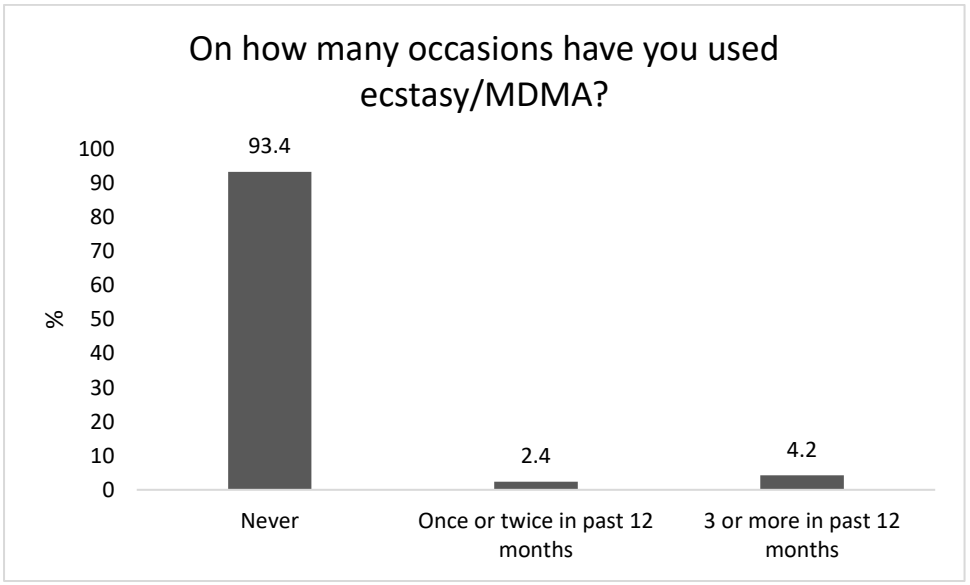

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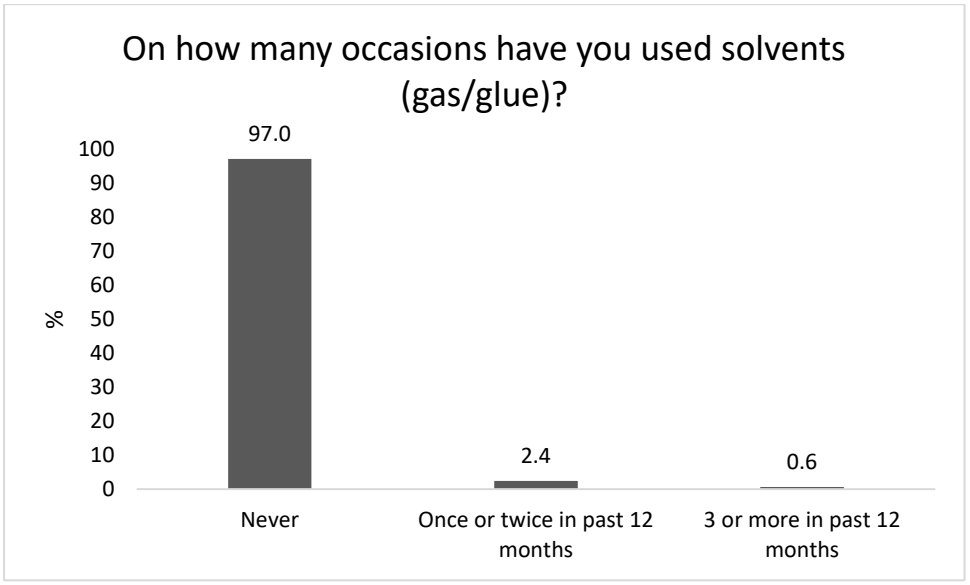
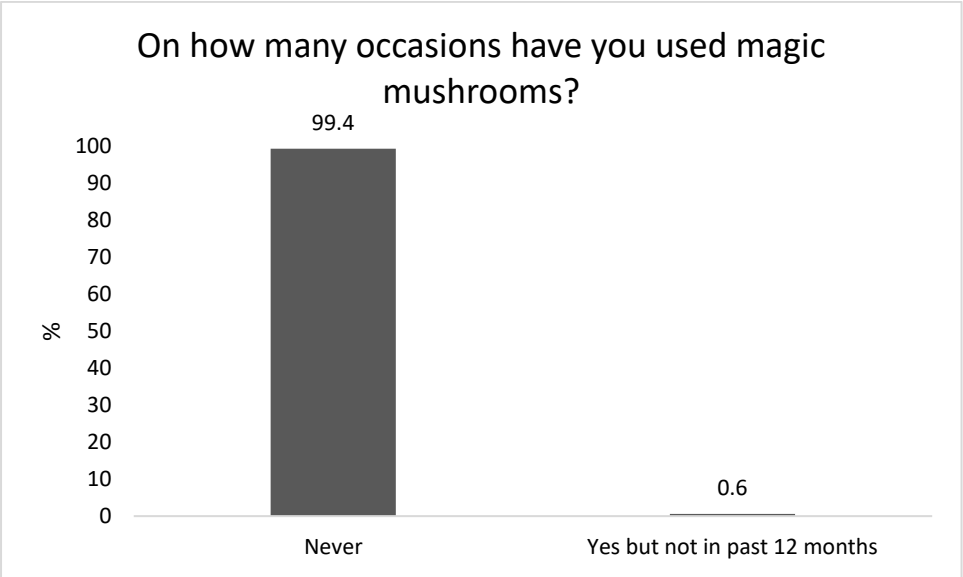


Figure 53.



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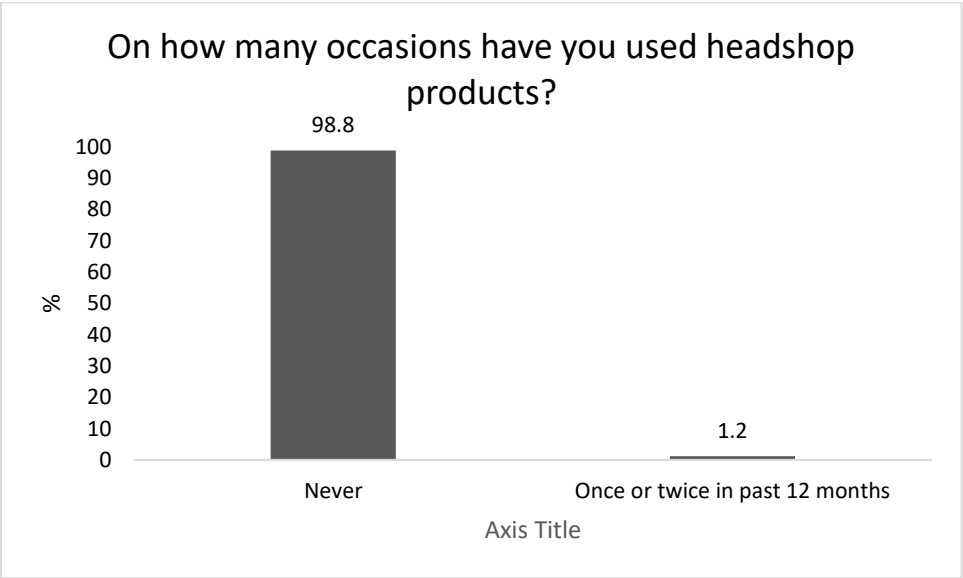
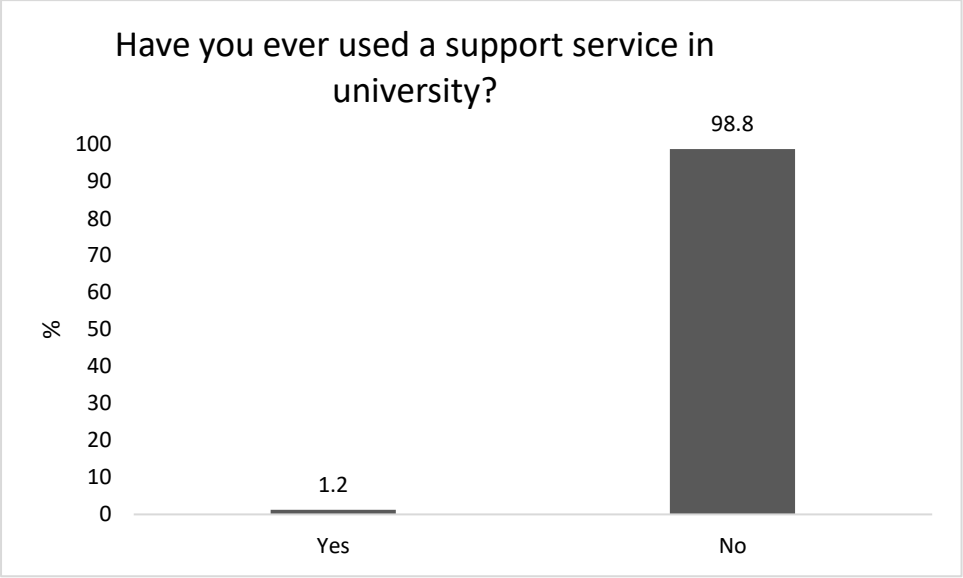


Figure 55.

Section G: Sleep and mental health

This section asked questions based on sleep quality, duration and mental health. The majority of 1st year male Gaelic Games student athletes (98.8%) have never used a support service in the university, while 30.7% of the cohort would never talk to a family member or friend if they were feeling down.



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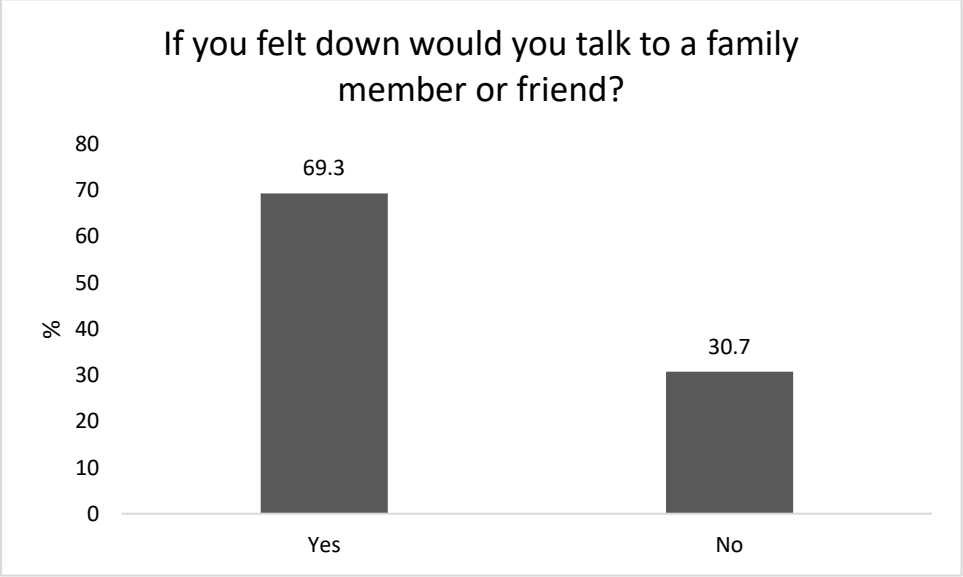
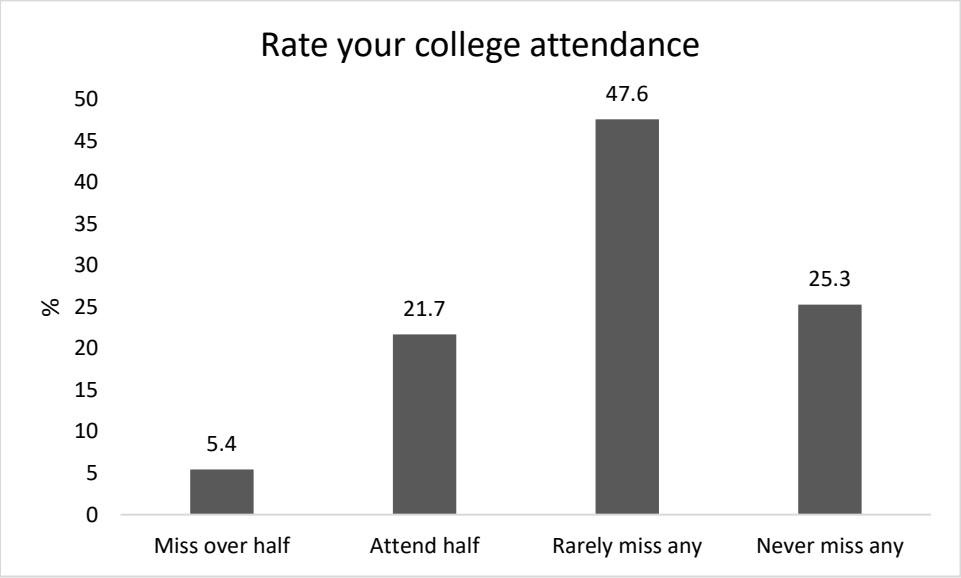


Figure 57.

Section H: College life

This section asked questions based on the participants college life, their attendance, their satisfaction with their course and meeting course deadlines. Nearly half of the 1st year male Gaelic Games student athletes rarely miss any college lectures/labs (47.6%) with 25.3% of the cohort never missing any college lectures or labs. Only 7.8% of the participants are up to date with their university work while 52.4% always meet course work deadlines.



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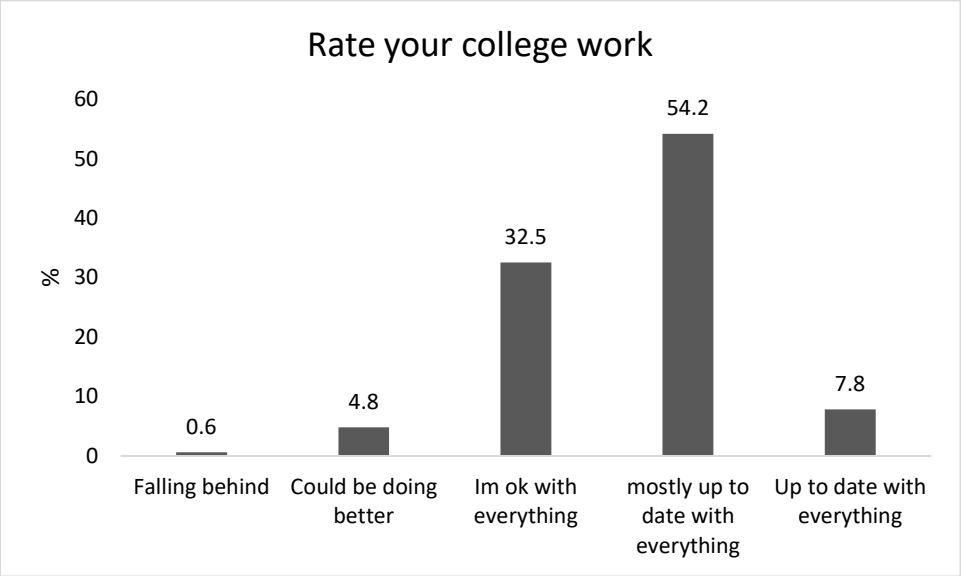

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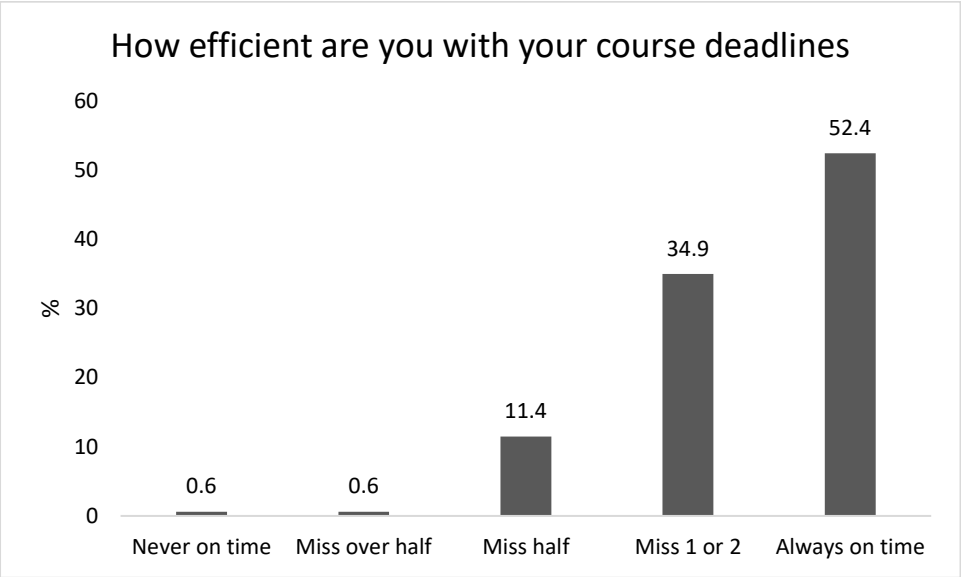

Figure 60.