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Applying Stage-Based Theory to engage female students in university sport

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ABSTRACT

Purpose: University sport is recognized by many as a key area of university business and one of increasing importance, as seen by universities prioritizing sport within their university strategic plans as well as national funding bodies investing in university sport. Whilst sport is rising on the agenda, engaging all students in sport is a key challenge for universities. This paper examines the factors that enable and inhibit female students' participation in university sport and active recreation using an interpretivist qualitative design. The paper also identified specific behaviour change techniques that could be used within interventions to increase participation rates. **Method:** Six focus groups were carried out. Data were analysed verbatim using a constant comparative process of analysis. **Results:** Findings revealed several emergent themes to help inform theory-based interventions to engage more female students in sport. **Conclusion:** University sport is an important behaviour for students to undertake. The paper identified a number of avenues for universities to pursue in order to achieve this aim. **Keywords:** Sports-based interventions; University sport; Behaviour change techniques; Motivation.

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INTRODUCTION

There were around 2.34 million students registered to study at the United Kingdom's 168 Higher Education Institution (HEI) providers reporting data to the Higher Education Statistics Agency (HESA) in 2017-2018, including both undergraduate and postgraduate students (HESA, 2019). This represents a sizable market from which to engage students in healthy behaviours. The evidence around the health benefits of physical activity are irrefutable (Warburton et al., 2006) and suggestions have been made to increase rates of physical activity within the university student population (Irwin, 2010). Evidence concerning why universities should invest in sport for health reasons, however, is less prevalent, although research has demonstrated the benefits of student participation in campus recreation facilities and programs. Henchy (2013) showed that participation in sport improved student health and well-being and Elkins et al. (2011) outlined how sport can develop students' perceived sense of campus community. Not only can sport positively contribute to student health, but engaging students in university sport can influence university business through recruitment (Kampf, 2010) and retention (Lindsey and Sessoms, 2006; Henchy, 2013). Increasing student sports participation thus has implications at both the individual and university level.

It should be noted that the definition for university sport and active recreation used within this paper focuses on non-competitive representative sport. In Britain, this excludes formal external competitive club sport organized as part of the British Universities and Colleges Sport (BUCS) or elite sport programs, and instead concerns the social, recreational and intramural sport offered by an institution. This type of sport is often termed 'campus recreation' within the American educational system.

Sport England, the leading provider of sport within the United Kingdom, made considerable investments to increase the number of school and college leavers participating in this type of sport. The first project (The Active Universities) demonstrated a 2% increase in participation across three years, with much of the change seen during the first year (Sport England, 2014). These limited improvements have also been replicated in their second project (The Sport Activation Fund) at the mid-way stage with 55% of students active 1 x 30 minutes per week during 2014/15 and 2015/16 (Sport England, 2016a). Thus, funded programs targeting improvements in recreational sports participation have shown limited findings to date.

In addition to Sport England's findings, many countries have shown that females have consistently lower sports participation rates than males (Apostolou, 2014; CDC, 2016; Van Tuyckom, 2010; Sport England, 2015). Van Tuyckom (2010) carried out a cross-national study of 25 European countries that looked at the differences between gender and age inequalities in regular sports participation, with the majority of countries reporting higher levels of participation by males and significant gender differences in sports participation in 12 countries. Within the UK, women consistently have shown lower levels of sports participation than men within the Higher Education Student Sport Participation surveys; in 2014-15 and 2015-16 surveys at 52.0% for women versus 58.0% for men and 52.6% versus 58.5% for men, respectively (Sport England 2015, 2016a). Consequently, there is a need to promote participation in recreation sport, specifically targeting the female subgroup.

Behaviour change psychology

Many projects attempting to change this type of behaviour do so without using guidelines within health psychological theories. This is a shame, particularly as the effectiveness of interventions is increased when underpinned by behaviour change theories (Taylor, Conner, and Lawton, 2012). These theories attempt to identify and alter the psychological processes relevant to a particular behaviour. With many theories to choose from, they have been categorized as continuous or stage based. The most popular models are those

continuous, whereby change is seen as a linear process. The Theory of Planned Behaviour (Ajzen, 1985) is one such model. The theory states behaviour is a product of a behavioural intention which, in turn, is determined by attitude, subjective norm, and perceived behavioural control. To change behaviour, one needs to determine the contribution of these determinants and then successfully alter the beliefs underlying those constructs. Other models such as the Health Belief Model (Becker, 1974) and Social Cognitive Theory (Bandura, 1989) also view behaviour as a continuous process.

Rather than a continuous or linear process, stage-based models suggest change occurs within distinct steps. The most popular stage-based approach is the transtheoretical model [TTM] (Marshall and Biddle, 2001; Nigg et al., 2011; Sport England, 2015) which comprises of five discrete stages (Prochaska and Marcus, 1993). The stages applied to sport are: (1) precontemplation – not participating in sport or intending to within the next 6 months; (2) contemplation – not participating in sport but considering engaging in sport within the next 6 months; (3) preparation – currently taking part in sport but not regularly; (4) action – regularly taking part in sport but for less than 6 months; (5) maintenance – regularly taking part in sport for more than 6 months. The model also includes processes of change (POC), self-efficacy, and decisional balance, which help to explain why people move from one stage to the other.

Research to date

When attempting to understand students' motives towards sport, previous studies have primarily focused on physical activity or exercise (Kulavic et al., 2013; Romaguera, 2011; Spivey et al., 2013; Keating et al., 2005). However, it cannot be assumed that the factors to change this type of students' behaviour will be the same for changing sports participation. Of the limited studies that have examined student motivation towards university sports participation, a number of factors have been found such as: weight management, enjoyment, revitalization (Rintaugu and Ngetich, 2012) challenge, social recognition, affiliation, competition, appearance and nimbleness (Kulavic et al., 2013) enjoyment and challenge (Kilpatrick et al., 2005). Specific to intramural sport, Rickel et al. (2012) reported similar motives: challenge/skills, fitness, competition, social/teamwork, and energy release.

In addition to the discrepancy between physical activity and sport, motivation may also be different between genders. This distinction has been found relating to exercise (Lovell et al., 2010; Roberts et al., 2015). Roberts et al. (2015) found motives for female university students were underpinned by appearance. Lovell et al. (2010) found females' greatest perceived barrier to exercise was physical exertion. Such research suggests the development of gender-specific exercise programs (Roberts et al., 2015). Concerning sports participation, the Sport England This Girl Can campaign (Sport England, 2016b), which was delivered in a range of community settings including universities, found the following barriers towards participation: a fear of being judged; practical barriers of time, cost and information; personal barriers such as lack of confidence; recruiting via personal contacts; incorporating social; social benefits; supportive coaches; and using personal channels for communications wherever possible elements in activities; using real-life case studies and offering women only sessions; 'women need to feel comfortable and welcome, excited and empowered about taking part and inspired to encourage others.'

Behaviour change techniques

Although these models help identify what to change, they don't provide information on how to do so. This requires the use of behaviour change techniques (BCTs) which are the active ingredients included within interventions to alter behaviour (Michie et al 2015). Lists of BCTs have been provided which allow the identification of efficacious methods of change (Abraham and Michie, 2008; Michie et al., 2013). For example, self-monitoring has been found to be an effective BCT (Michie, Abraham, Whittington, McAteer and Gupta,

2009). Nevertheless, there has been confusion regarding the most effective BCTs, and valuable information could be gained by taking into consideration the perspective of the target population.

Purpose

In sum, research has focused on student participation in exercise and physical activity, rather than sports participation. Of the small number of studies that have examined motives towards sports participation, few have examined the specific motives of females, nor established how to then use the data to achieve positive behaviour change in sport. The purpose of this paper was to therefore explore the qualitative views and opinions of female students about the enablers and inhibitors to university sports participation to help inform the development of a theory-based university sport intervention. This research aims to bridge the gap between research and practice by investigating both enablers/motivators and inhibitors/barriers specifically for female students to add weight to the slim evidence on female participation in sport, before then providing practical solutions for behaviour change.

MATERIALS AND METHODOLOGY

University setting

The research setting was at a single campus university, founded in the 1960s, with less than 5000 students. The University enrolls a relatively large number (43.9%) of students from low socio-economic backgrounds and is made up of 66.3% females and 33.7% males, and 85.4% 18-21-year olds studying full-time undergraduate programs (HESA, 2016). Academic sport was part of the researched university provision and made up approximately 12% of the total student population. The student offer for sport included 10 sports clubs that entered the BUCS league system and approximately 15 non-BUCS sports offering recreational non-competitive informal sport, requiring no membership and providing sport for all regardless of ability or experience.

Procedures

A criterion sampling technique was used (Patton, 2001) with one university in the North of England, to achieve the predetermined criterion of importance to this study, being: female; university students; not participating in regular sport. Female, university students at the researched university, were initially asked in person about their level of participation in sport prior to being selected into the study, based on Sport England's (2015) measure for non-participation, being those who do no sport for at least 30 minutes in the last 28 days.

The study gained ethical approval from the university department ethics committee. Six all female focus groups were run lasting approximately 45 minutes, each between 6-9 in size that fits with the ideal group size of 6-10 (Morgan and Kruger, 1993). The students reflected the demographic population of the university studied with the majority being students aged 18-21. The aim of the focus groups was to generate a shared view around two key areas: (1) the enablers or motivators for participating in university sport and (2) the inhibitors or barriers for engaging inactive students in university sport. The definition of university sport was reinforced.

An inductive approach was taken to allow free-flowing data to be generated. The Moderators' Plan involved an 'ice breaker' and introduction, a post-it note exercise, and a summary, including an opportunity for students to add any further data and inform students about how they could receive a summary of the outcomes. The post-it note exercise asked students to write down 3 key things that they felt would enable or motivate them to do sport at the University and 3 key things that inhibited or was a barrier to participation. Post-it notes were placed on a Flip Chart anonymously and referred to by the moderator to generate further discussion. This

process helped the Moderator to avoid guiding or leading student answers with information generated from the students' initial thoughts, whilst ensuring the views of all in the groups were represented. An independent verifier was also present with the moderator and took part in a post-focus group debrief to share key immediate thoughts.

Data was recorded to produce verbatim transcripts. Data analysis employed a process of thematic analysis, advocated as a particularly useful and flexible method for qualitative research (Braun and Clarke, 2006). Here, a process of coding and unitizing data to form patterns and themes provided a consistent method of analysis to help increase validity of research. This constant comparative method was also used to help increase the credibility, transferability and dependability of findings (Lincoln and Guba, 1985). This style of analysis creates a 'rich description' (Geertz, 1973) to move away from the 'what' to 'why' and 'how', the focus within this research.

RESULTS

When students cited inhibitors, they often discussed them in the context of what would help to engage or motivate more students to take part in sport so the analysis reports themes from both inhibitors and enablers as one. The main themes were having a sense of belonging; building confidence; bespoke communication; more opportunities; better pricing and distance to travel. The need for better communication created the greatest amount of discussion for all students giving a strong rationale for more promotional methods as part of any staged-match intervention approach.

Having a sense of belonging

Having a subjective sense of affiliation and sense of identification emerged as a key theme, in relation to students wanting to be a member or part of something, so as to gain acceptance to a group such as through sport. The two key categories that related to this theme were 'to feel welcome to be part of the team or club' and 'to be able to make friends or spend time with friends'.

To feel welcome to be part of the team or club

There was a clear feeling that students would like to engage with sport, which resonates with Sport England's (2014) survey of 84% students stating that they would like to do more sport in the next 12 months. This was broadly about wanting to feel part of the team and to feel welcome to join in with sport at university. Some students cited that they did not feel welcome and referred to the sports arena where the 'sporty' people go (referring to the sports degree students). The overriding strength of feeling was that students wanted to feel welcome to play sport:

Because they are such a big group, the sports degree students, making it a bit more welcoming really would help. FG2.P3

Whilst this may have been the impression at this university where academic sport was prevalent, it may not have had the same impact for other universities where either academic sport is less prevalent or not offered.

Feeling welcome was a finding also reported by Sport England (2016) where women said they needed to feel comfortable and welcome in sport. Students also expressed at different occasions in discussions how the sports degree students seemed to have opportunities in sport that the non-sports degree students did not feel they had:

Well I get the impression from being here that if you're not on the sports program sort of thing, that anybody else that's on media, early years, teaching, is not athletically minded, so not wanting to do sport, whereas that could be totally wrong, it could be totally opposite. (FG4.P1)

When probed further, this was found to relate more to the need for better communication to reach all students, as discussed later in the paper, given the researched university offer did provide a range of sport for all students.

To be able to make or spend time with friends

There was an overwhelming view from all students, as found in previous research (Kulavic et al., 2013; Sport England, 2016; Women in Sport, 2016), that their priority was to be able to make friends and play sport to socialize. This also relates to the literature regarding the benefits of university recreation to integrate socially (Henchy, 2013). One student described what would help others to engage in sport:

If students could see that the sports offered them the opportunity to be sociable it would help them to join...if you're offering people the opportunity to be sociable with the sport encompassed in it, then, you've got them hooked. FG3. P2.

Students also described the weekly commitment of being in a sports team on a Wednesday afternoon to put them off playing sport as they would prefer to spend this time with friends, as found by Sport England (2014): ...committing to something every week puts you off slightly when you want to spend time with your friends. (FG1.P.4).

Given that this university and many others already provide a wide range of recreational sports at different times of the week, it points more to the need to increase student awareness about opportunities available outside of the traditional Wednesday student sport timeslot. This also supports Brunton and McKenna's (2015) findings where one of the key themes was 'to make it known' – referring to the need to increase awareness of sport at university in those students who are not engaged in the sporting process.

Building confidence

The immediate view about sport from the participants, was that university sport is all about the sports teams and competing to win, rather than the recreational sports offer, as one participant stated:

I think that there's too much emphasis on the fact that you've got to be good at football, it's all about winning, and not just about the connections of being healthy or using sport to be healthy. Fg4.P3

The perception of university sport being predominated by the university sport team culture was reinforced with only one participant able to think of any university sport offer outside of the competitive university sport teams and clubs, even though this was not the focus of questions of this research. This was surprising given the university studied did offer non-team sport and recreational activities. As participants focused on team sports, this again suggests a key issue is around improving communications with those students who are not engaged in sport. Students stated that playing team sports for fun without the pressure to compete would encourage more people to play sport, as illustrated:

If you've never done the sport before, you don't want to compete with people that have been playing it for years, because I'd just quit. FG3.P1

Having a lack of confidence was thus, cited as an inhibitor that would deter some students from doing sport, feeling that they are not good enough to play:

It's kind of finding a way of building up your confidence to playing with those people before you actually kind of do it like. FG1.P.4

Students agreed that turning up to sport when you did not know anybody was intimidating and students lacked confidence to do this. A suggestion to help this was for sports sessions to be tailored to degree programs so that students would know others on the course. Students said that it would help if they felt they were not being judged and to have posters or similar forms of messages that made all feel welcome to join:

I don't like getting judged on who you are, like most of them will take one look at you and think yeah, you're not really sporty when really you could be better than most of them on the team. FG3.P2.

In addition, the students suggested that it would help if there was a training session specifically for new people with perhaps only a few of the existing team players:

... Rather than having it with the whole team, have all the new people so they can kind of build their own little team first. That way the students would feel less intimidated not having all the team players there. FG3.P4

Bespoke communications

More promotion and tailored messages

Overall, the participants knew some of the ways of how to find out about sport. It was clear from the lack of ideas and probing required that more work was needed to improve knowledge and awareness about sports activities for recreational play for those students who were currently uninvolved in sport, as found within previous research (Hashim 2012). One student illustrated:

Obviously like all the other courses (to sports), we don't go to the gym ever, for any reason other than if we quite want to have a look. So, we don't actually know what's there and what's available and stuff. FG5.P.4

This could be a greater issue for universities where there is a more diverse student population demographic, with multi-site campuses and more off-site student programs than the case here. The lack of student awareness about sport was also discussed by Ciuffo (2014) who examined the effectiveness of intramural sport marketing. The top three most effective marketing techniques were promotional items (such as free t-shirts), mass e-mail and word of mouth and the three least effective marketing techniques in descending order were TV monitor, Facebook and Twitter. Students in this research however, said they would like more communication and included Facebook and Twitter as part of their suggestions: '...more posters, like Facebook, Twitter, things like that and more use of text and e-mail' (FG5,P.6). In Ciuffo's (2014) findings, men were more motivated by discounts and women participated more for fitness. 'Freebies' were often stated to be something that students like, so this is likely to be universally liked!

Students suggested several marketing ideas that they thought would help engage more students in sport that helped to inform a staged-matched intervention approach summarized in Table 1. Some of the ideas the students suggested did happen at the university indicating again that the promotional methods used were not as effective as they could be. Irrespective, given the lack of knowledge and student suggestions, more information to help overcome some of the inhibitors that students were referring to could only help.

Table 1. Using the Transtheoretical Model to Apply Stage-Based Theory to University Sport Interventions.

Precontemplation	Contemplation	Preparation	Action	Maintenance
Campaigns and informational approaches				
<ul style="list-style-type: none"> • Use positive messages for doing sport highlighting the value and benefits e.g. to help cope with exam pressures, meeting new people, managing stress, sport to combine with top competing leisure interests e.g. “Meet friends and play sport – it’s a win: win!” (Consciousness raising, Decisional Balance) • Use decisional prompts relevant to stage and particular target groups e.g. tailored decisional prompts for females versus males in contemplation (Stimulus Control) • Promote how sport fits into university life and daily activities (Decisional Balance; Consciousness Raising) • Target a wide range of sport around degree program timetables, considering all types of student needs (Stimulus Control) • Target sport to particular users e.g. female only sessions (using Stimulus Control, Self-Efficacy) 	<ul style="list-style-type: none"> • Develop messages to target student attitudes to sport and address known barriers, perceptions and prior negative experiences e.g. “sport for all abilities” “it’s not school sport!” (Decisional Balance, Self-Efficacy) • Promote coached sports opportunities for learning new skills (Self-Efficacy) 	<ul style="list-style-type: none"> • Promote intrinsic (e.g. do sport because you love it!) and extrinsic motivation (e.g. do sport to boost your graduate attributes – confidence, communication, team work, to help you get a better job) and rewards (e.g. do sport coaching and earn money) (Contingency Management) 		
Behavioural and social approaches				
<ul style="list-style-type: none"> • Organize sports festivals and events with sporting celebrities to stimulate awareness and interest, followed up by links to suitable sports sessions (Consciousness Raising, Social Liberation) 	<ul style="list-style-type: none"> • Develop leadership roles to all students e.g. event’s organizer, photographer, web designer (Social Liberation) • Use goal setting, action planning and self-evaluation, mainly at group sports 	<ul style="list-style-type: none"> • Develop a student buddy system for sport, particularly using typically non-sporty students, international students or other types of students as advocates in sport (Helping Relationships) • Develop course-specific social sports clubs to help develop connectedness to the class (Helping Relationships) • Provide indoor alternative activities where necessary e.g. cycling cinema, table 		

	<p>sessions (Self-Liberation)</p> <ul style="list-style-type: none"> • Provide post-session education and promotional materials to help encourage behavioural and social reinforcement and connectedness to doing sport (Self-Liberation) 	<p>football in a central atrium (Stimulus Control, Counter conditioning)</p> <ul style="list-style-type: none"> • Offer 'drop in/no commitment/just play' activities (Self-Efficacy, Counter conditioning) • Provide incentives and rewards for participating, and celebrating success in sport, ensuring messages reach the inactive students (Contingency Management)
Environmental and Policy		
		<ul style="list-style-type: none"> • Provide 'point of sales – type' sports near to key student areas e.g. table tennis or rowing machines in reception areas, student union or free social spaces (Stimulus Control)
<ul style="list-style-type: none"> • Improve relations with key professional university stakeholders to influence, enable and inform policy and practice to support the sports development process e.g. the Student Union (to work in partnership), Student Administration (to work around degree timetabling), Student Affairs/Support (to reach students and to refer students with health issues) • Liaise with Heads of Academic Departments/Areas to act as the conduit for reaching university students • Work with external sports organizations to combine resources and enable progression • Ensure adequate provision of activities and sports facilities in relation to the location and access for students in different places of residence • Improve sports signage at university campuses, working with students in the design • Evaluate and adapt programs: the sports offer, pricing, social marketing, place of sport, involving students in the process • Ensure Sports Development is part of the university committees and structures to gain support from senior management and to enable partnership working across the student union and university departments, in both academic and service areas 		

Where and who should promote sport?

A strong message was that students would like more personal promotion via 'word of mouth' which is consistent with Cuiffo (2015) that put this as the third most effective method and preferred by female students (Sport England, 2016). Students stated they would feel more welcome by those promoting sport if team captains or other students promoted sport in person:

Just maybe for like the team captains to make everyone feel comfortable and just be able to not judge you on how you look but how you play. FG2.P2

Some students suggested the need for more promotion of sport sessions at the start of lectures, recognizing that this would need support from all lecturers, not just Sports Lecturers.

Promote success in sport

Students also said it would be nice to hear about the successes of students doing sport thinking it would help to raise awareness about sporting opportunities at the university:

... I mean you never hear any successes of these teams, so no one's inclined to go because they're not, in their eyes, going anywhere sort of thing. FG2.P5

The researched university did advertise the results of team sports, however, other methods of promoting or celebrating success could be recommended to universities to enhance this practice.

Promote leadership roles for all

The students also agreed that promotion should include the different roles such as being the captain or social secretary that they thought would be of interest to some, advertising them as positions as you would do for a job:

I think that they could just promote like different roles within the teams more, like social 'sec' and stuff like that because some people would be really interested to come into a team and have that sort of responsibility, as well as playing. FG1.P5

More opportunities

Participants suggested having non-traditional sports and generally a wider range of sports that students are not used to doing at school: 'Yeah there's only really team sports, it's all mainly ball games...' FG6.P4. Whilst this was a perception of participants here it again suggests the issue is more to do with marketing and communications given that non-traditional sports were offered at the university. One suggestion was to have themed days or to have a Sports Week. Students suggested having external organization coming into run different activities. This latter point supported Brunton and McKenna's (2015) findings about the benefit of having external partnerships to help deliver student sport, something the students also seemed to value.

There were strong views that there should be more opportunities to play for those students who are not selected to play for the university teams:

Because their definitely up for playing the sport and then if they're just told they're not in the team, they're not going to try again. FG5.P3

It was known that the university had a greater demand in some sports than they felt able to cater for with the issue here being the lack of human and physical resources to support the student demand for more popular sports.

Participants recognized that extra-curricular academic work stopped some students from doing sport:

...you want to play sport, but you've also got to do your work because that's the priority because that's what you're at unit for, to get your degree, and not to play sport. FG1.P2

This was also found by the Sport England research where 68% cited a lack of time with work or study commitments as the main reason for them not doing sport (Sport England 2015). Students said that the timing of the session is also important and that a variety of sessions and options are needed to cover the variety of student needs. University sport deliverers will, therefore, need to think carefully about how to capitalize on student free time between classes to enable their participation.

Better pricing

Students agreed that the price of sport inhibits their participation which also reinforced Sport England's (2015) findings where 26% who did not sport at all gave the reason that it was too expensive. Whilst discounts were provided for students at the university both in facility hire and costs for activities, for some students even a small cost was still felt to be an inhibitor. Students reiterated:

That was one of the main reasons really that I didn't join a team at the beginning of the year, because I literally couldn't afford it. FG2.P4

Students proposed that it would help if they could spread the payments out into smaller payments, referring to membership fees for the sports clubs, as well as having cheaper costs for sport at discounted prices to help engage more students in sport. Universities would be wise to trial and evaluate such recommendation whilst closely monitoring participation levels.

Distance to travel

When it came to the distance to the facility to play sport, students were not prepared to travel far; 10 minutes was perceived to be too far to travel. Convenience was also cited by Hashim (2012) as a factor that would negatively influence participation in intramural and campus sport. Similarly, Sport England (2015) found that the main reason students used non-university sport provision was the lack of convenience of the university facilities, as mentioned earlier in the paper. This was particularly the case for those living off campus. Students agreed that the distance to the facility to do sport from home was a barrier due to the cost of travelling to and from university:

If you've got free travel and it was easier to get here, then more people would do it if you didn't live on campus. FG4.P.

It is likely that many universities will face this issue given the different modes of university program delivery as well as types of students such as part-time, mature and those on courses with high amounts of work-based learning. Therefore, seeking practical solutions to promote sport to cater for the variety of needs is key.

CONCLUSION

In answering Research Question 1, there were six themes that emerged from the inactive students' perspective that were key factors in inhibiting or helping engage more female students in university sport: creating a sense of belonging; building confidence; bespoke communication; more opportunities; pricing; distance to travel. Sense of belonging had two sub-sets, one being 'to feel welcome to feel part of a team or club' and 'to be able to make or spend time with friends'. Findings add to this area of study, where previous research has noted affiliation as a key motivation for sport but hearing students talk more specifically about wanting to be part of a team or club provides further explanation to this theme (that may not necessarily have

been thought of for inactive students who are not playing club sport), providing key information to act upon to help tailor intervention design, such as shown in Table 1. Findings support previous research around wanting more opportunities, pricing and distance to facilities or the convenience factor (Sport England, 2016). The specific theme around bespoke communication provides evidence towards the need for better marketing communications that can form practical solutions to help behaviour change, answering Research Question 2 of this study, as detailed under 'campaigns and informational approaches' in Table 1.

An interesting finding was that some students had the perception that university sport at the researched university was all about the sports teams and clubs with a focus on winning and competition, leading to them not feeling welcome and feeling intimidated to join in with sport. This together with needing to 'build confidence' inhibited female students in sport. Some students implied that they needed support in how to break through to a so called 'sports arena' feeling that this put them off playing. Several suggestions were made as to how to better engage more inactive students with those around communication dominating discussions. Students also strongly felt that those students who played in the sports teams should help with recruitment and promotion by helping to make other students feel more welcome to play sport. Two themes that created less discussion but still worthy of note were pricing and distance to travel, supporting previous literature (Sport England, 2016). Students felt sport should be free or discounted to take away this potential barrier. Regarding distance to travel, students felt that sport should be within easy reach to increase take up. Overall, there were numerous references to the need for better information about sport or about ways of working that were thought to have great potential to engage those students not currently participating. Table 1 draws on all findings to help inform stage-matched interventions tailored to university sport.

Limitations of this research are recognized with the use of focus groups where the findings are not generalizable to the population and therefore, the key themes may not be relevant to all students. The key findings also reflect the nature of the researched institution with respect to the size of the student body, nature of sports facilities and sporting offer, however, given that there are many other universities that are in a similar situation and level of sport development, it is considered the findings would be relevant to many.

This study has added to the body of work by providing a focus on female students and in enabling a greater depth of understanding to be explored about how to better engage female students in university sport, as opposed to exercise or physical activity in the general student population that has dominated previous research. Furthermore, a key outcome, made possible by the qualitative approach and depth of discussions through the focus group design, has enabled practical solutions to help inform a stage-matched approach to behaviour change, shown in Table 1, something that was noted to be lacking in previous research. The stage-matched approach will help sport development practitioners working within this field to tailor marketing communications, behavioural and social approaches, and environmental and policy activities to engage more female students in sport. Future research and practice are suggested to focus on evaluating the mediating variables to test the effectiveness of any such intervention approaches. In this way, we would be taking a step forward in providing evidenced based practice for university sport.

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REFERENCES

- Apostolou, M. 2014. The evolution of sports: Age cohort effects in sports participation. *International Journal of Sport and Exercise Psychology*. Advance online publication. <https://doi.org/10.1080/1612197x.2014.982678>
- Becker, C., Cooper, N., Atkins, K., and Martin, S. 2009. What helps students thrive? An investigation of student engagement and performance. *Recreational Sports Journal*, 33 (2), 139-149. <https://doi.org/10.1123/rsj.33.2.139>
- Braun, V. and Clarke, V. 2006. Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3 (2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- British University and Colleges Sport [BUCS]. 2017. Support and Guidance: Female Participation in Sport [online]. London, BUCS. Available from: <https://www.bucs.org.uk/page.asp?section=17423&ionTitle=Female+participation+in+sport> [Accessed 3 September 2017].
- Centers for Disease Control and Prevention (CDC). 2016. 1991-2015 High School Youth Risk Behavior Survey Data. <http://nccd.cdc.gov/youthonline/> Accessed on July 1, 2016.
- Ciuffo, J., Johnson, J. E., and Tracy, D. R. 2014. Intramural sport marketing: an examination of effectiveness, participant motives, and demographic differences. *Recreational Sports Journal*, 38 (2), 175-187. <https://doi.org/10.1123/rsj.2014-0039>
- Charkazi, A., Fazli, L., Alizadehi, F., Fazelnia, A., Kouchaki, M. and Bakhsha, F. 2014. Evaluation of regular physical activity and its association with psychological constructs Based on transtheoretical Model among student of Golestan. *Iran Journal of Health Education and Health Promotion*, 1 (4), 57-68.
- Hashim, H. A. 2012. Perceived barriers to recreation sport participation in university students: A comparison between international and local students in the United States. *Pertanika Journal of Social Science and Humanities*, 20 (1), 197-203.
- Henchy, A. 2013. The Perceived Benefits of Participating in Campus Recreation Programs and Facilities: A Comparison Between Undergraduate and Graduate Students. *Recreational Sports Journal*, 37 (2), 97-105. <https://doi.org/10.1123/rsj.37.2.97>
- Henchy, A. 2011. The influence of campus recreation beyond the gym. *Recreational Sports Journal*, 35 (2), 174-181. <https://doi.org/10.1123/rsj.35.2.174>
- HESA (Higher Education Statistics Agency). 2016. Widening participation summary: UK Performance Indicators 2015/16. Retrieved from <https://hesa.ac.uk/data-and-analysis/performance-indicators/widening-participation-summary>
- HESA (Higher Education Statistics Agency). 2019. Higher Education Student Statistics: UK, 2017/18 - Where students come from and go to study. [Online] London. Available: <https://www.hesa.ac.uk> (August 30 2019).
- Irwin, J.D. 2007. The prevalence of physical activity maintenance in a sample of university students: a longitudinal study. *Journal of American College Health*, 56 (1), 37-42. <https://doi.org/10.3200/jach.56.1.37-42>
- Kampf, S. 2010. Impact of college recreation centers on enrollment. *Recreational Sports Journal*, 34 (2), 112-118. <https://doi.org/10.1123/rsj.34.2.112>
- Keating, X.D., Guan, J., Piñero, J.C. and Bridges, D.M. 2005. A meta-analysis of college students' physical activity behaviors. *Journal of American college health*, 54, 116-126. <https://doi.org/10.3200/jach.54.2.116-126>

- Kilpatrick, M., Hebert, E. and Bartholomew, J. 2005. College students' motivation for physical activity: differentiating men's and women's motives for sport participation and exercise. *Journal of American college health*, 54, 87-94. <https://doi.org/10.3200/jach.54.2.87-94>
- Kulavic, K., Hultquist, C.N. and McLester, J.R. 2013. A comparison of motivational factors and barriers to physical activity among traditional versus nontraditional college students. *Journal of American College Health*, 61 (2), 60-66. <https://doi.org/10.1080/07448481.2012.753890>
- Lincoln, Y. S. and Guba, E. G. 1985. *Naturalistic Inquiry*. Sage Publications Inc. United States.
- Lindsey, R. and Sessoms, E. 2006. Assessment of a campus recreation program on student recruitment, retention, and frequency of participation across certain demographic variables. *Recreational Sports Journal*, 30 (1), 30-39. <https://doi.org/10.1123/rsj.30.1.30>
- Lovell, G.P., El Ansari, W. and Parker, J.K. 2010. Perceived exercise benefits and barriers of non-exercising female university students in the United Kingdom. *International Journal of Environmental Research and Public Health*, 7 (3), 784-798. <https://doi.org/10.3390/ijerph7030784>
- Marshall, S.J. and Biddle, S.J.H. 2001. The transtheoretical model of behavior change: a meta-analysis of applications to physical activity and exercise. *Annals of behaviour medicine*, 23 (4). 229-246. https://doi.org/10.1207/s15324796abm2304_2
- Morgan D.L. and Kreuger R.A. 1993. When to use focus groups and why. In D. L. M. ed. *Successful Focus Groups*. London: Sage.
- Nigg, C. R., Geller, K. S., Mot, R. W., Horwath, C. C., Wertin, K. K. and Dishman, R. K. 2011. A research agenda to examine the efficacy and relevance of the Transtheoretical Model for physical activity behaviour. *Psychology of Sport and Exercise*, 12 (1), 7-12. <https://doi.org/10.1016/j.psychsport.2010.04.004>
- Patton, M. Q. 2001. *Qualitative research and evaluation methods*. 3rd ed. Saint Paul, MN: Sage Publications.
- Prochaska, J. O. and Marcus, B. H. 1993. The transtheoretical model: applications to exercise. In R. Dishman (Ed.), *Advances in exercise adherence*, Human Kinetics, GA, U.S 1993, 161-180.
- Rickel, K., Park, S. R., and Morales, J. 2012. Xophyia-Choregia. *SMIJ*, 8 (2).
- Rintaugu, E.G. and Ngetich, E.D.K. 2012. Motivational gender differences in sport and exercise participation among university sport science students. *Journal of Physical Education and Sport*, 12 (2), 180.
- Roberts, S., Reeves, M. and Ryrie, A. 2015. The influence of physical activity, sport and exercise motives among UK-based university students. *Journal of Further and Higher Education* 39, 598-607. <https://doi.org/10.1080/0309877x.2014.938265>
- Romaguera, D., Tauler, P., Bennasar, M., Pericas, J., Moreno, C., Martinez, S. and Aguilo, A. 2011. Determinants and patterns of physical activity practice among Spanish university students. *Journal of sports sciences* 29, 989-997. <https://doi.org/10.1080/02640414.2011.578149>
- Spivey, L.M. and Hritz, N.M. 2013. A Longitudinal Study of Recreational Sport Participation and constraints. *Recreational Sports Journal*, 37, 14-28. <https://doi.org/10.1123/rsj.37.1.14>
- Sport England. 2016a. Higher Education Sport Participation and Satisfaction Survey. National Report 2015/16. TNS BMRB: England.
- Sport England. 2016b. Go where women are. Insight on engaging women and girls in sport and exercise. [Online] London. Available: <http://www.research@sportengland.org> (February 20 2016).
- Sport England. 2016c. Sport England towards an Active Nation: Strategy 2016-2021. London, Sport England.
- Sport England. 2015. Higher Education Sport Participation and Satisfaction Survey. National Report 2014/15. TNS BMRB: England.

- Sport England. 2014. Higher Education Sport Participation and Satisfaction Survey. National Report. Year Three. TNS BMRB: England.
- Van Tuyckom, C., Scheerder J. and Bracke, P. 2010. Gender and age inequalities in regular sports participation: A cross-national study of 25 European countries. *Journal of Sports Sciences*, 28 (10), 1077-1084. <https://doi.org/10.1080/02640414.2010.492229>
- Warburton, D. E., Nicol, C. W., and Bredin, S. S. 2006. Health benefits of physical activity: the evidence. *Canadian medical association journal*, 174 (6), 801-809. <https://doi.org/10.1503/cmaj.051351>
- Women in Sport. 2016. Changing the Game for Girls: In Action. [Online] London. Available: <http://www.womeninsport.org> (June 15 2016).

