

Student dropout and feelings of belonging and mattering in UK undergraduate Allied Health students

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Abstract

Student belonging is well researched, with links identified between a sense of belonging in students and student experience (Pedler, Willis and Nieuwoudt, 2022), satisfaction (Fan, Luchok and Dozier, 2021), and student persistence (Ahn and Davis, 2023). Mattering refers to an individual student's perception that they are noticed and valued, and it is less well researched (Flett, 2018). This research investigates levels of belonging and mattering across the academic and the clinical environment in undergraduate Allied Health professional students and the correlation with students who have seriously considered dropping out. A quantitative, cross-sectional survey was distributed to undergraduate students enrolled on Allied Health programmes at one UK university. The questionnaires utilised four previously validated Likert scales measuring feelings of: mattering in the university environment (Elliott, Kao and Grant, 2004), mattering in the clinical placement environment (Elliott, Kao and Grant, 2004); belonging in the university environment (Yorke, 2016); and belonging in the clinical placement environment using the Belongingness Scale–Clinical Placement Experience (BS–CPE) (Levett-Jones et al., 2009). Participants were also asked whether they had seriously considered dropping out from their studies. An analysis of the 264 completed questionnaires showed that students who had seriously considered dropping out had significantly lower scores for all four scales. This research demonstrates that feelings of belonging and mattering may impact on the student's intention to persist with their studies. For students attending clinical placement as part of their studies, attention needs to be given to supporting students to feel that they belong in the clinical placement environment and that they matter to clinical staff and their peers during placements.

Keywords: mattering; belonging; dropout; attrition.

Introduction

Student withdrawal is caused by a multitude of interdependent reasons, and these factors shape the student's sense of belonging and experience at university (Russell and Jarvis, 2019). Hamshire, Willgoss, and Wibberley (2012) interviewed students who had recently left undergraduate Nursing or Allied Health programmes and the majority indicated that their tipping point before departure was dissatisfaction and difficulties around their clinical placements. Issues around clinical placement were also raised by Colyer (2013) in a report supported by the Society and College of Radiographers (ScoR) into improving retention in the radiotherapy workforce and the role of placements in student attrition. The Higher Education Funding Council for England (HEFCE) and Higher Education Academy (HEA) collaborated with the 'What Works?' project investigating student retention (Thomas, 2012), with findings stating that a sense of belonging is critical to student retention and success. A systematic review of research into student retention and engagement in HE was completed by Tight (2020), who suggested that increasing retention should be about the university adapting to the students it admits rather than helping students to adapt better to the university. Students should maintain their identity, retain their social networks, have their cultural capital valued, and the content, teaching methods, and assessments should reflect the diversity of the students. A synthesis of literature into access, retention, attainment and progression by Austen et al. (2021) found that interventions that enhance a sense of belonging, mattering, and self-efficacy in students are likely to have a positive impact on persistence and retention.

Maslow (1954) argued that the need for belonging is as instinctual as physiological impulses such as hunger or thirst, and included belonging as a basic human need in his hierarchy of needs. Belonging can be defined as 'the experience of personal belonging in a system or environment so that persons feel themselves to be an integral part of that system or environment' (Hagerty et al., 1992). Baumeister and Leary (1995) also concluded that belongingness is a fundamental human motivation that links to health and wellbeing as well as cognitive, emotional, and behavioural responses, noting that a lack of belonging causes increased stress and is correlated with increased mental illness and decreased immunocompetence. Suhlmann et al. (2018) explored the mediating effects of belonging with German undergraduate students, finding a relationship between students' sense of belonging and increased wellbeing, increased academic motivation, and a lower

intention to drop out. Russell and Jarvis (2019) found the reasons that students drop out to be multiple and interconnected, with students experiencing a mixture of belonging factors such as exclusion, lack of support, isolation, and anxiety. Certain transition periods such as enrolling at university, moving from undergraduate to postgraduate, returning from placement, and prolonged non-teaching or contact periods intensified a student's sense of not belonging. Pedler, Willis, and Nieuwoudt (2022) surveyed Australian undergraduates and students who had considered leaving the university, and they had lower belonging scores than those who reported having never considered it. Ahn and Davis (2023) surveyed students in the UK, finding retention and wellbeing was significantly associated with belonging and support. Of interest to this study, Healthcare students showed the lowest level of belonging to their university.

In a much-cited study across Australia and the UK, Levett-Jones et al. (2008) administered a 34-item Belongingness Scale–Clinical Placement Experience (BS–CPE) to undergraduate Nursing students. It was concluded that the duration and structure of clinical placements was one of the most important factors affecting student belongingness. Participants described experiences spanning from promoting a high degree of belongingness to provoking intense alienation, and interpersonal relationships with registered nurses exerted the most influence on the students' sense of belonging during placements (Levett-Jones and Lathlean, 2009). McKenna et al. (2013) utilised the BS–CPE (Levett-Jones et al., 2009) with Australian undergraduate Midwifery students, who perceived belonging in the placement setting to be important and reinforced that they needed to feel accepted by colleagues to experience a sense of belonging.

Generally, students felt comfortable and experienced a sense of belonging during their clinical placements. Borrott et al. (2016) also utilised the BS–CPE (Levett-Jones et al., 2009) with two other scales in a longitudinal study to investigate the relationship between belonging in Australian Nursing students and the relationship with their workplace satisfaction. Borrott et al. (2016) administered three validated surveys, the Need to Belong Scale; BES–CPE; and a Nursing Workplace Satisfaction questionnaire on 468 predominantly female (86%) undergraduate nurses in their final semester. It was found that participant age was a significant influence on workplace satisfaction, with participants aged 20–24 years scoring higher on satisfaction than participants aged 30–40 years, although the reason for this is unclear. There was no significant relationship between the need to belong and a sense of belonging, or the need to belong and workplace

satisfaction. However, there was a strong positive correlation between a sense of belonging and workplace satisfaction.

The concept of mattering has been discussed for some time, with Rosenberg and McCullough (1981, p.165) defining mattering as 'a motive; the feeling that others depend on us, are interested in us, are concerned with our fate, or experience us as an ego-extension exercises a powerful influence on our actions'. Schlossberg (1989) conducted interviews and concluded that mattering is opposite to marginality; people need to feel like they matter, and mattering is our belief that we matter to someone else. O'Brien (1996) philosophised on the concepts of meaning and mattering and suggested that philosophers who debate the meaning of life consider meaning to be about importance or significance. To be meaningful is to be important, and if something is important to someone, then it matters. O'Brien further considered whether something always needs to matter to be meaningful, but made clear that meaning and mattering are philosophically intertwined. Whilst O'Brien (1996) did not conduct empirical research, their thoughts add to the discussions developing the concept of mattering.

Marshall (2001) suggested that mattering develops in social interactions, provides a sense of social meaning and relatedness, and is most likely influenced by cultural norms. Elliott, Colangelo and Gelles (2005) defined mattering as 'the belief that one makes a difference in the lives of others' (p.223), and found that mattering influences self-esteem, which in turn influences depression and those who believe they do not matter, feel socially invisible, and as if 'the world gets along without them' (p.224). The concept of mattering is different to social support, as social support is the sense that others will provide for specific needs, such as emotional support, whereas mattering involves continual interest in a person's welfare beyond the provision of specific forms of support.

More recently, Prilleltensky (2020, p.86) reviewed the concept of mattering, defining it as 'the experience of feeling valued and adding value'. Feeling valued makes a person feel appreciated, respected, and recognised, and when value is added, people are able to make a contribution or difference. Prilleltensky (2020) suggests that to matter, feeling appreciated and recognised is not enough, as skills and opportunities are needed to add value and make a contribution to the individual or others. Prilleltensky (2020) links mattering to three psychological theories that attest to need to add value; self-determination, self-efficacy, and meaning in life. Prilleltensky (2020) also proposes that a

sense of mattering promotes health and happiness and prevents personal devaluation, relational disconnection, work disengagement, and community disintegration.

Schlossberg (1989) stated that it is possible to have feelings of mattering in one environment but marginalisation in another, and that individuals in transition can feel marginalised and like they do not matter, which affects students entering further or higher education (HE). Dueñas and Gloria (2017) found that a student's self-esteem was most tied to whether they felt that they mattered to others, and students who felt an increased membership to the university were most predictive of feeling that they mattered to other individuals within the setting. It was concluded that a sense of belonging will mediate the relationship between a sense of mattering and cohesion and cultural congruity, and it is important to consider feelings of belonging when trying to understand the factors that affect student feelings of mattering.

Flett (2022) recognises that mattering is neglected in the research community, with a paucity of theory and pragmatic research. In comparison to the sense of belonging, Flett (2022) acknowledges that both concepts incorporate an emphasis on being accepted. However, belongingness involves being accepted and fitting into a group, whilst mattering reflects social significance and being depended upon. Mattering is a sense of importance, rather than fit.

Method

This research administered a cross-sectional, quantitative survey at a large university within the Midlands, UK. The university has a large, diverse, and established Health faculty that has several Allied Health courses with similar placement patterns and similar student-support structures. Ethical approval was obtained from the Faculty Academic Ethics Committee (FAEC) at Birmingham City University, project 1783.

Undergraduate Allied Health students from the Radiography, Operating Department Practice, and Paramedic Science departments were invited to participate. The undergraduate students within these departments encounter a similar academic experience: they all work within the Allied Health professions on clinical placement, they are all enrolled on a course that is regulated by the HCPC, and they experience a similar

mixture of academic study and clinical placement. The data collection took place during one academic year, with a potential sample of 672 students available from seven undergraduate courses: BSc (Hons) Diagnostic Radiography, BSc (Hons) Radiotherapy, BSc (Hons) Medical Ultrasound, BSc (Hons) Paramedic Science, DipHE Paramedic Science, BSc (Hons) Operating Department Practice, and DipHE Operating Department Practice. Students enrolled on postgraduate courses, foundation degrees, and access or foundation years were excluded from this research, as these students are on a different part of their educational pathway and therefore may have different expectations of and relationships with the university.

Data collection was timed so that first-year students had attended clinical placement, to ensure that the full questionnaire could be completed. However, those who had missed placement (this may have been due to occupational health or DBS requirements) were still able to take part and answer those questions and Likert scales that were relevant to the academic environment. The participant information sheet and questionnaires were distributed in hard copy at in-person teaching sessions on campus, either at the beginning or end of a teaching session. Once questionnaires were completed and collected, each questionnaire was allocated a code, which was written onto both the consent form and the questionnaire, before the consent form was detached from the questionnaire. The paper consent forms and the questionnaires were stored separately to preserve the anonymity of participants, as student identification numbers and signatures were included on the consent form. Data from participants was kept confidential and student names or contact details were not recorded at any point. The data collected from paper-based questionnaires was inputted by the researcher into IBM SPSS statistics 28 software package (IBM Corp., 2021) for analysis.

The questionnaire collected data on student demographics, feelings of student belonging, and feelings of student mattering in both the university and the clinical environment. In the student demographics section, participants were asked if they had seriously considered dropping out of their studies, and this paper will focus solely on this question, with further findings from this research being published separately. The questionnaire used validated Likert scales (Elliott, Kao and Grant, 2004; Levett-Jones et al., 2009; Yorke, 2016) to measure belonging and mattering. The questionnaire was divided into five sections of student demographics: a mattering scale based on the university environment (Elliott, Kao and Grant, 2004), a mattering scale based on the clinical placement environment (Elliott,

Kao and Grant, 2004), a Belongingness Scale at university (Yorke, 2016), and Belongingness Scale–Clinical Placement Experience (BS–CPE) (Levett-Jones et al., 2009).

There are several existing Likert scales that have been validated to measure feelings of mattering (Marshall, 2001; Elliott, Kao and Grant, 2004; Tovar, Simon and Lee, 2009; France and Finney, 2010; Richards, Gaudreault and Woods, 2017) and Elliott, Kao, and Grant's (2004) 24-item mattering scale was used in the questionnaire for this research. There are no mattering scales that have been developed specifically for use in the clinical placement environment, and therefore participants were asked to complete Elliott, Kao, and Grant's (2004) mattering scale twice, firstly thinking about the university environment, and secondly thinking about the clinical placement environment. Elliott, Kao, and Grant's (2004) mattering scale was developed using college students from the United States, and has generic terminology that is appropriate for both environments. Elliott, Kao, and Grant's (2004) mattering scale is a five-point scale from 'strongly agree' to 'strongly disagree', with 12 of the 24 questions negatively worded and reverse scored.

There are several existing Likert scales that have been validated to measure feelings of belonging (Somers, 1999; Hoffman et al., 2002; Malone, Pillow and Osman, 2012; Yorke, 2016). As Yorke's (2016) belongingness scale is validated to be used specifically in the context of modern UK higher education, it was used in the questionnaire for this research. The Yorke (2016) belongingness scale is a 6-item sub-scale of a larger 16-item instrument measuring engagement, belonging, and self-confidence. The scale is validated to be used independently from the remainder of the instrument, and measures belonging on a 5-point Likert scale from 'strongly agree' to 'strongly disagree', with two of the six questions negatively worded and reverse scored.

There is currently one Likert scale that has been specifically designed for measuring belonging in students in clinical placement: the 34-item BS–CPE, devised by Levett-Jones et al. (2009). The BS–CPE (Levett-Jones et al., 2009) is adapted from Somers' (1999) belongingness scale that was originally based on the work of Baumeister and Leary (1995). The BS–CPE measures belonging on a five-point scale from 'never true' to 'always true', with three of the 34 questions negatively worded and therefore reverse scored.

Approach to data analysis

Missing data in the questionnaire was considered per section, and where a section was missing 20% or more of the data, that section was removed. A total of 264 questionnaires were completed, and after assessing for missing data, there were 263 mattering at university, 261 mattering on clinical placement, 263 belonging at university, and 259 belonging on clinical placement scales completed and available for analysis. For sections with small amounts of missing data, ignorability was used (Sidi and Harel, 2018). A specific value of -1 was used in the data set for missing demographic data, and this was specified as a missing value in SPSS (Pallant, 2007).

The researchers who devised the validated Likert scales used within the questionnaire took different approaches to the overall measurement of the scales. Elliott, Kao, and Grant's (2004) mattering scale used the sum of the scores of all items during the analysis of responses, whereas both Yorke's (2016) belonginess scale and Levett-Jones et al.'s (2009) BS-CPE used the overall mean of all items. Both approaches provide the same information. Nevertheless, the benefit of using the mean is that individual items containing missing data will be factored into the calculation of the mean and corrections for missing data will not need to be applied, although it is acknowledged that missing data may impact the overall mean. When using the sum of all items, any missing data will impact the overall sum, and therefore will need to be corrected for prior to analysis. An additional benefit to using the mean is that a comparison of scores across the different scales can be undertaken, whereas, since the three different scales have differing numbers of items, this could not be undertaken using the sum of the scores of all items unless the sum was converted into a percentage. For data analysis, the overall mean of all items will be used as the measurement for all Likert scales.

Cronbach's alpha measures the inter-relatedness of items within a scale as a number between 0 and 1, and the more correlation between items within the test, the higher the value of Cronbach's alpha (Tavakol and Dennick, 2011). Views on the acceptable value of Cronbach's alpha range from 0.7 to 0.95 (Tavakol and Dennick, 2011; Laerd Statistics, 2023). Table 1 highlights the Cronbach's alpha for each scale, with a comparison to the Cronbach's alpha achieved during the original validation of the scale.

Table 1. Inter-relatedness of scale items.

	No. of items	Cronbach's alpha	Cronbach's alpha obtained at scale validation
Mattering at university	24	0.819	0.792–0.872 (Elliott, Kao and Grant, 2004)
Mattering on clinical placement	24	0.929	0.792–0.872 (Elliott, Kao and Grant 2004)
Belonging at university	6	0.859	0.76 and 0.78 (Yorke, 2016)
Belonging on clinical placement	34	0.917	0.92 (Levett-Jones et al., 2009)

As Cronbach's alpha measures the interrelatedness of the questions within the scale, it can be inferred by a high alpha value that the questions within a scale are all measuring something similar, but it cannot be inferred that they are measuring the exact same thing (Taber, 2018). When analysing the data, inferential statistical analysis was undertaken on the belonging and mattering scales in relation to whether students had seriously considered dropping out and the Mann-Whitney U non-parametric test (Laerd Statistics, 2013) was used.

Findings

Of the 264 participants, 39.8% (n=105) were in their first year, 39% (n=103) were in their second year, and 21.2% (n=56) were in their third year. 70.8% (n=187) were female, which is representative of the student population in Allied Health at this university. 47.3% (n=125) of students were aged 18–21 years and 29.9% (n=79) were aged between 22–29 years. The remaining 22.8% (n=60) of students were aged 30 years or above. 50% (n=132) of students were white, 22% (n=58) were Asian or Asian British, and 17.4% (n=46) were Black or Black British. The remaining 10.6% (n=23) were of Chinese, mixed, or other ethnicities.

Table 2 shows the *p*-value calculated for each belonging and mattering scale, highlighting where there is a statistically significant difference in the belonging or mattering scores

according to whether students had seriously considered dropping out. Students who had seriously considered dropping out had statistically significant different scores to those who had not across all scales.

Table 2. Statistical differences between demographics and belonging and mattering at university and clinical placement.

Demographic	Statistical test	Belonging at university	Belonging on clinical placement	Mattering at university	Mattering on clinical placement
Considered dropping out	Mann-Whitney U	<0.001**	0.040*	<0.001**	0.019*

* = Relationship is significant at the 0.05 level (2-tailed), ** = Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows the comparison of belonging and mattering scales by whether participants had seriously considered dropping out of the course of study. The mean, median, and standard deviations for each scale are shown, including the total numbers of participants. The number of students who reported having seriously considered dropping out is strongly statistically significant ($p < 0.001$) in all the four scales across the whole sample of students.

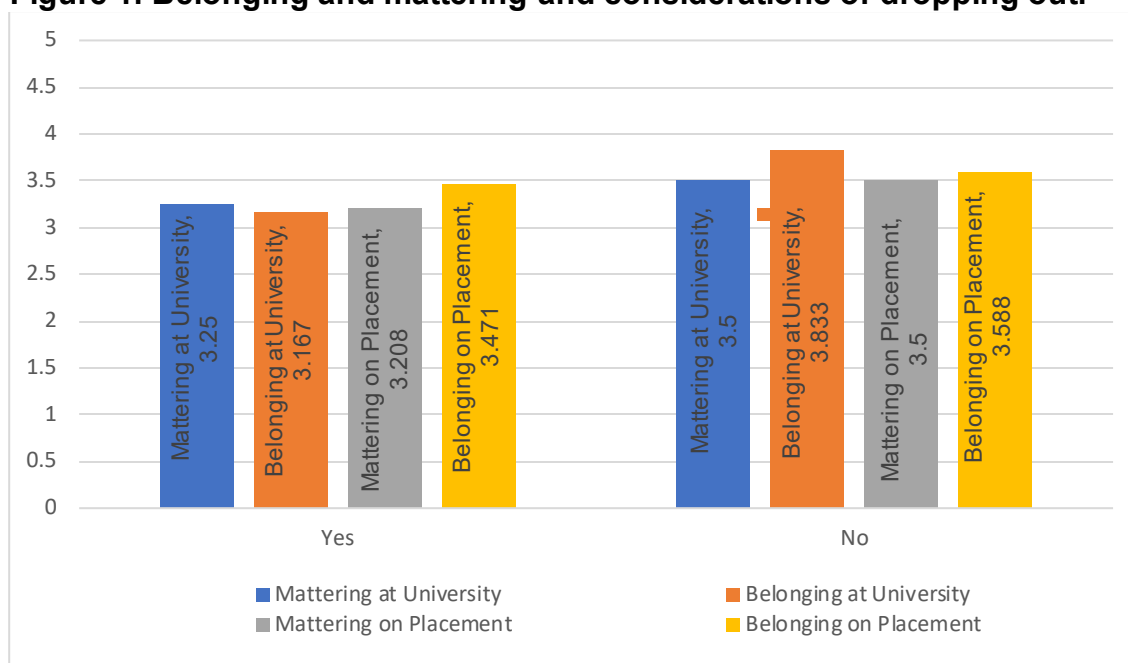
Table 3. Comparison of belonging and mattering by considerations of dropping out.

		Belonging at university	Belonging on clinical placement	Mattering at university	Mattering on clinical placement
Seriously considered dropping out					
No	Mean	3.790	3.599	3.478	3.377
	Median	3.833	3.588	3.500	3.500
	Standard deviation	0.710	0.509	0.348	0.597
	N=173	172	169	173	171
Yes	Mean	3.149	3.455	3.246	3.194
	Median	3.167	3.471	3.250	3.208
	Standard deviation	0.905	0.580	0.410	0.680
	N=90	90	88	89	89

* = Relationship is significant at the 0.05 level (2-tailed), ** = Correlation is significant at the 0.01 level (2-tailed).

Students who had seriously considered dropping out had lower median scores across the four scales of belonging at university (3.167), belonging on clinical placement (3.471), mattering at university (3.250), and mattering on clinical placement (3.208) than those who had not seriously considered dropping out (3.833, 3.588, 3.5, and 3.5 respectively). Figure 1 shows the median scores across the four scales of belonging and mattering at university and on clinical placement in relation to participants who had or had not seriously considered dropping out of their studies. Figure 1 visually demonstrates the significantly lower scores across all four scales for those students who had seriously considered dropping out of their studies. The largest difference can be seen in the belonging at university scale. The scale has been chosen to visually amplify the differences between the scores. There was no statistical significance between considerations of dropping out and student gender, age, ethnicity, or level of study.

Figure 1. Belonging and mattering and considerations of dropping out.



Discussion

Whilst there is some existing literature in this area, the findings of this research specifically consider UK Allied Health students, who are not currently represented in the literature on

student dropout. There are no specific studies that consider statistical relationships between student mattering or levels of belonging on clinical placement and considerations of dropping out. Previous literature agrees that feelings of belonging are significant in student dropout rates or intentions to persist (Suhlmann et al., 2018; Höhne and Zander, 2019; Wolf, Maurer and Kunter, 2021), with mattering also important in persistence with studies (Hallam, 2023) and limiting academic procrastination (Yeoh, Hong and Prihadi, 2022). Student clinical placement experiences are closely linked to Nursing student decisions to withdraw (Diane, Whiteing and Aggar, 2023), and impact the career decisions and employment choices of students (McCall, Wray and McKenna, 2009; Bridge and Carmichael, 2014; Boyd-Turner, Bell and Russell, 2016). As support can enhance the feeling of mattering (Elliott, Colangelo and Gelles, 2005), it is unsurprising that if clinical placement support affects employment choices, mattering on clinical placement will be correlated with considerations of dropping out of vocational study leading into an Allied Health profession.

Current research into mattering and academic engagement has so far been undertaken outside the UK. It is not possible to make a causal link around feelings of belonging and mattering and considerations of dropping out, but it is important to consider factors that appear to have a correlation with considerations of dropping out, particularly when looking at ways to reduce attrition and improve retention. Increasing a student's sense of mattering and belonging may have a positive impact on their dropout intentions.

As the NHS long-term plan (2019) is committed to increasing the NHS workforce, limiting rates of student withdrawals is important. Courses with high attrition rates need to consider the feelings of belonging in their students and ways to improve these. As feelings of belonging are considered to be a fundamental need (Maslow, 1954; Baumeister and Leary, 1995) it is unsurprising that feelings of not belonging in students correlate with considerations of dropping out. However, the direction of the relationships is not clear, and it is possible that students are feeling lower levels of belonging because they are considering dropping out, rather than feelings of belonging impacting dropout considerations. Whilst student experiences may impact on levels of belonging, the links between belonging and considerations of dropping out have so far been implicit, and these findings now demonstrate an explicit statistical significance.

Limitations

This research has limitations in relation to the use of Likert scales as a research tool, and the sample of students used. Self-reporting Likert scales measure feelings in a particular moment of time. Student feelings may be impacted positively or negatively by daily events, such as assessment periods and teaching schedules, and therefore may vary daily. As the participants are self-reporting, it is also not possible to guarantee that a person's true beliefs are being reported, rather than the beliefs that the participants feel they should have or wish to convey (Theofanidis and Fountouki, 2018). The use of Likert scales may also limit the participant responses, as many participants avoid extreme responses such as 'strongly agree' or 'strongly disagree', and instead opt for more neutral answers (Theofanidis and Fountouki, 2018). Changing and concealed viewpoints are limitations within any research involving the investigation of human emotions and attitudes, and whilst this research has been designed to limit these variances, nevertheless this element of uncertainty must be acknowledged. The use of a quantitative Likert tool provides data that describes correlations and relationships within belonging, mattering, academic achievement and clinical placements. However, it is not possible to draw any conclusions around cause-effect relationships from these findings, and further data gathering is necessary to provide a more complete understanding of these areas (Nemoto and Beglar, 2014).

The students within the sample of participants used were all in attendance at the university during the time of data collection and were either attending taught sessions or engaging with their email communications. Non-engaging students who were not in attendance to receive a questionnaire, or who were not actively checking their emails to be aware of the research would not have been able to take part in this research. Therefore, this sample may not fully represent students at all levels of academic engagement, and the findings may not represent the feelings of non-engaged students. It is difficult to include the non-engaging students within research, and email communications were sent to all students to ensure that non-attending students were aware of the research and had the option to participate.

This research specifically focused on the experiences of students studying to join the Allied Health professions. Whilst the findings relating to the feelings of students within the university may be applicable to all students, as the experience of Health students is

unique, it is not possible to suggest that these findings are representative of all undergraduate students. Additionally, as the sample was derived from one university with a diverse student profile and a high percentage of commuter students, the sample is not necessarily representative of students at all HEIs. For this reason, caution must be taken when generalising these findings. Further research gathering qualitative data will be valuable in exploring the human perspectives and narratives around considerations of dropout, and how feelings of belonging and mattering impact these decisions.

Conclusion

This research highlights the importance of feelings of belonging and mattering within students, and the potential impact that low feelings of belonging and mattering may have on student dropout. This research recommends that universities must focus on support systems and interventions that centre on the student as an individual, increasing the student's sense of being noticed and valued to increase their feelings of mattering. This support may be in the form of formal support systems, such as one-to-one personal tutoring, that enable students to build direct connections and gain reassurance that somebody is taking a special interest in them, or strategies around student voice that enable students to provide feedback that is listened to and acted upon. Alternatively, these may take the form of the multiple interactions in which students are encouraged to participate, to share their experiences, to feel that their name is known and their successes, however small, are celebrated.

Student feelings of belonging and mattering in clinical placement are under-researched areas in comparison to the attention that is given to these concepts within the university environment. Current interventions aiming to increase feelings of belonging and/or mattering are also largely focused on the university environment, with limited studies investigating the potential developments for improving belonging and mattering in the clinical environment. This research has identified a need to focus on student experiences during clinical placement, and a requirement to work with clinical staff to identify approaches that will enhance student feelings of being welcomed, supported, and valued.

Clinical placement experiences affect students' employment intentions after graduation, and so to ensure that the NHS workforce is maintained, it is imperative that students feel

positive about gaining employment within the profession they have studied. Working with placement providers to better understand how students can feel that they belong and matter during their placements must be a priority for providers of Allied Health courses. It is recommended that university and clinical placement tutors assess feelings of both belonging and mattering in students to identify those with lower scores who may be most at risk of dropout, enabling targeted intervention.

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