

Non-disclosing students with disabilities or learning challenges: characteristics and size of a hidden population

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Abstract Internationally, university students with disabilities (SWD) are recognised as being under-represented in higher education. They face significant problems accessing appropriate accommodations for their disability. Academic outcomes for this group are lower in terms of achievement and graduation rates. The true size of the SWD group at university is suggested to be different to that reported due to students not disclosing their disability for a variety of reasons including stigma, fear of discrimination, past negative experiences, and gaps in knowledge about available institutional support and accommodations. Research suggests that students do not consider their issues to fall under the term *disability*, resulting in a hidden population of students who could be better supported by their university. Using an Australian regional university as a case study, this paper examines the SWD population by identifying both disclosed and non-disclosed SWD populations within the domestic undergraduate population as well as information on the nature of students' diagnoses or assessment, not previously captured. Using an anonymous online survey which reframed disability using the non-deficit language of *learning challenge*, the population of those dealing with learning challenges, disclosed and non-disclosed, was identified and a population estimate calculated. Student characteristics that predicted non-disclosure and specific information on the nature of students' diagnoses were made and have the potential to develop targeted institutional support for a population that is currently difficult to access.

Keywords Disability · Students with disabilities · Student experience · Learning · Survey · Undergraduate · Higher education

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Introduction

Globally the massification of higher education has resulted in increased student diversity (Altbach et al. 2009; Guri-Rosenblit 2011). In the UK and Australia, higher education institutions (HEIs) have been required to increase participation for specific disadvantaged groups, with participation targets being set (Gibson 2015; Naylor et al. 2013). Students with disabilities (SWD) form one group that HEIs are required to support. Universities in Australia are required not only to increase access and participation for SWD, but to ensure their academic success through improved retention and degree completion (Naylor et al. 2013). Furthermore, by law in many countries, including Australia, HEIs must provide reasonable adjustments for students who disclose that they have a disability (Gibson 2015; Naylor et al. 2013; US Department of Education 2011). ‘Reasonable adjustment’ relates to modifying the learning environment as requested by the students and assessed against the burden placed on the institution (Lovett et al. 2015). However, the adjustment provided is often generic, rather than disability-focused, support (Australian Institute of Health and Welfare 2004). SWD who disclose their disability to HEIs are likely to receive information about specialised services that can assist with reasonable adjustments for learning success (Fossey et al. 2015; Naylor et al. 2013). Research demonstrates that SWD who use accommodations are more successful than those who do not (Denhart 2008), with outcomes dependent on support received (Dryer et al. 2016).

In order to meet their obligations, HEIs require accurate knowledge of the size of the SWD population within their university (Gabel and Miskovic 2009; Miskovic and Gabel 2012). This is often difficult because many SWD do not disclose to universities for a variety of reasons, including stigma and fear of discrimination (Cole and Cawthon 2015; Couzens et al. 2015; Ryan 2007, 2011; Wynaden et al. 2014), resulting in a hidden population of SWD. Lack of accurate classification of disability in university statistics is recognised as a problem within the institutional disclosure process that occurs at, or after, enrolment within Australian universities. (Kilpatrick et al. 2016). For example, in Australia, there is no way to specifically identify students with mental health issues other than the category ‘Other’. Lack of accurate classification makes it difficult to meet the varied needs of SWD. As a result, there is a fairly limited understanding of the composition of the SWD group, both institutionally disclosed and non-disclosed.

This paper begins by reviewing the literature on the prevalence and proportions of different disabilities in different higher education student populations. The review also considers research into the possible reasons students might choose non-disclosure. The paper then proposes the use of the term ‘learning challenge’ as a non-deficit way in which to engage with students to investigate the phenomenon of institutional non-disclosure. This paper provides a case study of an Australian regional university that aimed to: identify how many students with learning challenges there were at the institution; characterise the disclosing and non-disclosing student groups (in terms of demographics and learning challenges); and explore factors predicting a student’s choice of non-disclosure. This study offers

new insights into the phenomena of institutional disclosure and non-disclosure by students with learning challenges.

SWD in higher education

How many SWD are there?

International research has attempted to identify the true participation rates of the SWD population and found that the population is significantly higher than institutional statistics indicate. In one US institution, Gabel and Miskovic (2009) reported that 8.4% of students identified as disabled although less than one percent had disclosed to the institution. Repeat surveys in 2010 and 2011, for first year students only, returned rates of 6.8 and 10.2%, respectively (Miskovic and Gabel 2012).

Using the National Longitudinal Transition Study-2 dataset, a study of a representative sample of SWD ($n = 3190$) identified that 35% of these students did not disclose to their institutions when entering postsecondary education (Newman and Madaus 2015). Fifty per cent of these students chose non-disclosure at their institution as they “no longer considered themselves to have a disability” (Newman and Madaus 2015, p. 179). Aronin and Smith (2016) surveyed university students in the UK ($n = 1061$) and found that although 27% self-identified as having a mental health condition, such as anxiety and depression, the official figure for undergraduates was 12.7% (Higher Education Statistics Agency 2015a).

Similarly, disparities in Australian universities between reported and actual SWD populations are suspected (Payne and Irons 2003). While the number of SWD enrolled in Australian universities has increased from 4.4 to 5.8% over the period 2007–2013 (Koshy and Seymour 2015), this rate is below the general population prevalence of 20% (Australian Bureau of Statistics 2010). Either the SWD group in Australian universities does not reflect the wider population and/or there is a hidden population of university students who have not institutionally disclosed and whose academic success may be jeopardised by their non-disclosed status.

Types and prevalence of disability

A comparison of the types and prevalence of disabilities recorded in Australian universities with the US and the UK is hampered by the use of different classification systems—with Australia classifying disabilities in very broad terms: hearing, mobility, medical, learning, visual and other (Kilpatrick et al. 2016) contrasted to specific diagnostic terms in the UK (Higher Education Statistics Agency 2015b), and a different classification system in the USA (Newman et al. 2011). In Australian universities, medical conditions are the most commonly reported by number, followed by the group ‘Other’ (Kilpatrick et al. 2016). This catch-all category does not differentiate between the many different types of disability that do not fit into the primarily physical categories offered. Within the current classification of disabilities, it is difficult to identify mental health

conditions, for example, within the categories used in the enrolment process at Australian universities. The size of the mental health disorders group is suspected to be much larger than disclosed due to the cultural ‘silence’ around this disability (McAllister et al. 2014; Wynaden et al. 2013, 2014).

In the UK undergraduate population, the largest disclosed group are students with specific learning difficulties at 48.6% followed by mental health conditions (12.7%) and medical conditions (10.3%) (Higher Education Statistics Agency 2015a). In the USA, the largest disability group in postsecondary institutions for the disclosed SWD population is learning difficulties at 69% (Newman and Madaus 2015). This category differs from that used in the UK with the inclusion of various “associated deficits and disorders” within the descriptor ‘learning difficulties’ (Cortiella and Horowitz 2014, p. 4).

The challenge for HEIs is to clarify the disability types that students live with in order to develop targeted support for improved academic outcomes as measured by retention and completion. It may be more appropriate to utilise a classification that focuses on learning impacts, rather than medico-legal terminology. In all higher education systems, however, classification has been driven by regulatory compliance rather than student learning and experience of learning, although there is some recognition that this needs to change (Lovett et al. 2015).

Non-disclosure

In most universities, students can choose institutional disclosure at, or after, enrolment. Research from the US, the UK and Australia suggests non-disclosure is a choice that students make for a range of reasons. Students do not necessarily understand the definition of disability and lack understanding of the potential support available to them (Cole and Cawthon 2015; Couzens et al. 2015; Ryan 2005). They may not consider themselves ‘disabled’ and view disclosure as a personal decision made only when necessary (Mullins and Preyde 2013). Students do not always consider the institutional support offered to be useful to them (Cole and Cawthon 2015) nor a match to their needs (Couzens et al. 2015). Some consider that they have appropriate strategies (Couzens et al. 2015) and that successful academic progress may reduce their right to access support (Lightner et al. 2012). Disclosure may be triggered in response to an academic crisis (Lightner et al. 2012) and competes with a desire to develop an identity free of any disability label. Given disclosure necessarily means identification with the label ‘disability’ there is motivation to proceed with a ‘normal’ identity (Cole and Cawthon 2015). ‘Disability’ is a stigmatised term and it is argued that few would choose to associate themselves with the term for this reason (Ryan 2007, 2011; Vickerman and Blundell 2010). Non-disclosure is a decision made by students for a variety of reasons that weighs the potential positive and negative consequences. For SWD, the need for institutional disclosure is often on a ‘need to know’ basis (Olney and Brockelman 2003).

Disability or learning challenge?

It is surprising that even though the term ‘disability’ has been identified as being problematic, it continues to be used in research and institutional data collection (Cole and Cawthon 2015; Couzens et al. 2015; Gabel and Miskovic 2009; Miskovic and Gabel 2012; Reid 2014). Research that aims to clarify the size of the SWD population should be sensitive to issues of identity and the perceptions that the term ‘disability’ might evoke in students. From the literature, it is possible to identify a range of identity and institutional disclosure dynamics. For example, there are (i) students who identify that they need support to succeed academically and will choose institutional disclosure in order to obtain support; and (ii) students who have a disability diagnosis and have developed strategies for learning and so do not feel it is necessary to disclose to the institution; and (iii) students who do need support but who will not disclose institutionally because of stigma or issues of identity.

Institutional data collection only captures those students who accept that disclosure is a necessary part of obtaining support.

In the study reported here, we chose to frame recruitment and the student survey in terms of ‘learning challenge’ rather than disability. It was hoped that use of a more positive and less stigmatising term (learning challenge) would encourage students to (anonymously) reveal their disability-related learning issues, impacts and disclosure decisions. In this way, we would be able to learn more about all learning challenge groups. Therefore, in this paper, the term learning challenge is used from this point to correspond to the framing of this study.

Method

Setting and participants

Participants were undergraduate and postgraduate students at an Australian regional university who completed an anonymous survey entitled “Support for student learning: challenges to learning”. The project invited all university students to consider learning through examination of their use of university and external supports, and to identify ways to improve the learning environment. The focus of this paper is the domestic undergraduate survey responses comprising 2821 surveys; 13.2% of the total domestic undergraduate population of the university. The response rate is similar to other research recruited from entire university populations where response rates varied from 5.1 to 15.2% (Luzeky et al. 2011; Mulder and Cashin 2015). In this paper, the undergraduate SWD ($n = 994$) responses, both institutionally disclosed ($n = 361$) and non-disclosed ($n = 633$), have been used to estimate the size and composition of this group within the domestic undergraduate enrolment at this institution, and analysed to identify predictors of institutional non-disclosure.

Procedure

The project was granted institutional ethics approval. Recruitment was facilitated by the university executive unit who sent a university wide email inviting all students to anonymously participate in the survey. The email contained a link to the online survey delivered through SurveyMonkey.

Measures

The survey comprised eight sections. The following data were collected:

1. Demographics and enrolment: Gender, age, first in family, Indigenous status, English as a second language, domestic/international status, entry pathway to university, degree level, year of study and commencing status.
2. Formal and informal supports: Use of formal supports such as student counselling, learning support and eleven other supports as detailed by the institution and informal supports, drawn from the literature. Students then gave a rating of importance for each support.
3. Previous support and accommodation: Identification of both formal and informal supports, including any final secondary school examination accommodations.
4. Assessment or diagnosis: Students were asked to identify any assessment or diagnosis using a modified version of the UK Higher Education Statistics Agency (HESA) disability categories (Higher Education Statistics Agency 2015b):
 - Learning difficulties, e.g. dyslexia, Asperger's Syndrome (HESA code 51 & 53).
 - Ongoing medical condition, e.g. asthma and epilepsy (HESA code 54).
 - Mental health issues, e.g. anxiety and clinical depression (HESA code 55).
 - Physical disability, e.g. deafness, blindness and mobility (HESA code 56, 57 & 58).

Participants could select as many as were applicable or could choose "Prefer not to say" and/or "None of these apply to me". As the survey was anonymous, there was no independent checking of the self-reported assessment/diagnoses. Students that identified as having one or more disabilities from the modified HESA categories proceeded to the next question.

5. Impact on learning: Students indicated whether their assessment/diagnoses had an impact on their learning. Those students indicating an assessment/diagnoses *and* an impact on learning are described in the survey as dealing with *learning challenges*.
6. Institutional disclosure status: Each student with a learning challenge was asked about their institutional disclosure status, as either: "at enrolment", "after enrolment" or "not disclosed".

7. Reasons for non-disclosure: Non-disclosed students were offered a list of reasons for non-disclosure drawn from the literature on barriers to disclosure; additional reasons could be detailed in an open question.
8. Improvements to learning: All students were asked to suggest improvements to the learning environment. Students with learning challenges were offered an additional open-ended question to detail suggestions for their particular learning challenge(s).

Data analysis

Estimation of a population size is difficult where the population members are reluctant to disclose membership (e.g. stigmatised racial/religious groups). Hunter and Dungey (2006) used the Dual System Estimation (DSE) methodology of Sakar and Deming (1949) to calculate the Australian Indigenous population to 95% confidence intervals. This methodology provides a more accurate population estimate for this stigmatised population than the current Australian Bureau of Statistics Post Enumeration Survey methodology (Australian Bureau of Statistics 2013).

A stigmatised population such as Australia's Indigenous population will choose to disclose depending on circumstance. Students with learning challenges have a similar choice regarding disclosure and are similarly suspected to be undercounted (Payne and Irons 2003). The DSE methodology was used in the current study to estimate the population size for students with learning challenges within the domestic undergraduate population in the study institution. DSE methodology estimates the size of this population by comparing what is known through the census data of the institution (identified enrolment data) and that of the survey (anonymous data). This methodology relies on the difference between the responses given when students are identifiable and responses given anonymously. In this study, the estimate was made using sample data only since there are no known correlating factors between disclosed and non-disclosed student populations. Attempts to adjust the non-disclosed population based on the disclosed population would necessarily involve assumptions that may, or may not, be invalid. Additionally, a direct calculation based on the proportions of the disclosed population in the institution compared to the disclosed group in the sample was performed. Recognising the problem with assumptions regarding proportional representation, this is offered as a comparison only.

To determine the characteristics of institutional disclosed and non-disclosed groups, a statistical analysis was completed with SPSS using Pearson's Chi-squared to check for correlations between all demographic and learning challenge variables. A binomial logistic regression following procedures defined by Laerd Statistics (2015) was used to explore predictors of non-disclosure at this institution using the same variables.

Results

How many students with learning challenges are there in this institution?

The domestic undergraduate sample from the survey can be described through analysis of identified assessment/diagnoses and impact on learning, (defined within the survey as *learning challenges*). These groups are described in Table 1.

For calculation of the students with learning challenges population using the DSE methodology, the calculation points are summarised in Table 2.

The group who did not disclose to either the institution nor the survey (survey undisclosed/institution undisclosed) represents the students who identified assessment/diagnoses but chose not to continue with the survey, $n = 34$. Given the anonymous nature of the survey, the survey undisclosed/institution disclosed group could be justifiably said to be zero. Calculation of the size of the population of SWD in the undergraduate domestic population at this institution using the DSE was therefore 35.2% at the lower limit, with the limit range being 994–1948 within 95% confidence intervals.

A proportional estimate using the relationship between the disclosed capture for the survey ($n = 361$) and the disclosed capture for the institution ($n = 1475$) was also calculated as a comparison. Assuming that non-disclosed proportions were similar to disclosed, the domestic undergraduate non-disclosed group would be estimated at 2583 (12.1%). The proportional estimate gave a total of 19.0% students with learning challenges in the institution's domestic undergraduate population, a conservative estimate when compared to the DSE methodology. Both estimates are well above the recorded levels for this institution.

What are the characteristics of the disclosing and non-disclosing learning challenge groups?

Demographics

Two comparisons were undertaken. The first compared the demographics of the survey sample with institutional data. The second compared the demographics of the survey sample groups disclosed and undisclosed (Table 3).

Using Pearson's Chi-squared, statistically significant differences between the university disclosed population and the survey disclosed population were found to include all demographics ($p = 0.000$). The survey disclosed population has a higher proportion of females, older and Indigenous students and a lower proportion of first in family, commencing and English first language students. The survey contains a higher proportion of disclosed students with learning challenges than the institution, with 12.8% disclosed compared to the institution at close to 7%.

Comparisons between the survey learning challenge groups, disclosed and non-disclosed, for demographics show statistically significant differences only for the age demographic ($p = 0.000$). Within the survey group ($n = 994$), the non-

Table 1 Domestic undergraduate groups identified

Domestic undergraduates	Number	As a % of sample
Sample size	2821	
Students with no diagnoses/assessments	1553	55.1
Students with diagnoses/assessments who chose not to continue	34	1.2
Students with diagnoses/assessments but no learning impact	240	8.5
Students with learning challenges; (i.e. diagnoses/assessments and impact on learning) & disclosed	361	12.8
Students with learning challenges (i.e. diagnoses/assessments and impact on learning) & non-disclosed	633	22.4

Table 2 Base group identification for the DSE

Survey	Institution		Total
	Disclosed	Undisclosed	
Disclosed	361	633	994
Undisclosed	0	34 ^a	34
Total	361	667	1028

^a Students who identified assessment/diagnoses but chose not to continue with the survey

Table 3 Demographics of learning challenge groups—institution versus sample

Demographic	University disclosed ^a <i>n</i> = 1475 (%)	Survey disclosed <i>n</i> = 360 (%)	Survey undisclosed <i>n</i> = 633 (%)
Female	60.1*	77.2	77.6
First in family	48.7*	43.4	43.1
Commencing	33.6*	23.4	26.7
Older (25 and over)	48.3*	54.3	35.1*
Indigenous	5.9*	4.5	4.1
English (first language)	97.1*	95.6	94.6

* Indicates significant to $p = 0.000$

^a Institutional statistics supplied by university statistical unit

disclosing group had a higher proportion of younger students than the disclosing group.

Characteristics of disclosed and non-disclosed groups

To compare characteristics between disclosed and non-disclosed groups, the groups were split into students with *only one learning challenge* and those with *two or more*

learning challenges. This allowed exploration of differences between the groups in terms of characteristics by learning challenge without the interference of the various combinations of disabilities in the *two or more learning challenges* group. Composition of the two groups is compared in Table 4.

Note that students with *two or more learning challenges* comprise a much higher proportion of the disclosing group than in the non-disclosing group. Calculation of disclosed to non-disclosed proportions for students with *two or more learning challenges* and those with *only one learning challenge* shows a significantly different institutional disclosure pattern of 50:50 (*two or more learning challenges*) compared 30:70 (*only one learning challenge*).

What might predict non-disclosure?

Using demographic and learning challenge variables, a binomial logistic regression (Laerd Statistics 2015) was performed in order to identify which variables influence the probability of choosing non-disclosure. The demographics of age (as “older” = yes/no), gender, first in family, Indigenous and commencing status and the learning challenge groups of *learning difficulties*, *ongoing medical conditions*, *mental health issues* and *physical disabilities* were included in the model. Iterations of the model were completed to find and ensure multicollinearity was not a problem. This involved assessment of Pearson correlation coefficients between the variables and, as recommended by Cohen et al. (2003), removal of variables that produced coefficients above 0.70. Gender (Other) was correlated with *mental health issues*; *ongoing medical conditions* correlated with *learning difficulties*—consequently the data were filtered to remove cases for Gender (Other $n = 2$), and the *ongoing medical conditions* variable was similarly removed from the model.

It is important to note that the model does not include those who deal with multiple (two or more) learning challenges; this group is 29.9% of all students who identified in the survey with 95.3% of students in this group identifying *mental*

Table 4 Composition of survey: disclosed versus non-disclosed

Number of learning challenges identified	Learning challenge identified	Disclosed $n = 361$ % of group	Undisclosed $n = 633$ % of group
One only learning challenge $n = 697$	Learning difficulties (LD)	3.3	4.4
	Ongoing medical conditions (OMC)	7.2*	5.4
	Mental health issues (MHI)	44.0	65.7*
	Physical disabilities (PD)	4.4*	0.9
2 or more learning challenges $n = 297$	2 or more learning challenges (2M)	41.0*	23.5

* Indicates significant to $p = 0.000$

health issues as one of the disabilities. Multiple runs of the binomial logistic regression showed the influence of mental health issues in the *two or more learning challenges* group and validated exclusion.

The binomial logistic regression model for the *only one learning challenge* group ($n = 695$) was statistically significant with $\chi^2(8) = 151.528$, $p < 0.000$. The model explained 26.1% (Nagelkerke R^2) of the variance in disclosure and correctly classified 70.8% of cases. Sensitivity was 95.9%; specificity was 14.1%; positive predictive value was 71.1%; and negative predictive value was 60.0%. Of the eight predictor variables, three were statistically significant: age, *learning difficulties* and *mental health issues*, as shown in Table 5. Students likely to choose institutional non-disclosure are younger students (under 25 years) and those with *learning difficulties* or *mental health issues*. Students with *learning difficulties* are 3.2 times more likely to choose non-disclosure, whereas students with *mental health issues* are 3.1 times more likely to choose non-disclosure than students with different learning challenges. Younger students are twice as likely to choose non-disclosure than older students.

Discussion

Population estimation

Using direct proportional comparison of the survey disclosed group with that of the institution, the learning challenge population estimate was 19%. Use of the DSE methodology on this sample identified 35.2% of the domestic undergraduate population as dealing with a learning challenge at the lower limit. The DSE and proportional estimates compare to a range of 1.79–11.6% among Australian universities (Australian Institute of Health and Welfare 2014), variation that is

Table 5 Binomial logistic regression for membership of non-disclosed group

Variables in the equation								
	B	SE	Wald	df	Sig.	Exp (B)	95% CI for Exp (B)	
							Lower	Upper
Gender	0.328	0.179	3.344	1	0.067	1.388	0.977	1.971
Older	−0.701	0.170	17.018	1	0.000	0.496	0.355	0.692
FIF	0.059	0.169	0.121	1	0.728	1.060	0.761	1.477
Indig	0.488	0.482	1.026	1	0.311	1.629	0.633	4.191
Comm	−0.218	0.187	1.359	1	0.244	0.804	0.557	1.160
LD	1.185	0.385	9.479	1	0.002	3.270	1.538	6.950
MHI	1.126	0.203	30.800	1	0.000	3.082	2.071	4.586
PD	−0.381	0.258	2.187	1	0.139	0.683	0.412	1.132

suspected to reflect institutional disclosure process more than population (Kilpatrick et al. 2016). A UK survey of university students (Aronin and Smith 2016) identified 27% with mental health, and similar, disability issues which is more than double that recorded for undergraduates by HESA UK (2015a). Studies in the US (Gabel and Miskovic 2009; Miskovic and Gabel 2012) identified this group at 10.2% compared to 0.1% under a different process. Newman and Madaus (2015) note that only 35% of SWD identified at secondary school choose to disclose in postsecondary education. These studies support the finding that there is a hidden group of students with learning challenges and the potential size estimations made.

The non-disclosing students with learning challenges are a significant group within the undergraduate domestic population of the study institution, and are considerably higher in number than the group who choose institutional disclosure. Knowledge of the size and composition of this hidden group is important to institutions who are interested in more accurate participation measures that can inform strategies to improve support and retention. Ongoing work with data from this survey around learning impacts and support choices will provide detail on why the non-disclosed students with learning challenges have made this choice when the consequence is forfeit of access to accommodations that support them.

Characteristics of students with learning challenges

The finding that students with *mental health challenges* are the largest group contradicts analysis of Australian institutional data by Kilpatrick et al. (2016) that medical conditions represent the largest group. However, this current study has identified both disclosed and non-disclosed students with learning challenges and adds detail to the institutional data by including this previously uncounted group. The second largest group are those living with *two or more learning challenges*, the majority of which include mental health. Simple solutions for support may not be effective with such complexity, and this suggests a need for additional targeted institutional support that serves those living with mental health challenges. The third largest group is *ongoing medical conditions* and the fourth largest group those with *learning difficulties*.

Predictors of non-disclosure

This study found that the non-disclosing group are characterised as younger (under 25) and more likely to be living with mental health issues. Reid (2014) and Lightner et al. (2012) found that SWD struggle with the tension of individual identity and the perceptions of others when considering disclosure. Choosing non-disclosure may offer an opportunity to re-develop their identity away from 'disabled' and toward 'university student'. The work of Newman and Madaus (2015), where students with learning challenges choosing non-disclosure justified this by reasoning that they were no longer disabled, would support this interpretation. This may explain the increased likelihood of younger students choosing non-disclosure.

It is important to note that the non-disclosing group does not display characteristics that are the opposite of the disclosing group. Non-disclosing students

are more likely to be living with *only one learning challenge* and therefore are more likely to be able to remain ‘hidden’. Exploration of the reasons for non-disclosure may assist in developing an appreciation of the factors that influence institutional disclosure both at initial enrolment and during study at university.

The binomial logistic regression model assessing the probability of non-disclosure could account for only 26.1% of the variance in non-disclosure. However, it does give us some idea of the types of learning challenges that are most likely to result in choosing non-disclosure: *mental health issues* and *learning difficulties*. Both have significant stigma and negativity associated with them (Ryan 2007; Wynaden et al. 2014). This finding supports research that identifies the preference for non-disclosure, in terms of avoiding stigma and negativity (Cole and Cawthon 2015; Mullins and Preyde 2013). The work of Wynaden et al. (2014) and McAllister et al. (2014) illustrates the reluctance of students living with mental health issues to seek institutional help and explains why they choose non-disclosure.

Provision of disability-specific support for SWD in Australian universities is rare, with generic academic support and time allowances the most common means of accommodating any disability (Australian Institute of Health and Welfare 2014). The smaller research studies of Cole and Cawthon (2015), Couzens et al. (2015) and Ryan (2005) suggest that in Australian universities, generic support and the perceived usefulness of it, may be one of the barriers to disclosure in that students may not perceive that generic accommodations have benefit for their particular learning challenge. This study suggests that students are more comfortable with non-disclosure over disclosure even when this means loss of accommodations. Further research is required to better understand disclosure and non-disclosure decision-making and the types of learning supports that would best serve such students.

Significance of this study

This study is the largest known investigation in Australian higher education of institutionally non-disclosed students with a learning challenge and compares favourably in size to Newman et al. (2011) for research on four-year college/university students (994 c.f. 1110). Internationally, very few studies in higher education have managed to recruit non-disclosing SWD and explore the features of non-disclosure (Cole and Cawthon 2015; Newman and Madaus 2015). The present study has identified the characteristics of a previously hidden group of institutionally non-disclosing students with a learning challenge, thus opening up a broader perspective of this category. Individuals with *two or more learning challenges* have been identified as a significant proportion of both disclosed and non-disclosed learning challenge groups. This finding provides valuable evidence for the need to more closely examine how HEIs provide a supportive learning environment for this group, as effective support will potentially be complex. The choice of non-disclosure for the majority of students with learning challenges shows that there is still work to do in communicating the ‘normality’ of using learning accommodations and supports when living with learning challenges to enhance the higher education learning experience and outcomes.

The study recruitment material and survey instrument provided a unique and non-deficit reframing of disability as ‘*learning challenge*’ and this was likely the reason so many students from the hidden non-disclosing group provided information on their experiences. There is scope within research on SWD in higher education to replicate this approach to tap into the experiences of this hidden group at other institutions. The estimate of the proportion of SWD at this one institution using the DSE methodology may be of interest to other institutions attempting to quantify the numbers of SWD within their populations so that they can better provide appropriate accommodation and support to potentially improve academic outcomes and retention rates.

Limitations

The HESA UK classification system used was modified, and therefore, the estimation of the size of the group with *two or more learning challenges* will be an underestimate. There will be students with more than one disability within the same classification; for example: a student with both dyslexia and ASD reports as one learning challenge in this survey, similarly for clinical depression and anxiety. Students reported their assessment/diagnoses anonymously and there was no independent checking of the diagnoses/assessments reported.

The study was conducted at one Australian regional university. The findings, therefore, are useful at this institution. Using the same survey with multiple universities would increase the generalisability of the findings.

Conclusion

The present research has three key findings: Firstly, students with learning challenges are a much larger proportion of the undergraduate domestic population than institutional data suggested. Secondly, within our sample, institutional non-disclosure was the choice of the majority of students with learning challenges, despite potentially leaving them with no institutionally facilitated accommodation and/or supports for their learning. Finally, the characteristics of the non-disclosing group (either younger students, those living with mental health issues, learning difficulty issues, or with two or more learning challenges including mental health issues) raises serious questions about how universities respond in sensitive, non-deficit ways to support well-being and learning. This research suggests that reframing the language from disability to learning challenge allows HEIs to better understand the characteristics of their student population.

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