Students' understanding of psychological literacy in the UK undergraduate curriculum

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Acknowledgements: This project was funded by a University of Leeds Laidlaw Undergraduate Research and Leadership Scholarship awarded to Chloe Thompson

Open data: Our full materials and study data can be accessed in this Open Science Framework project: (anonymised view-only link) https://osf.io/9f5mb/?view_only=88b2d1af595c4258bd6fe6b8c923527b

Abstract:

Psychological literacy is a concept in psychology learning and teaching in Higher Education (HE) that considers how psychology students can intentionally apply psychological knowledge to personal, professional and societal goals. However, despite its prevalence among psychology Higher Education scholars and developers, it is unclear whether psychology students are aware of psychological literacy. In this mixed methods study, psychology undergraduates studying in the UK (N = 117) were asked to rate the core eight competencies of psychological literacy, as outlined by the QAA (2019) subject benchmark statement. Overall, we found that students were mostly unaware of the term 'psychological literacy'. However, students did value the attributes that it includes. When asked to define the term, students typically referred to the capacity to understand subject-specific knowledge, with some students discussing the application of this knowledge to everyday life too. Implications for the development of psychological literacy as an emergent pedagogic practice are discussed.

Keywords: psychological literacy, psychology graduate attributes, psychology education, Higher Education

Students' understanding of psychological literacy in the UK undergraduate curriculum

'*Psychological literacy*' is the capacity for psychology graduates and students to use their subject-specific knowledge to address global problems and apply psychological knowledge to personal, professional and societal goals (Boneau, 1990; McGovern et al., 2010). It is said to encompass "the general capacity to adaptively and intentionally apply psychology to meet personal, professional and societal needs" (Cranney, Botwood & Morris, 2012, p.4), and can be seen as an approach to psychology teaching that promotes the development of attributes such as ethical and cultural awareness (Mair, Taylor & Hulme, 2013; McGovern et al., 2010). Whilst the definition of psychological literacy is relatively contested (Newstead, 2015; Murdoch, 2016), and its measurement in educational settings has been practised (Newell, Chur-Hansen, & Strelan, 2019; Roberts, Heritage & Gasson, 2015), it is rapidly emerging as a construct that guides undergraduate teaching in psychology (see Mair et al., 2013 for UK case studies). Indeed, psychological literacy is increasingly embedded in national standards for psychology teaching (e.g., in Australia; Cranney et al., 2012) and the USA (APA, 2013).

In an early conceptualisation of psychological literacy, McGovern and et al., (2010) published a list of nine key concepts that provide an overview of psychological literacy in Higher Education. These include good ethics, communication, psychological knowledge and its application within the discipline. This list is accepted by many as a sound definition of psychological literacy (Roberts et al., 2015), and the most influential (Newell et al., 2019). However, more recently, other researchers have put forward alternative definitions. For example, Cranney, Botwood, and Morris (2012) suggest that psychological literacy is not only the ability to demonstrate these skills, but also the broader application of these skills to a variety of contexts.

Psychological literacy is used internationally in the setting of goals for undergraduate education in psychology and influences the teaching of psychology in many countries, including, for example, the USA, UK, Russia, Indonesia, and New Zealand (APA, 2013; BPS, 2019; Cranney & Dunn, 2012; Trapp & Akhurst, 2011; Harré et al., 2011). It is clear from looking at the UK subject benchmarks for psychology, as set out by the Quality Assurance Agency for Higher Education (QAA) and the British Psychological Society (BPS), that the concept of psychological literacy is heavily influential in the UK undergraduate psychology core curriculum. Subject-specific skills outlined by the QAA and the BPS overlap heavily with those defined by McGovern and colleagues, (2010), including a focus on psychological knowledge and skills, ethical practice, and application of learning to real life (BPS, 2019; QAA, 2019).

Psychological literacy is an important construct to explore for its potential to benefit graduates of psychology programmes. For example, Hulme and Cranney (2020) suggest that by adopting psychological literacy in a learning context can enhance psychology graduates' critical thinking and employability. Psychological literacy thus encompasses a range a useful and desirable graduate attributes (Karantzas, 2014) by promoting transferrable skills which develop one's overall sense of 'global citizenship' (Hulme, 2013). This is as useful to employers as it is to students; Bromnick and Horowitz (2013) note that psychology undergraduates are motivated more by 'making a difference' and working with others over financial gains, and therefore may see psychological literacy skills as desirable. Similarly, Burton et al (2013a; 2013b) suggest that psychological literacy has a positive effect on the experience of university students. Their study reported that a focus on developing psychological literacy may be responsible for increases in deep learning, an understanding of ethics, as well as general academic performance.

However, despite the clear benefits of this approach, Morris et al. (2013) found that students do not always recognise the concept of psychological literacy in these terms, despite confirming its importance when provided with a definition. As psychological literacy makes up such a large part of BPS accredited psychology undergraduate degrees, this study aims to investigate whether UK-based undergraduate students are aware of psychological literacy, to investigate whether psychology students understand the concept of psychological literacy and their confidence in this understanding. It aims to explore how much opportunity they think they have had to develop these skills, and the extent to which they value psychological literacy for their future career(s).

Therefore, the present study first aims to qualitatively assess whether UK undergraduate psychology students are aware of the concept of 'psychological literacy' and how they describe and define the term in their own words. Further, this work investigates the domains in which psychological literacy can be understood, as informed by Morris et al., 2013. These are: students' self-reported *awareness* of the term, the opportunity that students feel they have had to *develop* psychological literacy in their undergraduate curriculum, students' *confidence* in their ability to define and understand it, and the *importance* they feel psychological literacy has for their graduate careers. To achieve this, this study explores the eight attributes of psychological literacy, as defined by the QAA subject benchmark statement for psychology (2019) and adopted by the British Psychological Society's (2019) psychology undergraduate accreditation standards. These attributes include, for example, students' ability to acquire research skills, understand the role of evidence, and apply psychological understanding to real world questions, among others.

Method

Participants and design

Participants were recruited through the online participant pool Prolific and were paid the equivalent of £7 per hour for their participation. All participants were screened to ensure they were current UK-based undergraduate Psychology students. Participants who were not current psychology students were excluded from the study. In total, 117 participants were recruited (100 female, 16 male, 1 non-binary). 20 participants were in their first year of undergraduate study, 39 were in their second year, one was in a placement year/year in industry, and 57 participants were in their third/final year. This study was a cross-sectional survey.

Materials and procedure

This research project was approved by the University of [*blinded for peer review*] School of Psychology Ethics Committee on 27th July 2020 (Ref: PSYC-77). This research was conducted as an online questionnaire, made with the online survey software Qualtrics, which collected both qualitative and quantitative data. Participants were first presented with an information page explaining the purpose and aims of the study and then, after providing informed consent, were able to take part in the survey. At the end of the survey, they were debriefed and given the contact details of the researchers should they have any further questions.

Measures

Our full materials can be accessed in this Open Science Framework project: https://osf.io/9f5mb/?view_only=88b2d1af595c4258bd6fe6b8c923527b

There were nine sections of the survey. The first section collected demographic information (including student's year of study, current degree class, university, and desired work sector) and asked participants whether they had heard the term 'psychological literacy' before (yes/no). Participants were then all asked to briefly define the concept in their own

words; participants were prompted to write at least 50 characters before progressing through the questionnaire.

Following this, participants were presented with the eight attributes of psychological literacy, according to the QAA subject benchmark (2019) and the British Psychological Society accreditation standards (BPS, 2019). These attributes (some condensed for brevity) included the ability to: (1) produce a scientific understanding of the mind, brain, behaviour and experience, and how they interact with the complex environments in which they exist; (2) conduct research independently; include knowledge and the acquisition of a range of research skills and methods for investigating experience and behaviour; (3) acquire a range of research skills; (4) understand the role of empirical evidence in theory creation; (5) present multiple perspectives, critically evaluate, and reflect; (6) develop knowledge; (7) understand real life application of theory to experience and behaviour; (8) apply psychological understanding to real world questions.

For each of the eight skills, participants were asked to report whether they have been made aware of this skill in their psychology degree (1 = *Not at all aware*, 7 = *Highly aware*), to what extent they feel they have developed it so far in their degree (1 = *Not at all*, 7 = *To a very high level)*, and how confident they feel in their ability to define each skill to another student (1 = *Not at all confident,* 7 = *Completely confident)*. For all Likert questions, the only response 'anchors' were those at either end of the scale, as described in-text here. Finally, participants reported how important they believe each skill to be in their future graduate careers (1 = *Not at all important*, 7 = *Completely important*). These items aimed to measure 'Awareness', 'Development', 'Confidence', and 'Importance' of the psychological literacy constructs and were based upon those used by Morris et al. (2013) in a study of student perceptions of psychology-specific graduate attributes. The order in which skills were presented to each participant was randomised through Qualtrics.

Attention checks

To ensure data quality, there were 3 attention checks throughout the questionnaire. These were questions featuring a 1-7 Likert scale, where participants were asked to select specific responses (2 or 5) or to leave them blank. Participants who failed 2 or more attention checks were automatically excluded from the survey and their data were not used in analyses. This was to ensure data quality and to avoid 'data farm' participants in Prolific.

Results

Study data can be accessed in this Open Science Framework project: https://osf.io/9f5mb/?view_only=88b2d1af595c4258bd6fe6b8c923527b

Definition of psychological literacy

Of the 117 participants, 21 (17.95%) reported that they had previously heard of the term psychological literacy, and 96 (82.05%) had not. To qualitatively assess how UK undergraduate psychology students describe and define the term 'psychological literacy', inductive categories were created for the coding of student definitions of psychological literacy, as provided in the question: what do you understand by the term "psychological literacy?". Our approach follows the established traditions of qualitative content analysis (QCA) as defined by Schreier (2012). Categories were informed by previous work in this area by Newstead (2015) who understood existing conceptualisations of psychological literacy in published literature as aligning to knowledge or skills literacy, and from considering the frequency of these codes in Newell, Chur-Hansen and Strelan (2020). The main categories were "knowledge and subject content", "application of knowledge", and "unsure". Responses were coded into the main categories by the consideration of synonyms which align with the category, for example, "understanding theories" were coded into the main category of 'knowledge'.

Two authors (MP and SN) independently coded all responses. After establishing decision rules, an inter-rater agreement of 91.5% was achieved. Cases which referenced both knowledge and application were coded as 'application', utilising Bloom's taxonomy (Bloom, 1956) as an indicator of increasing learning complexity (as 'understanding' is lower on the taxonomy than 'application'). For responses coded as 'knowledge', participants defined psychological literacy as being related to "understanding of the terms used in psychology textbooks", "ideas and concepts based on the study of psychology" or "[the] body of literature surrounding the topic of psychology". The 'application of knowledge' items were more concerned with understanding how content is applied in different contexts; for example, one respondent defined psychological literacy as "applying psychological science to understand societal and personal needs." or to use psychology content to "the world around us". Of the 117 textual responses (M_{words} = 15.6, *SD* = 8.16), the majority of participants defined psychological literacy as pertaining to knowledge of content, theories, and concepts alone (*N* = 74, 63.25%), whereas 38 participants defined it as being related to the application of subject-specific content to the 'real world' (32.48%). The remainder of responses (*N* = 5, 4.27%) wrote that they 'did not know' what the term meant and, therefore, did not provide a definition.

After giving their definition of psychological literacy, participants were asked to measure their confidence in the accuracy of their given definition (*M* = 3.64, *SD* = 1.54). This suggests that students generally did not feel confident in their definitions provided.

Recognition and appreciation of BPS graduate attributes

Despite the low number of participants who had previously explicitly come across the term "psychological literacy", participants indicated that they had generally heard of the eight specific skills presented in the survey, with mean scores for the Awareness items ranging from 5.20 to 6.09 on the Likert scale of 1 (*not at all*) to 7 (*completely aware*).

Means and standard deviations were calculated for the 32 questions addressing specific skills (see *Table 1*). Mean scores for participants' reported development of the eight skills based on the BPS outline were close in value. Self-rated development was highest for "the ability to present multiple perspectives in a way that fosters critical evaluation and reflection." and was lowest for "the ability to understand the role of empirical evidence in the creation and constraint of theory and also in how theory guides the collection and interpretation of empirical data". This suggests that there is not much difference in how much individual attributes are developed within the psychological literacy framework.

Table 1 Mean ratings of each attribute. Standard deviations are in parentheses.

Attribute	Awareness	Development	Confidence	Importance
Attribute 1	6.01(1.15)	4.90 (1.28)	5.13 (1.21)	5.44 (1.42)
Attribute 2	6.09 (1.16)	5.13 (1.44)	5.79 (1.15)	5.56 (1.41)
Attribute 3	5.82 (1.16)	5.04 (1.21)	4.83 (1.29)	5.29 (1.49)
Attribute 4	5.21 (1.61)	4.64 (1.60)	4.32 (1.74)	5.09 (1.55)
Attribute 5	5.84 (1.44)	5.17 (1.45)	5.01 (1.58)	5.62 (1.52)
Attribute 6	5.56 (1.34)	5.04 (1.32)	4.83 (1.46)	5.50 (1.26)
Attribute 7	5.69 (1.20)	4.89 (1.19)	4.87 (1.32)	5.74 (1.16)
Attribute 8	5.76 (1.22)	5.16 (1.18)	5.22 (1.33)	5.85 (1.24)

Notes: The attributes numbered above refer to the following:

Attribute 1: The ability to produce a scientific understanding of the mind, brain, behaviour and experience, and how they interact with the complex environments in which they exist.

Attribute 2: The ability to conduct research independently.

Attribute 3: The ability to include knowledge and the acquisition of a range of research skills and methods for investigating experience and behaviour.

Attribute 4: The ability to understand the role of empirical evidence in the creation and constraint of theory and also in how theory guides the collection and interpretation of empirical data.

Attribute 5: The ability to present multiple perspectives in a way that fosters critical evaluation and reflection.

Attribute 6: The ability to develop knowledge, leading to an appreciation of theory and research findings, including relevant ethical and socio-cultural issues.

Attribute 7: The ability to understand real life applications of theory to the full range of experience and behaviour.

Attribute 8: The ability to apply psychological understanding to real world questions.

Reliability analysis was then performed on the 32 questions assessing student perceptions of the skills making up PL. Cronbach's alpha indicates that the questionnaire has acceptable internal consistency ($\alpha = .918$). Only one question would result in an increase in Cronbach's alpha if removed, (perceived importance of the ability to conduct research independently), which would result in an alpha value of ($\alpha = .919$). However, correlations between this measure and others were not consistently weaker than others, so it was included in the analysis.

In order to reduce the number of variables and understand the factors underlying the data, we subjected the data to Factor Analysis. Kaiser-Meyer-Olkin's measure of Sampling Adequacy for the data was .815, above the recommended .6 minimum. Bartlett's test of Sphericity was significant ($\chi 2\ (496) = 2647.56$, $p < .001$) meaning the correlation matrix was not an identity matrix. Communalities were all above 0.6. In order to investigate the structural relationships between the ratings of the skills, Principle Component Factor analysis was performed on the 32 variables relating to the eight specific skills. Nine of the 32 factors had an Eigenvalue above 1, suggesting that our 32 variables measure nine underlying factors. These nine factors account for 77% of the variance seen in the data.

Table 2 Factor values before rotation

Factor	Total Eigenvalue	% of Variance	Cumulative %
1	9.66	30.19	30.19
2	3.65	11.39	41.59
3	2.33	7.27	48.86
4	1.97	6.16	55.02
5	1.91	5.97	60.99
6	1.75	5.46	66.44
7	1.46	4.56	71.00

8	1.20	3.75	74.75
9	1.02	3.20	77.94

Orthogonal (Varimax) rotation with Kaiser normalization was performed on the initial factor values.

Table 3 Rotated factor loadings

Attribute	Question	Factor								
		1	2	3	4	5	6	7	8	9
Attribute 1	Awareness							0.78	0.31	
	Development							0.7		
	Confidence				0.35			0.78		
	Importance	0.75						0.35		
Attribute 2	Awareness									0.82
	Development									0.85
	Confidence									0.75
	Importance	0.7								
Attribute 3	Awareness						0.8			
	Development			0.31			0.75			
	Confidence			0.31			0.63			
	Importance	0.73					0.42			
Attribute 4	Awareness			0.74						
	Development			0.85						
	Confidence			0.88						
	Importance	0.69		0.48						
Attribute 5	Awareness		0.85							
	Development		0.9							
	Confidence		0.82							
	Importance	0.58	0.58							
Attribute 6	Awareness				0.63		0.37	0.3		
	Development				0.76		0.32			
	Confidence				0.72					
	Importance	0.69			0.41					
Attribute 7	Awareness								0.83	
	Development				0.4				0.67	
	Confidence		0.3		0.36				0.59	
	Importance	0.56							0.53	
Attribute 8	Awareness					0.83				

Development			0.85
Confidence		0.32	0.72
Importance	0.62		0.53

Table 3 shows the rotated factor matrix. The first rotated factor consisted of the measure of importance, for the eight different attributes that make up psychological literacy from the QAA subject benchmark statement. This suggests the existence of a latent factor measuring the overall importance of psychological literacy. Each of the remaining eight factors consist of the measures of the awareness of development of, and confidence for each individual attribute. For example, Factor 2 consistent of the questions addressing the awareness of, development of, and confidence for the attribute: "ability to present multiple perspectives in a way that fosters critical evaluation and reflection". Attribute names can be found in Appendix 1. There is some cross-loadings of measures on different factors which can be seen in Table 4.

The first rotated factor consisted of the measure of importance, for the eight different skills that make up psychological literacy. This suggests the existence of a latent factor measuring the overall importance of psychological literacy to a participants' future career. The remaining factors were made up of the questions addressing the awareness of, development of, and confidence for each of the individual attributes assessed.

Table 4. Factor values after rotation

Factor	Total Eigenvalue	% of Variance	Cumulative %
1	3.73	11.67	11.67
2	3.12	9.76	21.43
3	3.11	9.71	31.15
4	2.78	8.69	39.83

5	2.60	8.12	47.95
6	2.56	7.99	55.95
7	2.43	7.60	63.55
8	2.33	7.27	70.81
9	2.28	7.13	77.94

Importance of psychological literacy for graduate careers

Participants' answers for their rated importance of the eight skills retrieved a mean score of the overall importance of psychological literacy for their future career(s). Participants' overall importance of psychological literacy for future career(s) was $M = 5.50$ ($SD = 0.95$). Two separate data splits were then performed, to compare mean ratings of importance for future career between different career goals (*Figure 1*) and between different years of study.

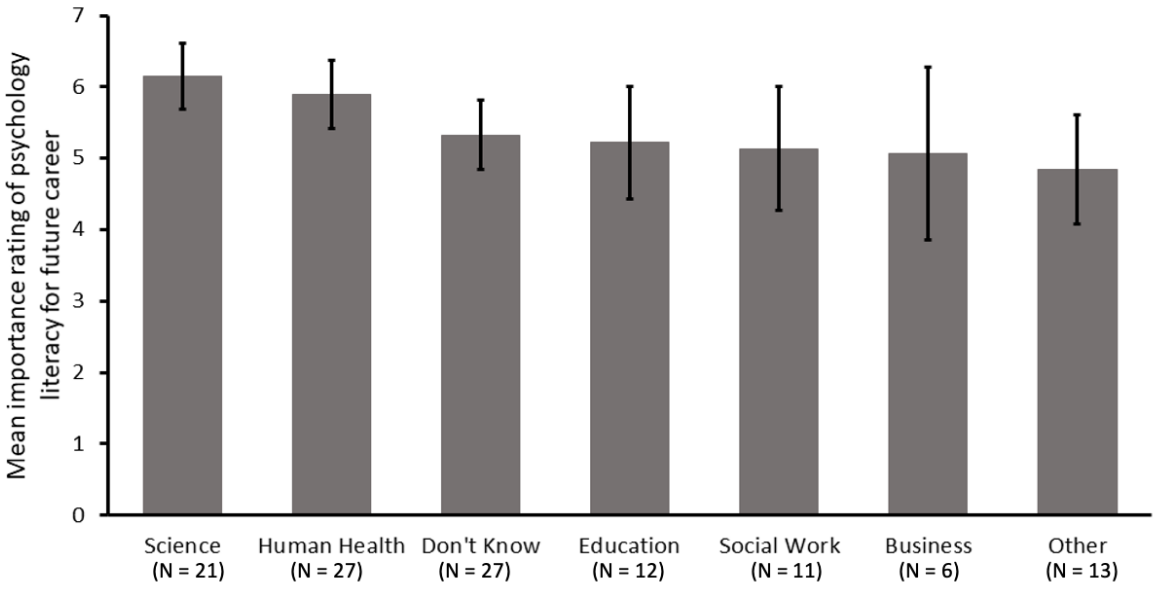

Figure 1. Mean importance of psychological literacy for participants' future career split by career type. Error bars represent standard error of the mean.

The career of 'scientific research and development' scored highest on mean for importance of psychological literacy for future career, followed by the career of "human health". When assessing students' importance ratings by year, final year students (M = 5.38, SD = 0.98) rated importance of psychological literacy for their future careers as lower than first, second, and placement years combined (M = 5.61, SD = 0.92), but this difference was not statistically significant ($t(115) = -1.28$, $p = 0.21$).

Discussion

This study aimed to gain a greater understanding of UK-based undergraduate psychology students' perceptions of psychological literacy. Our first research aim was to investigate whether students were broadly aware of psychological literacy. Only 17.95% of participants were explicitly aware of the term psychological literacy. Reflecting this, when asked to define psychological literacy using free textual responses, the majority of participants related it to the knowledge of content, theories, and concepts. This was in comparison to a smaller number of students who conceptualised the term as the application of subject specific knowledge to the 'real world'. However, after being provided with a definition of the constructs that make up psychological literacy, as determined by the QAA subject benchmark statement and BPS accreditation standards, the majority of participants reported awareness of its value. This was supported by participants confidence rating in their own definitions.

Moreover, despite a slim percentage of the participants explicitly recognising the term "psychological literacy", participants' mean ratings for the questions relating to specific skills were all in the upper half of the scale used. This suggests that despite not all participants having heard of the term psychological literacy in explicit terms, participants believed they had some awareness of and experience with the attributes that comprise psychological literacy (according to the QAA, 2019). Indeed, although the majority of participants had not come across the term psychological literacy before, they still rated their awareness of these

skills above the mid-point. Similarly, participants generally reported the value of psychological literacy for their future careers. Therefore, this raises some questions about the utility of the concept in psychology teaching. Despite the wealth of literature which advocates the value of psychological literacy in the HE curriculum (e.g., Dunn et al., 2011; Taylor & Hulme, 2013), there is relatively little work which considers whether psychological literacy *should* be communicated to students in explicit terms.

Indeed, while more explicit exposure to the term 'psychological literacy' will intuitively improve students' awareness of it (Morris et al., 2013), our results here suggest that more implicit understanding of the components of psychological literacy may also be beneficial for students' engagement with it. Thus, it may be that psychological literacy is suited well to inform pedagogic conversations among HE scholars but does not need to be explicitly communicated to students in this term. Put simply, our results suggest that lack of familiarity with pedagogic constructs, such as psychological literacy, does not necessarily indicate a lack of engagement with the core principles that underpin them. To fully delineate the effect that awareness has on pedagogic utility, future research should investigate educational developers, academics, and teaching staffs' awareness and engagement with psychological literacy (as per Newell et al., 2020). If the majority of teaching staff had not previously heard of psychological literacy, it may be a sign that it is not influencing teaching practice, despite its increasing presence in the psychology teaching literature (e.g., Dunn et al., 2011). Moreover, as Murdoch (2016) warns, it may also be that psychological literacy is not yet sufficiently defined and, therefore, its success in influencing teaching practice cannot be accurately measured.

Importantly, the qualitative responses in this study also suggest that students have an intuitive understanding of the term psychological literacy, which does increase the face validity of the concept. Our analysis of the textual data showed that participants generally

defined psychological literacy in two ways; firstly, by attributing it to the acquisition of knowledge and subject-specific content, secondly, by relating it to the practical application of this knowledge. The majority of participants provided definitions akin to the former, with a smaller proportion mentioning the application of knowledge. Indeed, students' strong focus on subject-specific knowledge is reflective of the original view of psychological literacy by Boneau (1990), with his list of 100 core concepts. Newstead (2015) aligns this definition with the traditional view of "knowledge literacy", similar to that provided by Kintgen (1988). Also, this preoccupation with knowledge suggests that students were adopting conceptualisations similar to the traditional view of 'literacy', which focuses on reading, writing and comprehension. Thus, future research should utilise in-depth interviewing or focus groups to explore the rationale behind these definitions more. This approach would also alleviate the practical limitation here of students' ability to search online for definitions of psychological literacy in order to respond 'correctly' to this question (although our data suggests that participants did not do this).

The final aim of this study was to evaluate the extent to which students valued psychological literacy for their future career(s). Overall, importance of psychological literacy for future career was rated highly, suggesting that the participants did value psychological literacy in their preparation for future career(s). This is useful information, given that the majority of psychology graduates do not go on to careers directly involved in psychology (Hamilton et al., 2018; Trapp et al., 2011). In a time when the value of psychology undergraduate degrees is being called into question (Halonen & Dunn, 2017), having a literacy specific to psychology graduates may help them stand out compared to graduates in other fields. In the future, it may be beneficial to repeat the current survey with students from other disciplines, and with a UK cohort, replacing "psychological" with the relevant subject literacy, to see if they score similarly on the Likert scales, or if psychology students do rate

these skills more highly than students from other disciplines. It would be beneficial to explore if psychological literacy is specific to psychology and not a set of generic graduate attributes. Heritage, Roberts, and Gasson (2016) found that generic graduate attributes and reflective processes differentiated between second year Australian psychology and speech pathology students, but that this was not the case for first year students. This may suggest that psychological literacy levels do increase over the course of psychology degrees, explaining the ability to differentiate between second year (but not first year) students.

In conclusion, this research demonstrates that psychology students generally understand, recognise, and value the attributes of psychological literacy, even if they do not specifically recognise the term. Here, we also offer some useful avenues for future research which would elucidate whether the concept of psychological literacy is too generic, and account for graduate attributes that are applicable to students from other disciplines. More work needs to be done to establish what is unique to the psychology undergraduate experience, for psychological literacy to be a useful mechanism for outlining psychology's value as a degree choice. Also, given that research skills feature prominently in the QAA's psychological literacy attributes, future work may also wish to consider how perceptions of research skills and statistics may inform students' perceptions of psychological literacy. For example, there is a plethora of literature which demonstrates how students' 'statistics anxiety' is a pedagogic barrier in psychology teaching (e.g., Hanna et al., 2008). Similarly, students do not always understand the relevance or applicability of research skills to their future careers (Songsore & White, 2018) which may also inform this perception. Finally, as our conceptualisation of psychological literacy was derived from the QAA, the influence of accreditation bodies cannot be downplayed. Further research could explore the similarities of other discipline accreditation bodies, to determine whether generic attributes are a common practice – or

whether other disciplines are able to articulate their distinctiveness (and therefore their unique value to prospective students) and to future employers.

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Appendices.

Labels for the factors:

1. Importance
2. Multiple perspectives
3. Empirical evidence and theory
4. Ethics and sociocultural issues
5. Real life application
6. Research skills
7. Scientific understanding and knowledge
8. Understanding real life applications
9. Conducting research independently

Appendix 1.

1. The ability to produce a scientific understanding of the mind, brain, behaviour and experience, and how they interact with the complex environments in which they exist.

2. The ability to conduct research independently.
3. The ability to include knowledge and the acquisition of a range of research skills and methods for investigating experience and behaviour.
4. The ability to understand the role of empirical evidence in the creation and constraint of theory and also in how theory guides the collection and interpretation of empirical data.
5. The ability to present multiple perspectives in a way that fosters critical evaluation and reflection.
6. The ability to develop knowledge, leading to an appreciation of theory and research findings, including relevant ethical and socio-cultural issues.
7. The ability to understand real life applications of theory to the full range of experience and behaviour.
8. The ability to apply psychological understanding to real world questions.