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The Counseling Centre Assessment of Psychological Symptoms (CCAPS-62): Acceptance, feasibility, and initial psychometric properties in a UK student population

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Key practitioner message

- University students attending counselling in the UK demonstrate clinical severity for academic distress, depression, anxiety and social anxiety
- Compared to university students in the US, UK students present with higher clinical severity on all contextual measures of student psychological distress
- It is advantageous for university counselling services to administer a student-specific clinical measure over measures intended for the general clinical population
- CCAPS-62 is an acceptable, feasible and psychometrically valid measure of student psychological distress which can be used in the UK without revision
- It is important for university counselling services to continue to provide support from therapists that are trained and experienced in the university context over services intended for the general clinical population

Key words

Academic distress, Anxiety, Assessment, Counselling, Depression, Feasibility,

Funding

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Abstract

Background: The burden and severity of student mental health continues to increase in parallel with increasing financial pressures on students and services alike. There is a need for a student-specific measure of distress that acknowledges their unique context. This study examined the feasibility, acceptance, and initial psychometric properties of a US measure, the Counseling Centre Assessment of Psychological Symptoms (CCAPS), in a UK student sample.

Methods: A sample of 294 UK help-seeking students from two universities completed the CCAPS-62 and CORE-10 as a comparator. The factor solution and reliability of the CCAPS-62 was examined. Correlations and clinical boundaries were determined between the CCAPS-62 subscales and CORE-10, and comparisons were made with US published norms.

Results: The CCAPS-62 demonstrated a strong factor solution that matched the intended subscales. All subscales had good reliability and correlated significantly with the CORE-10. The agreement on caseness between the two measures was 92.8% with 86.3% reaching clinical threshold on both the CCAPS-62 and CORE-10. Severity was most noticeable for academic distress, depression, anxiety and social anxiety. Compared to US data, UK students showed higher clinical severity for all psychological symptoms.

Conclusions: The CCAPS-62 is a reliable and psychometrically valid assessment measure to use with UK students without revision. The overall distress indicated is similar to that of the CORE-10 but the individual subscales are more informative of specific student concerns. Overall levels for UK students appear higher than US students. Potential benefits of administering a student focused assessment measure in student counselling services are discussed.

Introduction

The increased demand of student mental health has become a global phenomenon and has reached parliamentary debate in the UK. UK initiatives have widened university participation such that students no longer represent a privileged group of society (Sarmento, 2015). Through this growing attendance, students are approaching counselling services at an overall higher demand and with more complex mental health needs (Holm-Hadulla & Koutsoukou-Argyraki, 2015). For example, whilst depression and anxiety are still the most common mental health concerns in students, recent reports have demonstrated a rise in student-specific concerns such as academic distress, substance misuse, family upset, and financial burden (Doerr et al., 2015; Murray, McKenzie, Murray, & Richelieu, 2015). However, inconsistencies in service data have made it difficult to illustrate recent trends in the UK and consequently services have struggled to access resources to support growing demands. During a time of significant change, the need for UK data on student mental health is paramount for service development and decision making.

With this increasing financial pressure, counselling services in Higher Education (HE) have been challenged to demonstrate their impact on student well-being and the wider educational institution (Mccarthy, 2016). However, it has been difficult to demonstrate the specific impact on aspects of student mental health when clinical measures have typically been designed for a non-student population. Measures used with samples of UK students include the General Health Questionnaire (GHQ; Goldberg & Williams, 1991 – see Macaskill, 2012), the General Population-Clinical Outcomes in Routine Evaluation (GP-CORE; Sinclair et al., 2005 – see Cooke et al., 2006), and the 10-item version of the Clinical Outcomes in Routine Evaluation (CORE-10; Barkham et al., 2013 – see Bewick et al., 2010). Whilst it is beneficial to use any clinical measure rather than none, capturing information that is specific to users ensures that services remain responsive. Furthermore, evidence suggests that focusing on student mental health results in more nuanced data capture and finer analysis of treatment outcomes (Rückert, 2015).

In the US, such concerns have led to the development of a clinical instrument specifically for student counselling services – the Counseling Center Assessment of Psychological Symptoms (CCAPS; Locke et al., 2011; McAleavey et al., 2012). The measure has been widely adopted in US colleges but is yet to be validated in the UK, thereby potentially limiting its utility in UK counselling services. The current study aimed to address these issues by evaluating the feasibility and acceptance of CCAPS in a UK student clinical sample, obtaining preliminary psychometric data on the assessment capability of the measure, comparing profiles with US norms, and benchmarking overall distress levels against the CORE-10 (Barkham et al., 2013). The full version of CCAPS comprises 62 items (CCAPS-62), is administered at initial assessment, and comprises eight scales: depression; generalised anxiety; social anxiety; academic distress; eating concerns; family distress; hostility; substance abuse, and an overall distress index (DI) drawing on items from a majority of the scales. As a clinical instrument, CCAPS-62 detects early signs of risk and can demonstrate clinical severity between different student groups. For example, CCAPS data has highlighted the severity of academic distress in students attending university away from their birth country, when compared to students attending a university in the same country (Locklard, Hayes, McAleavey, & Locke, 2012). Evidence has also shown CCAPS to predict later diagnosis

of social phobia when used at the initial assessment (McAleavey et al., 2012). Furthermore, because of the specificity1 of measuring student psychological distress, the CCAPS provides a unique opportunity to explore potential benefits of using a population specific measure over a measure of overall functioning. For example, by comparing the severity of academic distress, substance abuse, social anxiety, and other student-specific concerns with the severity of overall distress (according to both the CCAPS and CORE-10), the potential added benefit of measuring contextual symptoms can be explored.

Evaluating the validity of the CCAPS-62 in the UK is particularly important because its utility may vary across different countries, and the presentation of psychological symptoms has been shown to vary in different student samples (Kreß, Sperth, Hofmann, & Holm-Hadulla, 2015; Villacura et al., 2015; Yang, Lin, Zhu, & Liang, 2015). For example, a recent global report found UK students displayed specific risk for separation distress and conflict between family and studies. By contrast, students in Austria, Germany and Sweden displayed specific risk for psychosomatic issues, exam anxiety and personal identity issues (Rückert, 2015). Even reports within the US have demonstrated an increase in major depression, anxiety, financial distress, personality disorders, and suicidality (Prince, 2015). With large variations in symptom severity and presentation across different student groups it is important to understand how the CCAPS-62 functions in a sample of UK students. Furthermore, using CCAPS to capture information on student mental health in the UK will allow comparisons to be made with other student groups and shed light on global trends. The current study aimed to address this need by examining CCAPS data from a sample of students at two Universities who were receiving counselling from their respective University Counselling Service (UCS). Through this comparison, the study aimed to determine (1) the acceptability and feasibility of the CCAPS-64, (2) its reliability and factor structure, (3) comparisons with reported US data, and (4) comparisons between the overall distress index and the CORE-10.

Method

Design and setting

The study adopted a cohort design comprising students attending one of two UK University Counselling Services during the period April to July 2015. One setting was a large university within a city context (approx. 25,500 students) and the other a smaller university in a town-rural setting (approx. 10,500 students). The study received approval from the University Research Ethics Committee at the University of Sheffield prior to any data collection.

Participants

Participants were 294[i] students [59.6% female] accepted for counselling with a mean age 22.2 [min = 18, max = 54, SD = 4.42]. Students were predominately undergraduate (68%) with 13% studying at master degree level, 8% completing postgraduate research such as PhD,

[i]Site 1 contributed data from 215 students [59.9 percent female] mean age 21.6 [min = 18, max = 48, SD = 3.38]. Site 2 contributed data from 79 students [58.2 percent female] mean age 24.2 [min = 19, max = 54, SD = 5.88].

and 8% completing 'other' types of degrees. The most common degree subjects included: science (28.2%), social science (19.4%), arts and humanities (18.4%), engineering (14.3%), and nursing/dentistry/medicine (8.8%).

Measures

Counseling Center Assessment of Psychological Symptoms (CCAPS-62)

CCAPS-62 (Locke et al., 2011) is the only clinical instrument designed specifically for services to measure experiences related to the student population. According to the 2015 CCAPS Clinical Guide[ii], the clinical utility of CCAPS is most beneficial when CCAPS-62 is administered as an initial assessment. It comprises eight scales: 1) depression (13 items; e.g., *I feel worthless*); 2) generalised anxiety (9 items; e.g., *I have spells of terror or panic*); 3) social anxiety (7 items; e.g., *I feel uncomfortable around people I don't know*); 4) academic distress (5 items; e.g., *It's hard to stay motivated for my classes*); 5) eating concerns (9 items; e.g., *I feel out of control when I eat*); 6) family distress (6 items; e.g., *I wish my family got along better*); 7) hostility (7 items; e.g., *I have difficulty controlling my temper*); and 8) substance abuse (6 items; e.g., *I drink alcohol frequently*). Items refer to the previous two weeks and are scored on a 5-point Likert scale (0 = *'not at all like me'*; 4 = *'extremely like me'*), whereby higher scores indicate higher symptom severity. In addition, CCAPS-62 yields a distress index (DI) that comprises 19 items drawn from all the scales except eating concerns and family distress. As well as providing a measure of overall distress, the CCAPS DI can be used to determine whether a client meets clinical criteria with a score of ≥ 1.2 indicating clinical caseness.

Within each subscale are two clinical thresholds, termed *low clinical* (LC) and *elevated clinical* (EC), which detail clinical risk on discrete symptoms and may be used to facilitate clinical judgement. These thresholds, along with the clinical utility of the CCAPS-62, have been established from a large normative sample (approx. 250,000) of students receiving therapeutic support. The sample predominately consists of students from the USA who have contributed to the dataset over several years. As a clinical instrument, the CCAPS-62 has been shown to be sensitive to change and possess good test-retest reliability in clinical student samples (McAleavey et al., 2012).

Clinical Outcomes in Routine Evaluation (CORE-10)

The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM; (M Barkham et al., 2001) has been used extensively in primary care services in the UK for over a decade to provide measures of psychological functioning (Barkham, Culverwell, Spindler, & Twigg, 2005; Evans et al., 2000; Mellor-clark, Connell, & Cummins, 2001). The shortened 10-item version (CORE-10; Barkham et al., 2013) has also been validated against CORE-OM, has been shown to be sensitive to change, and provides a measure of general psychological functioning. Items refer to the previous week and are scored on a 5-point Likert scale (0 = *'not at all'*; 4 = *'most or all of the time'*), with higher scores indicating higher symptom severity.

[ii] Center for Collegiate Mental Health (2015). *CCAPS User Manual.* University Park, PA.

The CORE-10 total provides a measure of overall psychological functioning that may be derived by calculating the mean (rather than the sum) of all items. This version of calculating the CORE-10 total has been used in previous research and does not impact on its psychometric properties. Furthermore, to permit clinical comparisons with literature using the CORE-10 total as the sum of items, the comparative CORE-10 total can be converted by multiplying the CORE-10 mean by 10. As well as providing a measure of overall psychological functioning, the CORE-10 total can be used to determine whether a client meets clinical criteria. A score of ≥ 1.1 (equivalent to 11/40 on CORE-OM) indicates that a client meets clinical caseness.

Procedure

Use of CCAPS-62 at initial assessment was standard practice at both participating sites and both sites had previously used CORE in one of its formats. Any newly registered student, approved for counselling between April-July 2015, was eligible to participate. An opt-out procedure was used to allow students to withdraw their data from planned analysis. A study guide was developed and shared with staff to encourage standardisation and allocate order of administration.

Posters and information leaflets were displayed in the waiting rooms and raised by staff administering the electronic forms, to ensure that clients were informed and had the opportunity to opt-out. Any clients who elected not to participate (and therefore did not complete the additional CORE-10 form) were excluded from the dataset.

Analytic strategy

All analyses were performed in SPSS statistics package (version 21). Factor Analysis was used to explore the factor structure of CCAPS-62 when applied in the UK. Due to the potential differences in the kinds of distress experienced in student populations in different countries, we did not seek to simply replicate the factor structure previously obtained in US samples. We therefore used Exploratory Factor Analysis (EFA) rather than Confirmatory Factor Analysis (CFA) to allow items to freely vary and permit the underlying constructs in the UK to be different to those found in the US.

There are many judgements to be made in EFA and it is common to explore alternative methods. For the purpose of the current study, the Principle Axis Factor (PAF) extraction method was employed with direct oblimin rotation to examine covariation between the 62 items. PAF and Maximum Likelihood (ML) extraction methods have been deemed relevant for exploring counseling psychology measures (Kahn, 2006) and both extractions were used separately to explore the stability of the factor solution. Whilst both methods yielded similar factors, we report PAF because it is more robust in scenarios where multivariate normal distribution has been violated (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Direct oblimin rotation, as an oblique rotation method, was used over orthogonal rotation methods because items and factors were

anticipated to correlate. Furthermore, alternative oblique rotation methods were explored and yielded the same factor solution.

Reliability analysis was used to explore each CCAPS subscale and compare against published US data. Further comparisons were made between UK and US CCAPS subscale means; to explore differences in symptom severity. Clinical severity was also explored within the UK sample to determine the percentages of students that met low-clinical and elevated-clinical caseness. As measures of overall psychological functioning, the clinical cut-offs of CORE-10 total and CCAPS DI were used to group the sample into 'non-clinical' and 'clinical' to explore potential discrepancies in clinical criteria. Similarities between CORE-10 and CCAPS were also explored with correlations to determine the strength of relationships between CORE-10 and each CCAPS subscale.

Results

Acceptability and feasibility

Completion of measures

Across both UCSs, 401 students (city UCS = 234, rural UCS = 167) completed the CCAPS-62 and CORE-10 forms at their initial clinical assessment between April and July. Of the 401 students, 107 (city UCS = 19, rural UCS = 88) did not go on to receive counselling and were excluded from analyses. Hence the dataset employed in the analyses comprised 294 students: city UCS = 215; rural UCS = 79. Members of staff administering the forms reported that there were no refusals from students.

Missing items

The overall rate of missing items on the CCAPS-62 in the UK sample was 0.002% (38 missing items / 18,228 data points[iii]). At the individual item level, item 41 *"I am concerned that other people do not like me"* was omitted by 4 people (1.4%) while item 30 *"I feel tense"* and item 45 *"I feel irritable"* were omitted by 3 people (1%). A further seven items were omitted by 2 people (0.7%) and have been listed in Table 1. By comparison, for the CORE-10 the only item omitted was item 10 *"unwanted images or memories have been distressing me"* by 2 people (0.7%). On the CCAPS-62 there was no evidence of fatigue effects as the relationship between item number and the number of missing items was not significant (r = 0.034, p = 0.80). The substance abuse scale was the only CCAPS-62 scale with complete data, even though family distress and academic distress contain the same number of items.

Average time taken to complete the forms

As part of routine practice, students arrived 10 minutes before their appointment to complete CCAPS-62. Additional items from CORE-10 were also completed within the

[iii]CCAPS-62 items for 294 individuals

allocated time and there were no reports of students requiring >10 minutes to complete both forms.

Ease of scoring

Both UCSs electronically administered CCAPS on computer tablets that wirelessly connected to a secure computer system. Therefore, the computer system automatically scored CCAPS and created a summary report, which was viewable by therapists before meeting with clients. Alongside CCAPS, a CORE-10 from was created on the computer system and used for data collection purposes only; therapists were not required to review CORE-10 results before meeting with clients.

Percentage of students scoring maximum scores on each scale

Potential ceiling effects were explored by calculating the percentage of students who obtained maximum scores on any scale. Maximum scores were found in 4.8% (n = 14) of students experiencing academic distress, and in 0.7% (n = 2) of students with eating concerns. Students did not obtain maximum scores on the remaining scales.

Psychometric properties of CCAPS-62

Exploratory Factor Analysis (EFA)

Sixty-one of the 62 items correlated with at least one other item at 0.3 and above, demonstrating reasonable factorability. The Kaiser-Meyer-Olkin measure verified sampling adequacy (KMO = 0.86) and the Bartlett's test of sphericity was significant (χ^2 (171) = 2778.15, $p < 0.001$), suggesting that correlations between items were sufficient for analysis. As shown in Table 2, the commonalities between items were above .40 and the factors remained clear, even at a more conservative factor loading of .65 (40% overlapping variance), thereby confirming common variance with other items (Field, Miles, & Field, 2012; Tabachnick & Fidell, 2007).

The scree plot displayed an inflection at Factor 8, which was also the last substantial drop in Eigenvalues (see Appendix 1). Both criteria suggested retaining 8 factors which collectively explained 54% of the variance (Kahn, 2006). Table 2 displays the factor loadings from the pattern and structure matrices (before/after item rotation) which include: depression (4 items); substance abuse (6 items); eating concerns (8 items); GAD (7 items); family distress (6 items); social anxiety (7 items); hostility (7 items); and academic distress (5 items). The pattern and structure matrices were typically consistent and items within each extracted factor were congruent with the intended CCAPS subscales.

Internal reliability

Reliability analyses on the CCAPS-62 data revealed Cronbach alpha values for the eight subscales and the Distress Index to range from 0.81 to 0.89 (see Table 2), indicating good internal reliability for all subscales. Of note, with the exception of substance abuse, alpha values were slightly lower than values derived from US student samples.

Comparisons between CCAPS-62 and CORE-10

Correlational analysis

All CCAPS-62 subscales correlated significantly with the CORE-10 (Table 4). The strongest correlation occurred between the CORE-10 total and CCAPS DI followed by depression and GAD. The weakest correlation was between CORE-10 and family distress followed by eating concerns, social anxiety, hostility and academic distress.

Clinical Cut-off

Comparisons were made between the CCAPS DI and the CORE-10 as measures of overall psychological functioning. The clinical cut-off on each measure was used to group the sample into 'non-clinical' and 'clinical' to determine the extent of agreement and discrepancies in clinical caseness or not caseness across each measure. A total of 85.3% students met the clinical threshold on CCAPS DI (a score ≥ 1.21) while 90.1% of students met the clinical threshold on the CORE-10 (a score ≥ 1.1). The scatter diagram in Figure 1 demonstrates that 92.8% of students were classified in the same way across CCAPS DI and CORE-10, with 86.3% of students categorized as clinical and 6.5% non-clinical on both measures. The remaining 7.2% discrepancy resulted in students meeting clinical criteria on one measure but not the other for each measure.

Further comparisons utilised thresholds from the US norms that distinguished between non-clinical, low-clinical and elevated-clinical groups on the CCAPS-62. This revealed that the largest elevated-clinical group existed for depression, followed by academic distress, GAD and social anxiety (see Figure 2). The highest percentage of students who met non-clinical criteria existed for eating concerns, substance abuse, and hostility.

Profiles of UK sample and comparisons with US norms

Finally, following a scope of initial psychometric properties of the CCAPS, we investigated mean scores on the subscales as compared with published US data from various sources. Table 5 reports the means and their rank order together with SDs for the CCAPS-62 subscales together with comparisons with published US norms. The data shows the highest scores to be obtained for academic distress, depression, GAD and social anxiety. These levels and rankings are also presented in the box and whisker plot in Figure 3. Inspection of Figure 3 shows two distinct symptom clusters for the eight subscales. One cluster comprises academic distress, depression, GAD and social anxiety, while a second cluster comprises eating concerns, family distress, hostility and substance abuse. In a direct comparison between the Distress Index and CORE-10, students scored significantly higher on the Distress Index; $t(293) = 51.944$, $p < 0.001$).

Discussion

The current study is the first examination of the acceptability and feasibility of implementing the CCAPS-62 in a UK clinical student population as well as determining its structure and reliability. We sought to benchmark it against a brief standard measure of psychological

distress using the CORE-10 and to make initial comparisons with US normative data. We applied a range of indices of acceptability and feasibility and found them all to indicate the overall acceptability and feasibility of adopting the CCAPS-62 in a student population. No student refused to complete the CCAPS when it was presented as standard procedure. Missing items were virtually negligible and there was no evidence of fatigue effects. Two of the subscales showed a ceiling effect but the total number of students scoring 4.00 on any subscale was 16, of which 14 of these obtained the maximum score on Academic Distress. Given that this full version of the CCAPS is recommended for use as an initial assessment tool, the inclusion of a scale tapping academic distress as a unique experience of students is sufficient to outweigh this low rate of maximum scoring.

We anticipated differences in the factor structure of CCAPS in the UK compared the US because of the known differences in symptom expression across different countries. However, strikingly, the factor structure mimicked the intended subscales and displayed a robust factor solution across two methods. This suggests that the CCAPS-62 subscales established with US samples are appropriate for use in the UK without alteration. This finding was consolidated when individual subscales were explored and were shown to be highly reliable. Although alpha levels for all subscales in the UK sample, except for substance abuse, were lower than in the US data, all values fell within the range of .8, a value also obtained for the CORE-10. Given that the number of items in the CCAPS scales range from 5 to 19, the relatively tight range of alpha values is reassuring. This finding provides confidence in the discrete value to practitioners of each of the eight subscales.

In terms of comparisons between the CCAPS-62 and CORE-10, there might appear to be a clear choice between capturing a broad assessment of presenting issues (CCAPS) and a brief overall distress score (CORE). However, the Distress Index (DI) appeared to largely mimic the CORE-10 as evidenced by the high correlation but more importantly by the high rate of agreement (92.8%) in determining casesness or not. Within this 92.8% of cases, 86.3% of our sample reached clinical threshold on CCAPS DI compared to only 73% of a US student sample (Duszak, 2014). Hence, CCAPS comprises reliable subscales that do not evidence any fatigue effects due to its length but can also yield an overall index of psychological distress that is more than 90 per cent accurate in determining caseness or not when compared with a UK-derived outcome measure.

In terms of the eight subscales and their scores in the present sample, two clear clusters or groupings appeared with higher scores (severity) being achieved on Academic Distress, Depression, GAD, and Social Anxiety, while lower scores were obtained on Eating Concerns, Family Distress, Hostility, and Substance Abuse. These two groupings appear intuitively meaningful in that the former comprises three prevalent conditions reported in primary care settings with the associated impact on academic performance (or visa versa). As such, they are consistent with findings reported by Connell, Barkham, Mellor-Clark and (2008) using the full version of the CORE-OM (Evans et al., 2002) and the Therapy Assessment Form (Mellor-Clark & Barkham, 2006) in which the highest presenting problems in a sample of students were anxiety, interpersonal problems, depression, self-esteem, and academic problems. The latter grouping reflects more complex presenting conditions that might be viewed as requiring secondary or more specialist interventions.

Comparisons were made between UK and US symptom severity to elucidate recent trends on UK mental ill health. Strikingly, UK students were elevated on all CCAPS subscales compared to US (Martin, Hess, Ain, Nelson, & Locke, 2012; McAleavey et al., 2012)(Martin, Hess, Ain, Nelson, & Locke, 2012; McAleavey et al., 2012). This was most noticeable for the first grouping of presenting problems (i.e., depression, academic distress, GAD and social anxiety). Given that the overall indices of psychological distress – the DI and CORE-10 – have a high level of agreement in terms of caseness or not, then it is reasonable to take the UK scores as valid responses to the CCAPS. Hence it would appear that in the present sample at least, UK students scored consistently higher when compared against the US norms. However, although symptoms were more severe in UK students than US, this was less noticeable for eating concerns, family distress, hostility, and substance abuse. These differences may suggest that UK students approach services at higher severity levels than US students and reflect differences in help-seeking behaviour between the two countries.

These differences also reflect the severity of academic distress experienced by help-seeking students in the UK, which highlights the need for practitioners in student counselling services to be experienced in the student context. In effect, student counselling services need to be viewed as a specialist service embedded within university settings rather than potentially being outsourced. For example, while it is highly likely that services such as the UK Improving Access to Psychological Therapies (IAPT) initiative could provide supportive interventions to help-seeking students, it is unlikely that they would have the implicit knowledge base of university routine and scheduling that defines the lives of students. In addition, in many ways students present as a unique population in terms of their age, transient living style, limited tenure (i.e., usually 3 years), reliance on digital technology, and financial constraints. Hence, it can be argued that students require highly developed but flexible in-house services that blend a knowledge of university demands but also utilise the increasing array of digital devices and technologies in order to reach out to students.

Taken together, the initial findings regarding the CCAPS-62 suggest it to be a valid measure of student psychological distress for use with UK students. In addition, they also yield information about probable elevated distress levels for UK students compared with US students and also show the highest relative subscale score to relate to academic distress. The ability of the measure to highlight specific student concerns strongly supports its use in this population.

Conclusions

The current study aimed to provide the initial step in determining the acceptability, feasibility, and potential of the CCAPS-62 as a measure of distress in UK help-seeking students. Our findings illustrate clinical severity in UK help-seeking students beyond that of students in the US. Importantly, the extent of severity was not reflected in the generic measure of general psychological distress, that is the CCAPS Distress Index when compared with the CORE-10. However, specific subscales and in particular Academic Distress, were distinctly elevated. These findings highlight the benefit of measuring components that are specific to students rather than necessarily relying solely on overall measures of distress, which yielded very similar results. Taken together, our findings provide initial validation for use of CCAPS-62 in the UK without requiring revision.

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Table 1. Missing items from ≥ 2 individuals for CCAPS-62 and CORE-10 (N=294)

Item No.	Item	Subscale	Distress Index item	Missing data	
				N	%
CCAPS-62					
41	I am concerned that other people do not like me	Social anxiety	Yes	4	1.4
30	I feel tense	GAD	Yes	3	1.0
45	I feel irritable	Hostility		3	1.0
8	I feel disconnected from myself	Depression		2	0.7
10	I feel isolated and alone	Depression	Yes	2	0.7
18	My thoughts are racing	GAD	Yes	2	0.7
20	I feel worthless	Depression	Yes	2	0.7
32	I have difficulty controlling my temper	Hostility		2	0.7
48	I purge to control my weight	Eating concerns		2	0.7
CORE-10					
10	Unwanted images or memories have been distressing me	Trauma		2	0.7

Note: A further 16 items on CCAPS were omitted by 1 individual (0.3%)

Table 2. Factor loadings from pattern and structure matrices of EFA on CCAPS-62 items (n = 294)

		Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6		Factor 7		Factor 8	
		Depression		Substance Abuse		Eating Concerns		GAD		Family Distress		Social Anxiety		Hostility		Academic Distress	
		P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
55	*I like myself(R)*	.50	.63														
20	*I feel worthless*	.50	.66														
23	*I feel helpless*	.44	.59														
62	*I feel that I have no one who understands me*	.42	.55														
49	*I drink more than I should*			.84	.85												
26	*I drink alcohol frequently*			.82	.81												
29	*When I drink alcohol I can't remember what happened*			.77	.78												
56	*I have done something I have regretted because of drinking*			.75	.76												
50	*I enjoy getting drunk*			.73	.73												
24	*I use drugs more than I should*			.41	.44												
25	*I eat too much*					.85	-										
13	*I think about food more than I would like to*					.80	.80										
5	*I feel out of control when I eat*					.79	.81										
31	*When I start eating I can't stop*					.77	.77										
61	*The less I eat, the better I feel about myself*					.66	.67										
22	*I am dissatisfied with my weight*					.65	.69										
34	*I diet frequently*					.62	.61										
19	*I am satisfied with my body shape (R)*					.59	.64										
27	*I have spells of terror or panic*							-.65	-.70								
4	*My heart races for no good reason*							-.65	-.68								
14	*I am anxious that I might have a panic attack while in public*							-.61	-.68								
33	*I am easily frightened or startled*							-.56	-.59								
18	*My thoughts are racing*							-.55	-.63								

		Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6		Factor 7		Factor 8	
		Depression		Substance Abuse		Eating Concerns		GAD		Family Distress		Social Anxiety		Hostility		Academic Distress	
		P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
1	*I get sad or angry when I think of my family*									-.69	-.70						
11	*My family gets on my nerves*									-.67	-.71						
7	*I feel that my family loves me (R)*									-.65	-.64						
38	*There is a history of abuse in my family*									-.43	-.47						
2	*I am shy around others*											.79	.79				
44	*I feel uncomfortable around people I don't know*											.71	.73				
35	*I make friends easily (R)*											.64	.66				
47	*I feel self-conscious around others*											.45	.56				
54	*I feel comfortable around other people (R)*											.44	.47				
16	*I become anxious when I have to speak in front of audiences*											.43	.46				
41	*I am concerned that other people don't like me*											.42	.56				
43	*I get angry easily*													.80	.79		
32	*I have difficulty controlling my temper*													.76	.75		
36	*I sometimes feel like breaking and smashing things*													.72	.72		
52	*I am afraid I may lose control and act violently*													.64	.67		
57	*I frequently get into arguments*													.50	.55		
60	*I have thoughts of hurting others*													.46	.48		
45	*I feel irritable*													.41	.52		
53	*It's hard to stay motivated for my classes*															.76	.78
59	*I am unable to keep up with my schoolwork*															.71	.72
51	*I am not able to concentrate as well as usual*															.60	.63
6	*I enjoy my classes(R)*															.57	.63
15	*I feel confident that I can succeed academically (R)*															.48	.57

Note: Loadings <.40 have been suppressed. P, pattern matrix factor loading. S, structure matrix factor loading.