

**New students' psychological well-being and its relation to first year academic
performance in a UK university**

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Abstract

Aims: This study (1) profiled the well-being of first year students entering one UK university, and (2) explored whether initial well-being and year-end academic performance were correlated. *Method:* 117 students (mean age 21, 67% female) completed the Rosenberg Self-Esteem Scale (Rosenberg, 1965, 1989), Clinical Outcomes in Routine Evaluation-General Population (Sinclair et al., 2005), and Liebowitz Social Anxiety Scale (Liebowitz, 1987); academic achievement data was collected from academic records. *Results:* Almost a quarter of the sample reported quasi-clinical levels of psychological distress and moderate to very severe social anxiety. Quasi-clinical levels of psychological distress were associated with low self-esteem and social anxiety. No statistically significant links were found between well-being as assessed at the beginning of the first year and academic achievement at the end of the first year. *Discussion:* The failure to find a link in this study between initial well-being and academic performance at the end of the first year suggests that further investigation is required to understand how academic achievement is related to student well-being.

Keywords: academic performance; mental health; self-esteem; social anxiety; university students; well-being.

Introduction

University populations have become more representative of the wider society, including its profile of mental health concerns (for example, see Connell et al. 2008). The convergence has led to policies and guidance for the support of vulnerable students (College of Vice-Chancellors and Principals 2002; University of Lancaster 2002). The last decade has also seen the introduction of tuition fees, the raising of student expectations and the emergence of a global market in higher education, with institutions expected to contribute to national prosperity (O’Leary 2007). These changes are requiring universities to focus on the quality of the student experience; mental health is construed within a broader framework of well-being that implies a link between student experience and university achievement. Against this background we became interested in the psychological profile of student well-being and its association with academic performance. We hoped that clarifying profile and relationship would contribute to guiding student support within a changing educational ethos.

Background

We focused on the first year experience because anxiety increases on joining university (Cooke et al. 2006), a significant proportion of students have problems adjusting to university life (Lowe and Cooke 2003), and student well-being in the first year is poorer than in the general population (Roberts & Zelenyanski, 2002). We conceptualised well-being in terms of personal concerns, self-esteem and social anxiety because these variables often occurred in our academic and clinical experience of students. We also assumed that they are developmentally relevant given that the majority of

undergraduate university students are under 25 and engaged in the transition to early adulthood where self-worth, social relationships and personal coping are salient.

Psychological well-being and academic performance

In a survey of 96,000 students by the American College Health Association (2006), 10% cited depression as one of the top ten obstacles to academic performance, and withdrawal due to depression has been linked to lower academic marks (Meilman et al. 1992). Parker et al. (2005) have shown that emotional competencies are associated with higher academic achievement in first year undergraduates while, conversely, Monk (2004) recorded clinical level scores across professional trainees who were performing academically well.

Roman et al (2008) found that self-esteem had a positive effect on achievement among university students, and was significantly higher in students who passed their first year exams than in those who failed (Bennedsen and Caspersen 2008). Other studies have suggested that the correlation between academic performance and self-esteem is low (first year college students: Stupnisky et al. 2007), inconsistent (high school students: Leeson et al. 2008) or – in a wide-ranging review of the research – unjustified (Baumeister et al. 2003).

Our appraisal of the research relating well-being variables to academic achievement, briefly reviewed here, is that it is unclear at a time when university support services are increasingly oriented to providing support for student learning.

Aims of the study

This study aimed to clarify the relationships between well-being variables and first-year academic performance. The objectives were:

- i. To obtain profiles of incoming first-year UK undergraduate students on measures of personal concerns, self-esteem and social anxiety.
- ii. To determine whether well-being profiles of incoming students and year-end academic performance are correlated in this sample.

Method

Participants

Participants were year 1 undergraduates in a newer, mid-ranked British university, recruited in the period following their acceptance of a place at the university and prior to their arrival. Participants were recruited prior to arrival in order to obtain a pre-university psychological baseline of incoming students rather than students whose well-being was already being affected by their university experience. The study was advertised in the university e-newsletters sent to incoming students and offered entry into a prize-winning draw as an incentive to participate.

The sample consisted of 117 students entering their first year as an undergraduate. 67% were female ($n = 78$), 33% were male ($n = 38$) and 1 person did not provide gender information. The age range of participants was 18 to 47 years (mean = 21, $SD = 5.290$) with 80% of the sample being 21-years-old or younger. The ethnic breakdown was: Asian or Asian British 4% ($n = 5$); Black or Black British 4% ($n = 5$); Chinese 2% ($n = 2$); White 84% ($n = 98$); Mixed ethnicity 5% ($n = 6$); Other ethnicity 1% ($n = 1$). The sample consisted of 3% of the entire first year cohort of undergraduate students (internal source).

Instruments

Participants completed all elements of the study via a confidential online website and in their own time. In addition to basic demographic information, participants were asked to complete the the following measures:

Rosenberg Self-Esteem Scale (RSE; Rosenberg 1989): The Rosenberg scale is probably the most widely used self-esteem measure in the psychological literature. It consists of 10 items scored on a four-point Likert scale from “Strongly disagree” (1) to “Strongly agree” (4), giving a range of 10 (low self-esteem) to 40 (high self-esteem). Extensive and acceptable reliability and validity information exists for the scale (c.f. Blascovich & Tomaka, 1991). In the current study, a Cronbach’s alpha of .828 was found for the RSE, indicating acceptable internal reliability.

Clinical Outcomes in Routine Evaluation-General Population (CORE-GP): The CORE-GP is a shorter version of the CORE Outcome Measure (CORE-OM), a standardized self-report instrument used in a variety of counselling and healthcare setting to measure the impact of personal concerns (Barkham et al. 2001). The items in the CORE-GP were selected to allow for a focus on well-being rather than psychological distress or malfunction. The instrument consists of 14 items with a five-point Likert scale, ranging from “0=not at all” to “4=most or all of the time”, with higher scores indicating higher levels of concern and distress. The CORE-GP has acceptable reliability and validity (Sinclair et al., 2005; Cooke et al., 2006). In the current study a Cronbach’s alpha of .861 was found, indicating acceptable internal reliability. There are norms available for student populations which allow respondents to be classified in “quasi-clinical” or “non-clinical” groups. Sinclair et al. (2005) suggested that those scoring over 1.49 (males) and 1.63 (females) fall in a ‘quasi-clinical’ range.

The Liebowitz Social Anxiety Scale (LSAS; Liebowitz 1987): The LSAS is the most well-known measure of the distress and impairment caused by social anxiety. The LSAS possesses excellent psychometric properties (Heimberg et al 1999), and is one of the most detailed scales available, affording comprehensive coverage of situations that are commonly experienced by people with social anxiety. In the current study, a Cronbach's alpha of .964 was found, indicating good internal reliability. The scale is comprised of 13 items assessing performance situations and 11 items that assess social interaction contexts. Each item is measured on a Likert-type scale, where 0 = no fear or avoidance and 3= severe fear or avoidance. Total LSAS scores can be interpreted on a continuum from moderate to very severe social anxiety.

Achievement data: Academic data for participants was collected, with their consent, from academic records. The data constituted final module marks, i.e. it included exam and coursework marks; for those students who failed the module marks were calculated following the second assessment attempt. Students were automatically entitled to a second assessment attempt and there was no financial penalty for module re-sits.

Ethical Considerations

The university's Research Ethics Committee granted ethical approval for the study. New students were asked to give consent to access their academic records via their student identification numbers. The researchers' concerns were to ensure that consent for access and consent to survey participation were obtained with a full appreciation of the rationale for the study, and that participants were fully assured of the security of personal data, within university systems, once accessed.

Results

Normality of data

Normality of the data was considered through consideration of the skew and kurtosis of the variables, alongside the skew and kurtosis standard errors. Kurtosis is problematic only for the academic achievement data, but all the variables are statistically significantly skewed, indicating that the data is not normally distributed.

Descriptive data

Table 1 shows the descriptive data for well-being variables and academic achievement.

Table 1. Descriptive data for well-being variables and academic achievement.

	Minimum	Maximum	Mean	SD	Skew	SE	Kurtosis	SE
RSE	17	38	29.13	4.29	-.51	.22	.09	.44
CORE-GP	.21	3.14	1.29	.62	.66	.22	.11	.44
LSAS	0	120	42.73	25.81	1.04	.23	.77	.45
Academic achievement	0	86.9	58.54	15.20	-1.92	.22	4.49	.44

Note: RSE = Rosenberg Self-Esteem Scale; CORE-GP = Clinical Outcomes in Routine Evaluation-General Population; LSAS = Liebowitz Social Anxiety Scale.

The mean score on the RSE was 29 (range 17-38), indicating that the sample reported moderate to high levels of self-esteem.

The mean score on the CORE-GP was 1.24 in comparison with the mean of 1.04 for the non-clinical group reported by Sinclair et al. (2005). A frequency analysis for all participants found that 75.2% of the sample scored below a clinical cut-off score of 1.63. Thus fewer than 25% of the sample scored in the quasi-clinical range for psychological distress.

On the LSAS, most participants did not report themselves to be socially anxious, with 75.9% of the sample scoring under the cut-off for 'mild' social anxiety. However, 24.1% of the sample scored above this point in a range from 'moderately' (8.0%) to 'very severely' (5.4%) socially anxious.

For academic achievement, the mean percentage grade of first-year student participants was 58.54 percent with 19% failing the year.

Analysis of dropout sample

The students who dropped out before the end of the first year were compared using a one-way ANOVA, with those who completed in terms of their scores on the three well-being variables and no statistically significant difference was found: RSE (df = 1, 115) $F = .708, p > .05$; CORE-GP (df = 1, 115) $F = .315, p > .05$; LSAS (df = 1, 115) $F = .103, p > .05$.

Analysis of well-being variables

Across the sample, higher levels of self-esteem were correlated with lower levels of personal concerns ($r = -.73, p < .001$) and lower social anxiety ($r = -.71, p < .001$), while higher levels of personal concerns were correlated with higher levels of social

anxiety ($r = .71, p < .001$). With a Bonferroni adjustment the three correlations were significant at $p < .01$.

Levels of personal concerns assessed by the CORE-GP (quasi-clinical and non-clinical groups) were considered in relationship to self-esteem as assessed by the RSE and social anxiety as assessed by the LSAS. Descriptive data is given in Table 2.

Table 2. Means and standard deviations for quasi-clinical and clinical CORE-GP groups on measures of self-esteem and social anxiety.

	CORE-GP groups	Mean	Median	S D
RSE	non clinical	30.54	31	3.30
	quasi clinical	24.85	24	4.16
LSAS	non clinical	34.05	32	18.59
	quasi clinical	67.57	60	27.68

A Mann-Whitney (non-parametric) test was conducted to compare the quasi-clinical and non-clinical CORE-GP groups on the RSE and LSAS. A significant difference was found between the groups with large effect sizes (Table 3): the quasi-clinical level of personal concerns was statistically linked to both lower self-esteem and higher social anxiety.

Table 3. Mann-Whitney test on CORE-GP groups (quasi-clinical and non-clinical).

	U	Exact significance (two-tailed)	Effect size r
Self-esteem	365.50	$p < .001$	-1.03
Social anxiety	369.0	$p < .001$	-.63

Well-being and achievement

Scores on well-being variables were correlated with academic achievement. No statistically significant correlation was found between the start-of-year well-being scores (self-esteem, well-being and social anxiety) and the end-of-year mean percentage grade. The highest correlation, between self-esteem and achievement, was modest at $r = .15$.

A multiple linear regression was run to establish whether the psychological variables predicted academic achievement. The results were not statistically significant: the psychological variables, measured when participants were beginning their first year at university, did not predict their academic performance at the end of that year (Table 4).

Table 4. Multiple linear regression with academic achievement as the dependent variable.

	Standardized B	p-value
RSE	.120	NS
CORE-GP	.027	NS
LSAS	-.044	NS

Note. $R^2 = .018$.

Discussion

The profile of incoming undergraduates indicated that, on each of the variables measured, the majority were in a state of positive well-being. Student participants reporting higher levels of self-esteem were most likely to report low levels of personal concerns and social anxiety. However, one-quarter of the sample reported levels of personal concerns and of social anxiety that were above clinical cut-off points. There were strong, statistical links between quasi-clinical levels of personal concerns, low self-esteem and high social anxiety. These findings are comparable with a recent study of first year UK undergraduates where more than one-third of students ‘demonstrated the potential for psychological health problems’ (Mitchell et al. 2008, p.8). Scaled up for a cohort of 4000 first year students, the current findings suggest a substantial minority with low levels of initial well-being.

The study found no association between levels of psychological well-being (personal concerns, self-esteem and social anxiety) at the start of participants’ first year and their end-of-year academic achievement. Quasi-clinical levels of personal concerns were not necessarily associated with lower grades, while students with high

self-esteem achieved low grades, and vice versa. Psychological well-being did not differentiate between who completed the year and who did not. This finding is in line with Brockelman (2009), who found that undergraduates reporting a mental illness did not obtain significantly different grades than those without a mental illness but contradicts Ward Struthers et al. (2000) who found that self-reported academic stress at the start of the year was inversely related to end-of-year grades.

One perspective on the findings is that any relationship between achievement and well-being may not be apparent in the first year as, in UK universities, first-year marks do not count towards final degree grade and thus students may feel less pressure to achieve academically and hence little threat to self-esteem, or increase in social-evaluative anxiety.

Another consideration is that our components of well-being were global constructs as opposed to subordinate constructs focused on the academic domain. Thus, self-esteem may operate through its impact on academic self-efficacy which has been shown to be positively associated with academic achievement (Multon et al. 1991; Chemers et al. 2001). Similarly, test anxiety is a sub-type of social anxiety where, in studies of undergraduates and graduates, high levels of test anxiety predicted low exam grades (Cassady and Johnson 2002; Chapell et al. 2005).

Additionally, emerging research suggests that relationships between personal and academic variables may not be linear (Fenollar et al. 2007; Chen et al. 2007). Individuals bring personal resources to university, in the form of commitment and social support, which can enhance well-being (Perrine 2001; Sheard 2009; Carney-Crompton and Tan 2002). Well-being deficits may be balanced by positive aspects of the first-year student experience such as social and recreational opportunities. Students also

vary in the effectiveness of the strategies they use to manage the demands of university life; for example, both Stoever (2001) and Ward Struthers et al. (2000) have identified a problem-focused rather than an emotion-focused coping style as a positive contributor to academic achievement.

Another perspective is that the first year of university is a year of adjustment (Baker and Siryk 1984) where student well-being is as likely to be linked to social, domestic and financial challenges as academic performance. Strahan (2003) has suggested that institutions vary in the demands that they place on students and thus in the potential for anxieties to impact on adjustment-related well-being and academic performance. Previous academic achievement has been shown to predict current achievement (McKenzie & Schweitzer 2001) and, in a wide-ranging analysis of factors influencing adjustment and performance, Stoever (2001) found that academic rather than personal adjustment was the strongest predictor of academic performance. There is also a suggestion that students who were previously successful in secondary school may have difficulty identifying the effects of adjustment issues on their academic and emotional well-being (Grant Hayes et al 2008).

It is not uncommon for first-year students - at all levels of academic performance - to seek counselling, which may mediate the relationship between well-being and achievement. Counselling has been shown to enhance retention and is reported by students to enhance academic performance (Turner and Berry 2000), although on more objective measures experience of counselling is unrelated to academic achievement (Olson et al. 2009). However, university counselling services are used by only 3-4% of the student population each academic year (Royal College of Psychiatrists 2003) while, from our sample and as reported by Mitchell (2008), at least 25% of first-

year students have high levels of adverse well-being. This suggests that many students are either gaining support elsewhere or, as suggested by Strahan (2003), are driven to manage academic work despite their anxieties and lack of confidence.

Implications for practice

The statistical independence of well-being and achievement found in this study suggest that university and college counsellors can confidently work from a humanistic value base, facilitating exploration free of institutional concerns about student achievement. However the lack of a statistical link found here does not mean there is no relationship between them for the individual. The utilitarian aims of higher education may not be shared by all students, some being motivated by extrinsic goals such as getting a job but others by interest in their subject (Bye et al. 2007; Purcell et al. 2008). There may be generational differences in clients' expectations of university, approach to learning, personal values and world views (International Educational Advisory Board 2008). Older students may lack confidence in studying while younger students may lack confidence in social relations. Thus clients may be invited to reflect on the meaning of university study and on their sense of competence as a student.

Counsellors may also wish to explore congruence between their clients' academic and personal selves. We have known students who, from an early age, had aspired to become a high-flying barrister but who, by the second year of a law degree, had found themselves profoundly unsuited to the subject. Students can feel academically 'successful' but personally or emotionally 'unsuccessful', together with a sense of obligation to continue for financial reasons, perceived lack of alternatives or shame (see also Nath 2008 for a psychodynamic perspective). Overall, there may be

value in exploring the contribution of ‘being a student’ to the structure of the self, and the extent to which academic engagement is a support or a stressor.

Initial conversations with clients might evaluate the contribution of academic confidence and social anxiety to individual adjustment in the first year, and to academic achievement in following years. There is scope here for liaison with academic and other colleagues in providing related support. Counsellors might also engage their managers and academic colleagues in discussions about the relationship between well-being and academic performance, reflecting on how much ‘supporting students in their learning’, a current rationale for the HE counsellor’s role, might be revised to ‘supporting students in their development’.

In a recent report on student mental health and well-being, researchers at Stanford University concluded that ‘students are often confused, concerned and unrealistic about academic performance’ and that ‘... academic success is not a reliable indicator of emotional well-being’ (Stanford University 2008, p. 2.). We suggest that there is value in counsellors and clients engaging in further exploration of that relationship.

Limitations of the study

The sample of 117 participants taken from a first-year cohort of around 4000 students may be too small to demonstrate significant effects and, as an unstructured sample, may not be representative of the population; certainly the sample appeared to have a higher percentage of female respondents than in the university-wide population, although the percentage of mature students was representative of the university population. In addition, the participants self-selected to respond to the online survey; online research

may attract or be more attractive to some groups of people, including those who are socially anxious or otherwise focused on their psychological well-being.

Beyond the basic demographic data requested in the survey, information about the participant group was sparse. Reflection on the findings would have benefited from information about individual factors that shape their first-year experience such as educational background, mode of attendance and contact with support services.

Interpretation of the findings might also have benefited from more measurement points. A repeated initial measure would have indicated the reliability of well-being scores, which may have reflected temporary emotional states arising from the transition to university. Measures taken at mid-year and pre-assessment would have contributed more immediate evidence of the relationship between well-being and achievement.

Directions for future research

The study findings indicate several lines of enquiry: clarification of the attributes that students bring to university and which impact on well-being and/or achievement; investigation of specific rather than global well-being and academic variables that impact on the first year student experience; and tracking students' use of support services, including counselling, to determine whether these influence the relationship between well-being and achievement. Further research in this area should also aim to recruit a larger, stratified sample, taking account of these limitations. In addition, a longitudinal design that tracks students across their undergraduate degree should be considered as a link between psychological well-being and academic performance may only be perceptible in the critical final year of study. It would also have been interesting to consider the relationship between the well-being variables and different

types of assessments, notably presentations, which might be expected to elicit social anxiety.

Conclusions

This study found significant distress in almost a quarter of incoming undergraduate students but did not find a linear relationship between well-being and academic achievement. The findings suggest a more complex relationship, validating further research to identify possible mediating variables and recommending exploration of its meaning for individual student clients.

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Biographical Information

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