

Identifying and Alleviating Assessment Stress in Higher Education

¹ Matthew Pike, ² Dave Towey ³ James Walker

^{1,3} School of Computer Science, University of Nottingham Ningbo China,
Zhejiang 315100, People's Republic of China

² Department of Civil Engineering, University of Nottingham Ningbo China
Zhejiang 315100, People's Republic of China

¹ matthew.pike@nottingham.edu.cn, ² james.walker@nottingham.edu.cn,

³ dave.towey@nottingham.edu.cn

Abstract

Purpose – High stress levels have become increasingly prevalent amongst students and staff, both academic and administrative, in higher education (HE). Much of this stress has been linked to the mass, "one-size-fits-all" approach characteristic of traditional assessment methods, formative and (especially) summative. Motivated by a desire to better understand and potentially alleviate this, we have commenced a study through which we aim to identify the causal factors of stress in the context of HE assessment practices. Inspired by the disruptive impact digital transformations have had in traditional industries, such as with AirBnB in accommodation or Uber in taxi services, we anticipate future educational affordances that will enable increasingly personalized learning pathways. Such pathways should facilitate less stressful HE experiences, including assessments. Our research goal includes exploration of such potential.

Design/methodology/approach – Our unique situation of a Sino-foreign HE institution has additional layers of relationships and international contexts (a British education delivered through English in China) that add further pressure to the already stressful HE assessment landscape. Prompted by this, we are conducting our investigation into university stress, from the perspectives of both student and teacher. In addition to literature reviews, using tools including questionnaires, interviews, and focus groups, we aim to capture an accurate picture of how and why stress levels vary, for different HE stakeholders, over the academic year. Our data collection will target both students and staff. We will also explore the various emerging technologies that facilitate more personalized HE experiences, aiming to identify those most likely to alleviate assessment stress.

Findings – In conducting this research we hope to identify good practices within HE for assessments that consider the stress and wellbeing of students and staff. Recent technical innovation such as MOOCs and flexible course structures, including personalized learning pathways, may provide the means to reduce assessment-related stress amongst students. Similarly, automated and digitized learning systems can reduce stress amongst staff. The scope and specificity of these technological systems, and how they can best serve actors in an academic environment, are poorly understood – in the context of stress, something we aim to address through this work.

Originality/value/implications – To the best of our knowledge, this is the first attempt at modelling stress in this manner, in an academic context. We hope this work provides the basis for future research into understanding and alleviating assessment stress in HE.

Keywords: stress; assessment; higher education; personalized education

1 Introduction

High stress levels have become increasingly prevalent amongst students and staff, both academic and administrative, in higher education (HE). In 2013, a UK YouGov survey of 16-25 year-old students reported that 54% of respondents were depressed, and cited “School Stress” as the root cause (YouGov, 2013). Likewise, the Australian Bureau of Statistics (2007) found that one in four students had a mental disorder (ABS, 2007). The sources of student stress are not a small issue, and may trigger mental issues with lifelong consequences. Unfortunately, at-risk or vulnerable students are not easy to identify, and even high achievers may be susceptible (often placing unrealistic expectations on themselves to perform, and fearing failure). The importance of this issue cannot be understated. Hence, understanding the factors that introduce stress to students during assessment periods is a critical component of the student experience that we, as educators, should seek to understand and address. Similarly, the occupational stress of HE staff has increased dramatically in the past 15 years (Tytherleigh et al., 2005). This impact has been attributed to large-scale organizational changes including restructuring, downsizing and government funding cuts (Gillespie et al., 2001). Understanding causal factors that increase stress in HE staff will allow HE institutions (HEIs) to provide support and advice to assist staff in coping with stress.

Assessment-induced stress is a relevant and prevalent issue amongst students in HE settings (Robotham & Julian, 2006). Additional factors, such as students who study through a second language, may compound the assessment stress. While recent research has criticised current assessment practices as outdated (Broadfoot, 2017), it is imperative that attempts to “improve” future practices are strongly evidence-informed. In this paper, we detail the ongoing surveying of self-assessed stress levels of staff and students within the Faculty of Science and Engineering at University of Nottingham Ningbo China (UNNC). Through this daily surveying of stress levels, we aim to identify the factors that negatively affect the staff and student experience, and the impact that assessment and other factors may have on stress. In 2004, UNNC became the first Sino-foreign HEI (SfHEI) to establish in China (Feng, 2013). UNNC offers local and international students a British style of education, taught entirely through English, but situated in mainland China. Students in this environment may be subject to additional stresses such as: conducting studies in a second language; more independent teaching (and expected learning) styles; and a greater emphasis on creative problem-solving. One aim of our research is to understand assessment stress in the context of our SfHEI, and specifically to develop guidelines within UNNC for improving the delivery of assessments. Additionally, we are also interested in understanding the impact that completing the survey has on students’ abilities to reflect on individual well-being. The impact of mental health in a HE setting has become a significant issue recently. With these motivations in mind, we developed the following research questions (RQs) that we seek to answer through our research:

1. What are the causal factors that impact staff/student stress in HEIs/SfHEIs?
2. What impact do current assessment procedures have on staff/student stress?
3. How can assessments be designed in a student-centered way?

4. What impact does completing a daily stress survey have on staff/student awareness of their own well-being?

Answering these research questions will provide an evidence-informed approach to suggest how to mitigate assessment-related stress. In performing student-centered research, we will deliver guidelines to assist academic staff who are developing assessment materials. We will also explore technological solutions to ease the anxiety and stress associated with assessment. Existing literature discussing these issues provide conflicting findings on the casual factors that introduce stress to student experiences. Completing this research can facilitate clear avenues of investigation into which guidelines for best practice can be established.

2 Related Work

Misra & Castillo (2004) conducted a survey of 392 university students investigating academic stressors and student reactions to these stressors, specifically looking at differences between domestic American and international students. Their work has parallels that may also apply to local (Chinese) students studying at an SfHEI. Their findings highlighted the need to recognise cultural differences in stress management. Implications for dealing with mental health in this context were also discussed. Similar work was conducted by Bayram & Bilgel (2008), who investigated the prevalence of depression, anxiety and stress among Turkish university students. They asked students to (anonymously) complete an Anxiety and Stress Scale (Lovibond & Lovibond, 1995) with results and findings indicating that a significant proportion of the student population was struggling with mental health related issues.

3 Survey Design and Deployment

To capture student stress levels over time, we developed and deployed an electronic survey. The survey is emailed to participants on a daily basis (including at weekends) at 16:30. The timing gives participants the opportunity to reflect on the day's activities while still being attentive to their university email account.

1. According to your own self-assessment, how stressed do you feel at the present moment in time? *

0	1	2	3	4	5	6	7	8	9	10
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Not at all Extremely

2. Please use the grid below to indicate how much of an influence each of the following factors are contributing to your current feeling of stress *

	Rather Not Say	Not at All	A Little	Average	Quite a Lot	A Lot
Academic Coursework Related	<input type="radio"/>					
Academic Exam Related	<input type="radio"/>					
Academic Lecture Related	<input type="radio"/>					
Academic Research Related	<input type="radio"/>					
Personal/Non-Academic	<input type="radio"/>					

Fig 1. The required components of the daily survey, as seen by participants.

In designing the survey, we focused on minimising the amount of time needed to complete all questions. This was important in order to encourage people to participate over an extended period of time. The survey consists of three questions, the first two being compulsory, and the third being optional. Question 1 asks participants to rate their “current levels of stress” using a Likert scale, where 0 is “not at all stressed” and 10 is “extremely stressed”. Question 2 asks participants to identify the causal factors that contributed to their current level of stress, and the degree to which each factor contributed. Question 3 is an optional text area input where participants can detail reflections on their work day and how this affected their levels of stress.

To conform with technical, legal and ethical requirements, survey data had to be collected using a system hosted within the university network. This excluded the use of a number of external third-party survey services. We instead used the Forms¹ and Flow² components of Microsoft’ Office 365³, a web service UNNC uses extensively in its daily operations. Survey responses are collected using the Forms component, and the automation (survey un/subscriptions, daily emails and consent form checking) is implemented using Flow.

2.1 Survey Deployment

Data collection began on March 25, 2019, and is scheduled to end on May 13, 2019. Participants were recruited through a faculty-wide email, with participation

¹ Microsoft Forms - <https://forms.office.com/>

² Microsoft Flow - <https://flow.microsoft.com/>

³ Microsoft Office 365 - <https://www.office.com/>

incentivised through a reward: 300, 200 and 100 RMB gift vouchers will be awarded to participants with the most survey responses during the data collection period.

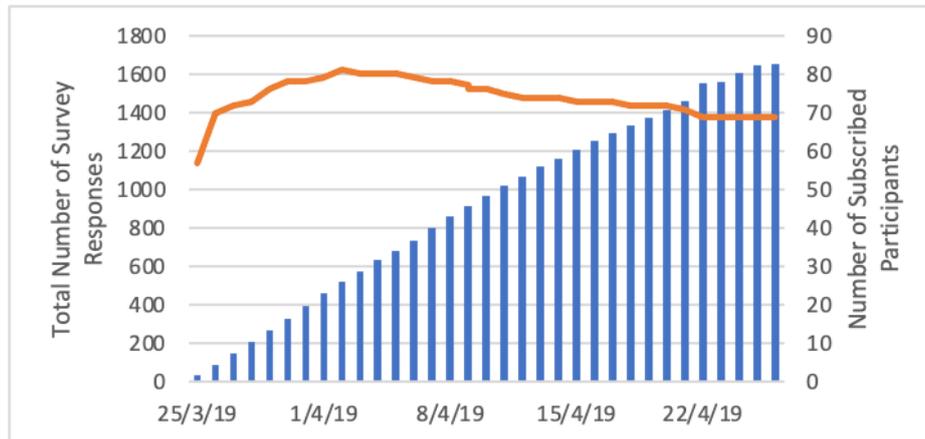


Fig 2. Number of participants is shown in the orange line and the number of total responses is shown in the blue bars.

We provided a mechanism for participants to unsubscribe from the daily email survey. For such departing participants, we asked them identify reasons for no longer wishing to engage in the study. To date, the study has had 12 subscription terminations. Figure 3 shows the distribution of reasons participants gave for disengaging with the survey.

2. (Optional) Could you detail why you're choosing to unsubscribe/

[More Details](#)

- The daily emails are becoming... 3
- I don't want to complete the f... 3
- The incentive (Starbucks vocu... 0
- I forgot to complete the form ... 6
- Other 0



Fig 3. Factors highlighted as primary reasons for leaving the daily email survey.

4 Discussion

In conducting this research, we were guided by four research questions (Section 1).

The study is on-going (expected to conclude on May 13, 2019), and thus the data to answer RQs 1-3 are not yet available. Nevertheless, we are already beginning to see evidence towards answering RQ 4. Participants who unsubscribed were asked if

they had developed a reflective practice, or had experienced increased self-awareness as a part of engaging in the daily survey. Figure 4 shows that half of participants did see an increase in reflecting on their stress and wellbeing. This is an especially encouraging result given that these respondents have identified as not engaging in the survey itself. We plan to continue this line of investigation with participants who have engaged and complete the full survey duration.

3. (Optional) Did you notice, as you were completing the form, that you began to think or reflect upon your stress levels more than you did prior to starting the research?

[More Details](#)



Fig 4. The impact of completing the survey upon un-subscribing participants' self-reflection of their stress levels whilst completing the daily survey

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