

<b>Institution: University of Derby</b>		
<b>Unit of Assessment: 3</b>		
<b>Title of case study: Promoting Academic Integrity and Critical Thinking in Healthcare Professions</b>		
<b>Period when the underpinning research was undertaken: 2006–2017</b>		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Professor James Elander	Professor of Health Psychology	2007–present
Dr Ed Stupple (UoA 4)	Associate Professor in Psychology	1997–present
Dr Shiva Das Sivasubramaniam	Head of Discipline, Biomedical & Forensic	2018–present
Dr Frances Maratos (UoA 4)	Associate Professor in Emotion Science	2006–present
Dr Tom Hunt (UoA 4)	Associate Professor in Psychology	2007–present
<b>Period when the claimed impact occurred: 1 August 2013–July 2020</b>		
<b>Is this case study continued from a case study submitted in 2014? No</b>		
<b>1. Summary of the impact</b> (indicative maximum 100 words)		
<p>Education for healthcare and allied health professionals prioritises academic integrity and academic literacy. Critical thinking is key to evidence-based practice and it is also a specific requirement of the Nursing and Midwifery Council (Standards of Proficiency, 2018). Research at the University of Derby (UoD) improved attitudes and skills related to the academic integrity, authorial identity and critical thinking of students in medicine, health studies, health sciences, health psychology, nursing and allied health disciplines. Pedagogic resources and techniques resulting from the research, including a critical thinking toolkit, were incorporated in policy and practice around the world, and the European Network of Academic Integrity applied the research to promote academic integrity and reduce plagiarism.</p>		
<b>2. Underpinning research</b> (indicative maximum 500 words)		
<p>The graduate nature of healthcare education programmes has increased emphasis on pedagogic challenges such as academic integrity and critical thinking. Researchers in the Unit, along with collaborators in bioscience and psychology, conducted taxonomic analyses, qualitative research, scale development and evaluations of pedagogic tools in order to enhance the integrity and achievement in higher education of students in healthcare and allied disciplines. Three research strands focused on academic integrity, authorial identity and critical thinking.</p> <p>The academic integrity research was conducted by Sivasubramaniam with collaborators including the European Network of Academic Integrity (ENAI; a network of 23 European and Worldwide partner universities). The research included a taxonomic analysis of the components of academic integrity, identifying and resolving differences in the ways that interdisciplinary concepts related to academic integrity are interpreted in different geographical and cultural contexts [3.1].</p> <p>The authorial identity research was conducted between 2008 and 2017 by Elander and Stupple, in collaboration with Pittam (Anglia Ruskin University), Lusher (London Metropolitan University),</p>		

Fox (West London University) and Payne (Middlesex University). A series of projects (including doctoral research conducted by Cheung, a UoD-funded PhD studentship holder), focused on the attitudes, beliefs and behaviours that increase the risks of unintentional plagiarism among students including health studies, health psychology, biological sciences, medicine, and other allied health disciplines. This research provided insights into how students and academics understand authorship and how they perceive themselves as authors and develop the integrative theoretical concept of 'authorial identity' [3.2, 3.3]. This provided a means to translate research findings into practical tools and instructional methods to help improve students' authorial attitudes, beliefs and behaviours. The researchers produced valid and reliable measures of authorial beliefs and attitudes [3.2], including the Student Attitudes and Beliefs about Authorship Scale (SABAS) [3.4], and developed and evaluated interventions to help students adopt authorial approaches to academic writing, thereby improving their writing quality and reducing the risk of plagiarism [3.5]. The publications were in high-ranking journals including *Studies in Higher Education* and *Assessment and Evaluation in Higher Education*.

The critical thinking research was conducted between 2013 and 2018 by Stupple, Maratos, Elander and Hunt in collaboration with Cheung and Aubeeluck (University of Nottingham). The researchers developed the Critical Thinking Toolkit (CriTT), a resource for assessing students' critical thinking that enables users to forecast academic performance, assess students' beliefs about critical thinking, and identify development needs [3.6]. Nurse educators aim to enhance critical thinking as outcomes of Nursing programmes. This has been difficult to demonstrate and different strategies have not always been measured satisfactorily. The CriTT enables beliefs, attitudes and behaviours associated with critical thinking to be assessed with greater validity and reliability than previously.

The authorial identity (SABAS) and critical thinking (CriTT) tools measure motivational aspects of learning and the extent to which students value education (SABAS subscale 'Valuing Writing' and CriTT subscale 'Valuing Critical Thinking'). These resources directly address student attributes that are required by higher education for healthcare professionals. For example, they align with the Nursing Midwifery Council (NMC, 2018, p. 3) articulation of the role of the nurse in the 21st century as having, "the confidence and ability to think critically, apply knowledge and skills, and provide expert, evidence-based, direct nursing care".

### 3. References to the research (indicative maximum of six references)

UoD researchers are indicated by black, underlined text:

**3.1** Tauginienė, L., Gaižauskaitė, I., Razi, S., Glendinning, I., Sivasubramaniam, S., Marino, F., Cosentino, M., Anohina-Naumeca, A. and Kravjar, J. (2019) 'Enhancing the Taxonomies Relating to Academic Integrity and Misconduct', *Journal of Academic Ethics*, 17, 345-361.

DOI: <https://doi.org/10.1007/s10805-019-09342-4>

[A rigorous taxonomic analysis that involved 212 academic terms from over 60 core sources and a combined concept and content analysis that elevated academic integrity as a specific scientific field and practice.]

**3.2** Pittam, G., Elander, J., Lusher, J., Fox, P. and Payne, N. (2009) 'Student beliefs and attitudes about authorial identity in academic writing', *Studies in Higher Education*, 34, 153-170.

DOI: <https://doi.org/10.1080/03075070802528270>

Also available from the UoD online research archive: <http://hdl.handle.net/10545/192714>

[This mixed methods study with focus groups of 19 students and questionnaire surveys of 318 students at three universities describes qualitative exploration of students' understandings of authorship and the development and validation of the Student Authorship Questionnaire.]

**3.3** Cheung, K.Y.F., Elander, J., Stupple, E.J.N. and Flay, M. (2018) 'Academics' understandings of the authorial academic writer: A qualitative analysis of authorial identity'. *Studies in Higher Education*, 43, 1468-1483. DOI: <https://doi.org/10.1080/03075079.2016.1264382>

Also available from the UoD online research archive: <http://hdl.handle.net/10545/621391>

[This paper described qualitative analyses of interviews with 27 professional academic writers across 12 disciplines and five institutions, which provided new insights into academics' views and understandings. Those insights underpinned a theoretical model of authorial identity and its development that can inform further pedagogic interventions and improved practice.]

**3.4** Cheung, K.Y.F., Stupple, E.J.N. and Elander, J. (2017) 'Development and validation of the Student Attitudes and Beliefs about Authorship Scale (SABAS): A psychometrically robust measure of authorial identity', *Studies in Higher Education*, 42, 97-114.

DOI: <https://doi.org/10.1080/03075079.2015.1034673>

Also available from the UoD online research archive: <https://hdl.handle.net/10545/554295>

[This paper reports a major scale development exercise with multidisciplinary samples of 439 and 306 students across multiple universities for exploratory and confirmatory factor analysis consistent with all psychometric good practice to produce a validated measure of authorial identity.]

**3.5** Elander, J., Pittam, G., Lusher, J., Fox, P. and Payne, N. (2010) 'Evaluation of an intervention to help students avoid unintentional plagiarism by improving their authorial identity', *Assessment and Evaluation in Higher Education*, 35, 157-171.

DOI: <https://doi.org/10.1080/02602930802687745>

Also available from the UoD online research archive: <http://hdl.handle.net/10545/192710>

[This paper reports the evaluation of an intervention with 364 student participants at 3 universities. It provides the evidence that an authorial identity intervention improved student beliefs and attitudes about authorship, with the biggest improvements among first-years.]

**3.6** Stupple, E.J.N., Maratos, F.A., Elander, J., Hunt, T.E., Cheung, K.Y. and Aubeeluck, A.V. (2017) 'Development of the Critical Thinking Toolkit (CriTT): a measure of student attitudes and beliefs about critical thinking', *Thinking Skills and Creativity*, 23, 90-100.

DOI: <http://dx.doi.org/10.1016/j.tsc.2016.11.007>

Also available from the UoD online research archive: <http://hdl.handle.net/10545/621117>

[This paper reports the psychometric development and validation of a tool for the assessment and enhancement of critical thinking among students across disciplines.]

## Grants

### G3.1 Higher Education Academy Psychology Network (2008-09): GBP5,800.

Funding received as part of the Network's Departmental Teaching Enhancement Scheme funding programme for the development of an evidence-based resource. GBP5,800 obtained from the mini project scheme to develop the Critical Thinking Toolkit for Psychology (CriTTPsych). Funding awarded to Stupple and Maratos.

## 4. Details of the impact (indicative maximum 750 words)

Professional and regulatory bodies require that graduate education programmes for a range of healthcare professionals include academic integrity, academic literacy and critical thinking, which are key elements of evidence-based healthcare practice. Nursing roles are dynamic and the healthcare context is constantly changing, so nurses must have lifelong learning skills such as critical thinking and reflective practice to adapt to evolving practice environments (Department of Health, 2006, *Modernising Nursing Careers: Setting the Direction*. Department of Health, London). The Nursing and Midwifery Council (NMC) require nursing programmes to prioritise critical self-reflection and safe practice (NMC, 2018, *Future Nurse: Standards of Proficiency for Registered Nurses*). The NMC moreover requires students and registrants to be honest and trustworthy. Lack of academic integrity can result in fitness-to-practice cases and removal from the NMC register. Preparation for registrant qualifications therefore involve assessment of critical thinking, which is often a challenge for students. Avoiding breaches of academic integrity and unintentional plagiarism are significant issues in higher education for health professionals and allied health disciplines.

### Academic integrity

The Unit's academic integrity research enabled the European Network of Academic Integrity (ENAI) to produce and disseminate materials for HE tutors and students to enhance academic integrity, with particular emphasis on ethical dilemmas in the field of healthcare. The materials include a glossary with definitions and explanations of terms, handbooks for improvements in academic integrity, and self-evaluation tools for students, as well as teaching aids, scenarios and case studies [5.1]. The materials are available online in seven languages and are used by universities in over 31 countries via the academic integrity website [5.1].

In 2018, Sivasubramaniam created the ENAI Ethical Advisory Group, which guides institutional policies on academic/medical ethics and influenced worldwide changes in the ways that students and academics engage with academic integrity [5.1]. The Head of ENAI stated: *"He produced an international network for enhancing ethics and medical ethics in particular"*. For example, Kalasalingam Academy of Research and Education, India, created an institutional research policy in collaboration with Sivasubramaniam, who presented workshops for medical and biomedical students and educators to support and enhance their academic integrity. One student commented: *"This was a very enlightening lecture on ethics [I] really gained a lot. Thank you."* [5.2]. During the 2020 lockdown, workshops were delivered online and inspired students at Gulf Medical University, Ajman, UAE, to organise an online debate on ethical dilemmas. These were highly relevant and useful for UAE healthcare students due to COVID-19-related issues [5.2].

Sivasubramaniam's research also significantly contributed to a new PhD course on Academic Integrity Policies at Canakkale Onsekiz Mart University, Turkey, which was delivered to postgraduate students in 2020 [5.2].

### Authorial identity

The authorial identity research enhanced pedagogic practice by providing a theoretical framework and evidence base for positive, constructive ways of instructing students about avoiding plagiarism. The approach involves strengthening students' sense of themselves as authors and increasing their understanding of authorship, rather than traditional 'things-you-mustn't-do' approaches to plagiarism prevention. Several UK universities and other institutions embedded the approach in healthcare teaching, including BSc and MSc Mental Health and Adult Nursing and MSc Behaviour Change at the University of Derby. At the University of West Scotland, London Campus, the authorial identity approach was incorporated in BSc Professional Health Studies and delivered to 100–120 students each year [5.3]. Other UK institutions using the research include London Metropolitan University, Middlesex University, the Northern College of Acupuncture, Bournemouth and Poole FE College and Ulster University [5.3]. An Ulster University Professor noted: *"Drawing on the key concepts of authorial identity has given my students a better understanding of their own authorial identity and the need to avoid unintentional plagiarism. The approach gives students a key understanding of what impacts their ability to write in an academic manner. We also translated the SAQ developed by Pittam and Elander into Chinese and applied it to Chinese students"* [5.3].

Internationally, the authorial identity research helped the School of Health Sciences, Humber College, Canada, to develop their *Academic Integrity Policy*, whereby suspected breaches of academic integrity are treated as opportunities for 'teachable moments' [5.4]. The approach was also adopted by McMaster University, Canada (incorporated into an *Academic Writing and Integrity* course); Old Dominion University, Norfolk, Virginia, USA (incorporated in a module for students found responsible for plagiarism); Judson University, Elgin, Illinois, USA (adapted for elementary school students in the Division of Education); and Fairleigh Dickinson University, Vancouver, Canada (used in the teaching of Administrative Ethics).

At Lingnan University, Hong Kong, the approach was incorporated in *Plagiarism: A Guide for Educators*, a guide for faculty and students on dealing with plagiarism [5.5], and was included in a core UG English course. A Lingnan University representative noted that the approach: *"...gave*



*a fresh view on how to approach the topic of plagiarism with students from a positive constructive perspective – building their identity as authors who then make appropriate decisions regarding use of source materials – rather than from a more negative approach which simply warns students about not plagiarising but may not necessarily give them all the skills needed to avoid it” [5.5].*

### Critical thinking

The critical thinking research provided an evidence-based tool for assessing students’ critical thinking skills and identifying development needs (the CriTT). As there were previously very few pedagogic tools or guidance for critical thinking and self-reflection in Nursing and other health care education, the CriTT is a valuable contribution to Nursing and healthcare education [5.6].

The CriTT forms part of the professional development module in the University of Nottingham’s Foundation to Health Sciences certificate (from September 2020). It is also embedded in Health and Social Care and Psychology programmes at the University of Derby and is part of a study skills suite hosted by the University library [5.6]. It has also been used by UG Psychology students at Staffordshire University, who complete the CriTT then reflect on their scores and what they can do to improve their critical evaluation [5.6].

The CriTT tool was translated into a number of languages including Chinese, French and Romanian [5.6], and has been used by practitioners and researchers including in Canada, Slovenia and the UK. The originating paper by Stupple *et al.* (2017) was republished in Chinese in the *Modern Education Journal*, making the CriTT available in China [5.6].

### 5. Sources to corroborate the impact (indicative maximum of 10 references)

**5.1 Evidence group demonstrating the benefits of the work with ENAI:** Educational Materials for Higher Education; Ethical Advisory Group; and Erasmus final report (2019). Available via: <http://www.academicintegrity.eu/wp/> (Accessed: 22 January 2020).

**5.2 Evidence group demonstrating the international impact of Academic Integrity research:** Kalasalingam Academy of Research and Education, India Research Policy; comment from student attending online workshop (Gulf Medical University), factual statement from Gulf Medical University, Ajman (22 June 2020); factual statement from Canakkale Onsekiz Mart University, Turkey (17 June 2020) and acknowledgement of contribution to Academic Integrity Policies PhD course (07 January 2021).

**5.3 Group of statements evidencing national/international adoption of the Authorial Identity approach:** Lingnan University, Hong Kong (June 2016, March 2019); Fairleigh Dickenson University, Canada (01 February 2015); McMaster University, Canada (15 August 2014); University of Derby, UK; University of West of Scotland, London Campus (04 December 2019); Sharif University of Technology, Iran (June 2020); City University of Hong Kong (June 2020); University of Ulster, UK (June 2020); Bournemouth and Poole FE College, UK (26 March 2016).

**5.4** Humber University Policy, ‘Academic Integrity Policy and Process’ (October 2018).

**5.5** Lingnan University Plagiarism Guide (June 2016).

**5.6 Group of statements to confirm national and international usage and translation of CriTT Critical Thinking and the CriTT toolkit:** University of Bacau, Romania (18 April 2019); Staffordshire University, UK (25 November 2020); University of Ljubljana, Slovenia (03 December 2019); University of Derby, UK (09 November 2020); University of Montreal, Canada (06 March 2020); University of Nottingham, UK; Evidence of Chinese Translation.