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Using the Theory of Planned Behaviour to understand student choice of A-level subject

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Background

In the UK students are given considerable choice over the type of qualification and subjects they can study in post-16 education. The majority of students choose to study a number of subjects at A-level, a qualification that is usually required for admission to University level education. There are several factors that are likely to influence student choice of A-level subject including higher education plans, career/employment opportunities or ability in a particular subject. Recently there have been concerns that other factors such as the perceived difficulty of a subject might be influencing student choice; it is argued that students might be favouring those subjects that are perceived as 'easier', and that this could be adversely affecting the uptake of certain subjects. The decline in the uptake of A-level Physics, for example, in favour of subjects such as Media Studies is well documented, despite initiatives to increase participation. This has led to concerns over maintaining the necessary expertise in sciences and technology in the future.

A small number of previous studies have been conducted into student choice at A-level, that suggested that factors such as future employment considerations, University admission requirements, enjoyment of the subject, usefulness of the subject and ability at that subject influence student choice (Vidal-Rodeiro, 2007; Baird, Ebner & Pinot de Moira, 2001). The current study aims to build on and extend previous research by using the Theory of Planned Behaviour (TPB; Ajzen, 1991) to gain greater understanding of student choice. The TPB is a model of behaviour that has been successfully used to understand and predict a number of behaviours, including participation in physical activity (Armitage, 2005) and healthy eating (Connor, Norman & Bell, 2002). In brief, the theory suggests that engagement in a particular behaviour is governed by an individual's behavioural intentions and their perceived behavioural control (an individual's confidence in their ability to carry out a particular behaviour). Behavioural intentions themselves are determined by three factors; perceived behavioural control, subjective norms (the beliefs an individual thinks significant others hold about whether they should perform that behaviour) and attitudes towards that behaviour. An individual is more likely to engage in a particular behaviour if they are positive towards it, believe there is social pressure to do so and believe they will be able to carry out that behaviour.

Research Questions

This paper will discuss the findings of a quantitative study that explored the utility of the TPB in understanding student choice of A-level subject. The study was designed to explore students' intentions to study two subjects; one that is experiencing a well documented decline in uptake (Physics), and one whose popularity is continually increasing (Media Studies). The inclusion of two subjects in the study would allow an exploration of the factors that influence students' intentions to study each subject individually, as well as allowing comparisons between the two.

Methods

Data was collected via a questionnaire that was designed to measure the variables from the TPB through a series of items, all measured on 7-point scales. In keeping with TPB protocol the development of the questionnaire was informed by pilot work conducted with the target population that assessed individual's beliefs about the behaviour under study. Two versions of the questionnaire were developed; one related to the intention to study Physics, and the other to study Media Studies. A random sample of 400 students was targeted for participation, all of whom were in their final year of compulsory education (aged 15-16). The questionnaires were distributed to participants in early 2010 to coincide with the time students were choosing which A-level subjects to study; this ensured that the issue of subject choice was relevant to participants. Participants' email addresses were also obtained

to allow a follow-up measure of actual behaviour to be obtained in late 2010, and further analysis conducted.

Frame

As is common in studies using the TPB, multiple regression analysis was used to explore the variables in the theory that predict an individual's behavioural intentions. A scale measuring each variable from the TPB was developed from the items on the questionnaire for use in this analysis. Reliability analyses were performed to ensure the internal consistency of each measure, and individual items were omitted if necessary. Techniques such as factor analysis and item response theory (IRT) were also used to explore the underlying structure of the data.

Research findings

The findings of these analyses and possible avenues for future research are discussed. The findings from this study contribute to a number of research areas; they will provide a greater understanding of student choice at A-level, by identifying variables from the TPB that contribute to students' intentions to study Physics and Media Studies, as well as exploring any differences between the two subjects. There was little evidence that the TPB had previously been applied in an educational context, meaning the findings would also explore the utility of the theory in this context and add to the literature concerning the TPB. Additionally, the findings will be useful in informing future initiatives designed to increase the uptake of subjects such as Physics.

References

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