

Power of Perceptions

3 January 2017 to 31 March 2018

Ann Jardine

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Modifications: Changed to meet WCAG 2.0 accessibility requirements.
Alternate text inserted for all images. Minor typographical errors corrected.

Higher Education Participation and Partnerships Programme (HEPPP)

2016 National Priorities Pool FINAL REPORT

Power of Perceptions

3 January 2017 to 31 March 2018

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In accordance with the Conditions of Grant, you must submit to the Department a Final Report (Clause 6.1 of Part A) and an Acquittal Report (clause 6.4 of Part A).

To meet this obligation, please submit:

- the completed **Final Report** template, in Word and PDF
- the completed and signed **Declaration** form, in PDF
- the completed **Acquittal Report** template, in Excel and PDF.

All documents must be submitted to equity@education.gov.au by **31 December 2017**.

If you require additional guidance or clarification, please contact us at equity@education.gov.au.

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1. PROJECT SUMMARY (Conditions of Grant, clause 2.2 of Part A)

Objectives

Table 1: Project objectives

IDENTIFIED OBJECTIVE	EXTENT TO WHICH THE OBJECTIVE WAS MET
<p>To identify key elements that shape regional and remote low status students' aspirations to access university and then measure their perceptions about these elements, and to quantify their impact on student progression.</p>	<p>A number of the elements that shape regional and remote students' aspirations to progress to university were identified through a complete literature review. This was complemented by input from UNSW-ASPIRE's outreach staff, both practitioners and researchers. The theory of planned behaviour was employed to categorise the elements found, shaping a research model. These categories are students' attitudes towards university, their perceptions of control towards the decision of progressing towards university, and the way significant others' opinions and support were perceived by these students.</p> <p>A sample of 620 students in Year 12 from regional and remote areas of NSW was surveyed and asked to assess these elements according to their perceived importance. The results of this survey allowed quantifying the impact of the elements/obstacles previously identified. The data collected was modelled using statistical techniques, particularly structural equation modelling.</p> <p>The findings show that students' attitudes towards progressing to university is the most important predictor of regional and remote students' intention to progress to university. There are consequences to practitioners which are explained in the academic article prepared.</p> <p>Therefore, this objective was completely met.</p>

Project Activities, Milestones and Key Performance Indicators

Table 2: Project activities, milestones and KPIs

TIME FRAME	PLANNED ACTIVITIES & MILESTONES	PROJECT ACTIVITIES & MILESTONES COMPLETED	IDENTIFIED KEY PERFORMANCE INDICATORS	KEY PERFORMANCE INDICATORS OUTCOME
Nov 2016 – Dec 2016	1.1 Project Officer recruitment.	Project Officer with PhD and research skills in quantitative methodologies recruited	1.1 A Project Officer with the knowledge, skills and experience to successfully deliver the Project is appointed.	Completed Project officer recruited and commenced initial work on the project in late November 2016.

TIME FRAME	PLANNED ACTIVITIES & MILESTONES	PROJECT ACTIVITIES & MILESTONES COMPLETED	IDENTIFIED KEY PERFORMANCE INDICATORS	KEY PERFORMANCE INDICATORS OUTCOME
	1.2 Evaluation framework development	A scan of relevant international research undertaken	1.2 An evaluation framework that will allow a determination to be made of whether or not the Project has successfully delivered all outcomes is devised.	Completed Evaluation framework developed and implemented.
Dec 2016 – Feb 2017	2.1 Submission of application for ethics approval to the University of New South Wales.	Ethics approval sought from both UNSW and due to the involvement of school students, subsequently the appropriate area of NSW Department of Education (DET)	2.2 Application for ethics approval submitted in sufficient time for approval to be granted by the end of February 2017.	Completed UNSW ethics approved (HC16959) and NSW DET SERAP approved (2017003)
Jan 2017 – Apr 2017	3.1 Literature review to develop a comprehensive understanding of the factors which can affect students' perceptions of their capacity to participate in higher education.	A comprehensive review of international research undertaken	3.1 Literature review is completed.	Completed Literature review undertaken and completed. Literature review was constantly updated through the project life and used to write an article for journal publication.
	3.2 Research model formulation.	A research model was developed and tested with relevant and experienced outreach practitioners. The developed research model illustrates the different variables found during literature review and the relationships between them.	3.2.1 Draft research model, which includes identification of relevant variables, measuring scales and theoretical framework, formulated by the end of March 2017. 3.2.2 Final research model formulated by the end of April 2017	Completed Final research model was completed. The project survey instrument was then based on the research model.
	3.3 Identification and confirmation of the schools which will participate in data collection.	ASPIRE schools were included in the list of schools invited to participate. In addition similar non ASPIRE regional and remote schools in NSW were identified and invited to take part. After discussion with both schools and practitioners it was decided to confine the	3.3 Confirmation of agreements with up to 15 ASPIRE partner schools with senior high school cohort (Years 10, 11 and 12)	Completed The final total number of participant schools was 33, from which 15 were ASPIRE partner schools. The total number of students who took part in the study was 695.

TIME FRAME	PLANNED ACTIVITIES & MILESTONES	PROJECT ACTIVITIES & MILESTONES COMPLETED	IDENTIFIED KEY PERFORMANCE INDICATORS	KEY PERFORMANCE INDICATORS OUTCOME
		research to Year 12 students		
Mar 2017 – Apr 2017	4.1 Survey development based on extant literature to identify the key elements relating to aspirations and designed to test perceptions of university education	A survey instrument was developed based on the literature review process and on the research model.	4.1.1 Draft survey developed by 2017. 4.1.2 Survey finalised and piloted in two ASPIRE schools by the end of April 2017.	Completed. The veracity of the survey was tested with UNSW-ASPIRE staff and also with a group of volunteer UNSW students who are mentors for the targeted students.
May 2017 – Jun 2017	5.1 Data collection.	A process was developed to collect data in situ in schools in order to maximise participation and minimise incomplete responses.	5.1 All 15 ASPIRE Schools with a high school component invited to participate with the aim for an 80% take up rate. 5.1.1 All participating schools visited by ASPIRE team members and the researcher in early May 2017 to administer the survey and maximise the return rate. 5.1.2 Surveys distributed via the ASPIRE schools with a collection method either via school or pre-paid envelope. 5.2 All data collected by the end of May 2017	Completed Visits were organised and discussed independently with the participant schools. Authorisation to perform the study was requested from all principals and/or careers teacher. Two researchers visited every participant school, and students at these schools asked to complete the surveys at that time. Surveys were then collected.
Jul 2017 – Aug 2017	6.1 Data input and analysis.	Appropriate quantitative techniques for data analysis were identified	6.1.1 Input of all survey data collected is completed by the end of July 2017. 6.1.2 Preliminary data analysis is completed by mid-August 2017. 6.1. Final data analysis is completed by the end of August 2017.	Completed All the collected responses were uploaded to a data base, and further analysed through SPSS (statistical software) and AMOS (structural equation modelling) was conducted.
Sept 2017 – Dec 2017	7.1 Findings and conclusions	Data were fully analysed, findings and conclusions drawn	7.1 Research findings and conclusions are finalised, including: a. the identification of factors influencing aspiration towards	Completed The research explored three critical factors in the determining of regional and remote school students' intentions to progress to university:

TIME FRAME	PLANNED ACTIVITIES & MILESTONES	PROJECT ACTIVITIES & MILESTONES COMPLETED	IDENTIFIED KEY PERFORMANCE INDICATORS	KEY PERFORMANCE INDICATORS OUTCOME
			<p>and access to higher education for low socio-economic status, regional/ remote students</p> <p>b. categorisation of the importance and impact of these factors, and</p> <p>c. recommendations on feasible strategies to improve aspiration towards and access to higher education for low socio-economic status, regional/ remote students.</p>	<p>attitudes, the opinions of significant others and students' perceptions of control. Results show that students' attitudes towards university and the influence of social capital were found to be the most important predictors of students' intentions to progress to university.</p> <p>Research findings, conclusions and recommendations for practitioners were first presented at the EPHEA 2017. Subsequently a journal article has been written with the intent of submission to the Studies in Higher Education Journal.</p>
Nov 2017 – Dec 2017	8.1 Publication and dissemination of results.	Draft of a journal article written. Potential Journals identified.	8.1 A conference paper or journal article presenting the Project outcomes is prepared and targeted for submission to an appropriate conference or peer-reviewed journal.	Completed Journal article has been readied and ready for submission for review to Studies in Higher Education journal.
	8.2 Delivery of the Final Report and Acquittal Report.	Final report prepared	8.2 Final Report and Acquittal Report submitted to the Department of Education and Training by 31 December 2017.	Complete Final report and acquittal written for submission to the Federal Government.

Highlights and Issues

Provide a summary of highlights and achievements arising from your project (maximum half page).

- The research enabled a comprehensive list of elements and obstacles perceived by students as capable of shaping their perceptions about university and progression to further studies to be fully developed.
- This then enabled a research model to be built and tested.
- A survey instrument was developed to measure the impact of each of the variables in the research model among students in Year 12 in remote and regional settings. This survey instrument could be applied to further research.
- Findings show that students' knowledge about university is positively related to their attitudes towards progressing to university and their perceptions of control about this decision.
- In addition, the results of this study show that regional and remote student's attitudes are the most important predictor of their intentions to progress to university.
- As a consequence, practitioners interested in improving students' intentions to progress to university could find the results and recommendations of this study able to inform their practice.

Outcomes

The outcomes of this study will assist in providing widening participation practitioners with empirical research upon which to base decisions on program design. In turn it is hoped this will assist in addressing the underrepresentation of low SES rural students in Australian university populations.

For further details, please examine the section "*Implications for practitioners*" in the accompanying research article.

Did you undertake an evaluation of your project?

Yes No (not applicable)

Summary

Results of this research showed that:

- Students' attitudes towards university and the influence of social capital were found to be the most important predictors of students' intentions to progress to university.
- Students' perceptions of control, this is perceived ownership of skills required to succeed in university (among others), were not found to be relevant when simultaneously analysed with attitudes and influence of social capital. An explanation to this could be given by the possibility that perceptions of control have already influenced and contributed in the shaping of students' attitudes (which is in turn the stronger predictor of students' intentions to progress to university) during previous years. Therefore, perceptions of control might be considered as a secondary factor by students in Year 12, once attitudes towards university have been already shaped.

- Students' knowledge about university (study programs, university life, careers) proved to be a very relevant predictor of attitudes towards university and perceptions of control. This is, students with more knowledge about university tend to have more positive attitudes towards university and better perceptions of control over the decision of progressing to it.
- It is relevant to mention that these results are relevant for the sample analysed, this is, regional and remote students in Year 12 of school in NSW.

Project outcomes are presented and explored in detail within the accompanying research article. A confidential draft of the research article has been attached in compliance with section 6.1 C in Part A of the Conditions of Grant.

Student contacts	695
Journal (or other publication) submissions	1 – Studies in Higher Education is proposed
Conference Presentations	1 – 2017 EPHEA Conference
Websites developed	N/A
Educational or marketing campaigns	N/A
Community organisations engaged	N/A
Schools engaged	33
Parental/family contacts	N/A

Issues

Although initially 15 schools were contemplated to be part of the study, it was later decided that more schools were required to increase the number of students in Year 12 in the sample. In this way, 33 schools were finally part of the project, which was achieved after acquiring ethics allowance from both UNSW and SERAP.

Original times scheduled for data analysis and article writing were slightly underestimated in part due to the increase in schools and the travel involved in visiting all schools, and in part due to the time taken to obtain SERAP approval. However, the project has been completed within the timeframe.

2. OTHER PROJECT MATERIAL (Conditions of Grant, clause 2.2 (b)-(e) of Part A)

Table 3: Additional materials produced over the course of the project

TYPE	AUTHOR	DATE OF PUBLICATION	PUBLICATION DETAILS
EPHEA 2017 PowerPoint presentation	Dr Franz Carrillo	November 2017	Unpublished conference slides

Appendix: EPHEA 2017 PowerPoint Presentation



The banner features the UNSW Sydney logo on the left, which includes the text 'UNSW SYDNEY' and 'Australia's Global University'. The right side of the banner shows a blue sky with several graduation caps and hands reaching up. The word 'AimHigh' is written in large white letters across the sky. Below the sky, a dark blue bar contains the text 'Building bridges over barriers to higher education.' in white.

**Factors capable of predicting
regional and remote high
school student's progression
to university**

Dr Franz Carrillo

Rural high school students and access to university

- Objective: to understand, classify and assess some of the variables capable of predicting rural high school students' progression to university
- This group has been identified as requiring particular attention, underrepresented in Australian universities (Bradley report, 2008)
- Geographic isolation, distances, obstacles limiting students' freedom to choose (Robinson, 2012)



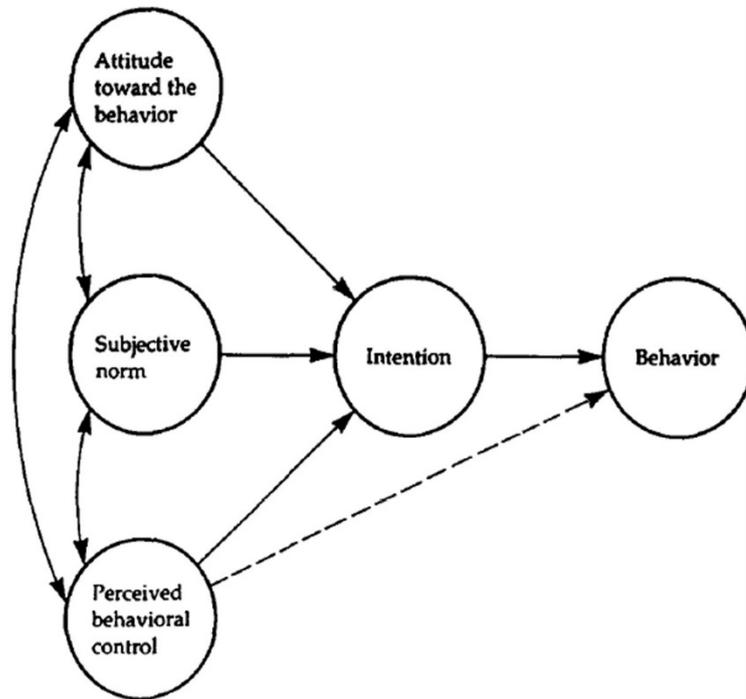
Multiple obstacles perceived by rural students

- Absence of local universities and programs of interest
- Lack of culture conducive to the pursuit of higher studies
- Unawareness of university's long terms benefits, lack of goals
 - 'University isn't for me' – 'I won't fit in'
 - 'I don't know anybody who's been at uni before'
- Lack of information about courses and careers
 - Entry requirements
 - University life
 - Jobs and roles once degree is obtained
- Unwillingness to leave local areas
 - Feelings of isolation
 - Missing out things at home
 - Fears of apprehension about relocation
- Lack of interpersonal support, career guidance
- Financial issues
- Gender stereotypes
- Commitment to rural lifestyles
- Self-efficacy
- Immediate needs (VET, jobs)



Theory of Planned Behaviour (Ajzen -1991)

- Theory used for predicting behaviour
- TPB successfully used in areas such as psychology, marketing, management, business, education
- Theoretical framework: TPB allows classifying obstacles to students' aspirations



Attitudes

- 'Tendency to respond with some degree of favorableness or unfavorableness to a psychological object' (Fishbein and Ajzen, 2010)
- Extent to which students have the conviction of university as something useful
- Related to goals in life
- Students with greater motivations, who consider university as:
 - life-changing option
 - relevant, useful, in positive terms
 - necessary for accessing higher level job opportunities...
 - ...will be more likely to show a positive intention towards progressing to university (Flouri, 2006; Jacob and Wilder, 2010; Gorard, 2012)

Attitudes

- On the other hand, students who have:
 - neutral or negative perceptions about university
 - more immediate goals and needs, such as acquiring a job soon after finishing high school or enrolling in short courses
 - difficulties breaking family bonds (relocation to other towns, cities)
 - ...will be more likely to show negative intentions towards university progression (Naylor et al., 2013)



Subjective norms

- Social pressure to perform (or not) any behaviour (Fishbein and Ajzen, 2010)
- Known also as 'Social Capital' in education literature
- Opinions, attitudes, assessments of students' significant others towards university progression:
 - Teachers (teaching style) – supportive teachers → students with higher aspirations
 - Parents (parenting style) - family
 - Peers
 - Friends



Subjective norms

- Positive link between students' significant others opinions about university and students' intentions about progressing to university



Perceptions of control

- The more control the individual has, the more likely to perform the behaviour (Fishbein and Ajzen, 2010)
- Controllability and Self-Efficacy
- Controllability: extent of volitional control, willingness
 - Financial support, logistic considerations
 - Grades
- Self-Efficacy: Assessment of own capabilities
 - Being 'smart enough'
 - Academic skills
- Students who have higher perceptions of control are more likely to persevere when facing problems (Gorard et al., 2012)

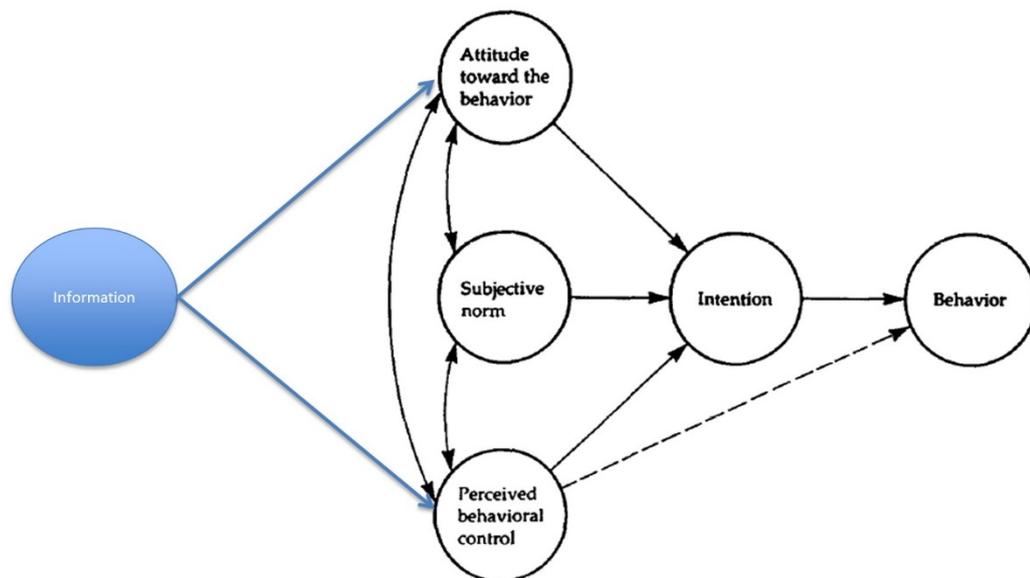


Perceptions of control

- Positive relationship between rural high school students' perceptions of control about progressing to university and their intentions to progress to university



Information – Students' level of understanding of university



Information and understanding about university

- Multiple benefits of university education
 - Higher salaries, better employment conditions
 - Moving up in socioeconomic ladder
 - It's been related to healthier life styles
- Some students seem to be unaware about this
- Students who have accurate understanding of university are more likely to recognise these benefits
- Information access and improved levels of understanding about university: ambiguity, stress and anxiety
- Sense of mastery



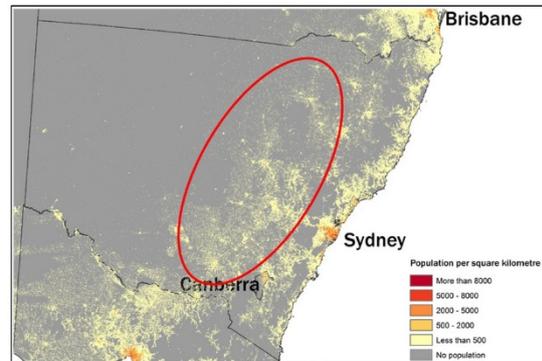
Information and understanding about university

- Information and clear understanding of university, careers, programs and paths are likely to improve students' attitudes and perceptions of control about progressing to university



Methods: Data Collection

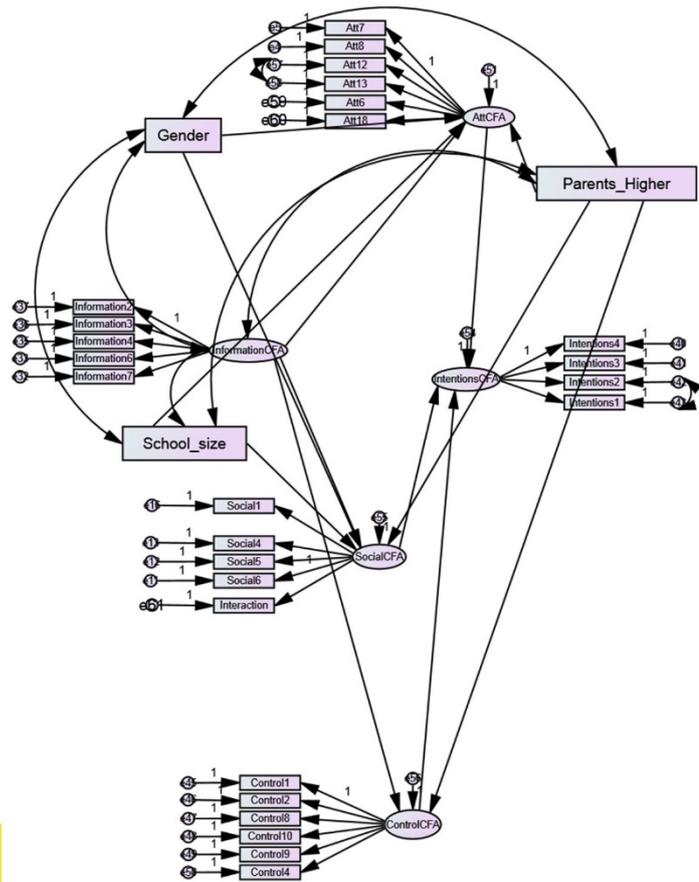
- 695 high school students in year 12 surveyed in 33 schools in NSW rural areas
- Schools ranging between 200-800 km from Sydney
- Paper-based questionnaire
- Focused on learning students' opinions and perceptions about elements in TPB, using a 5-points Likert scale



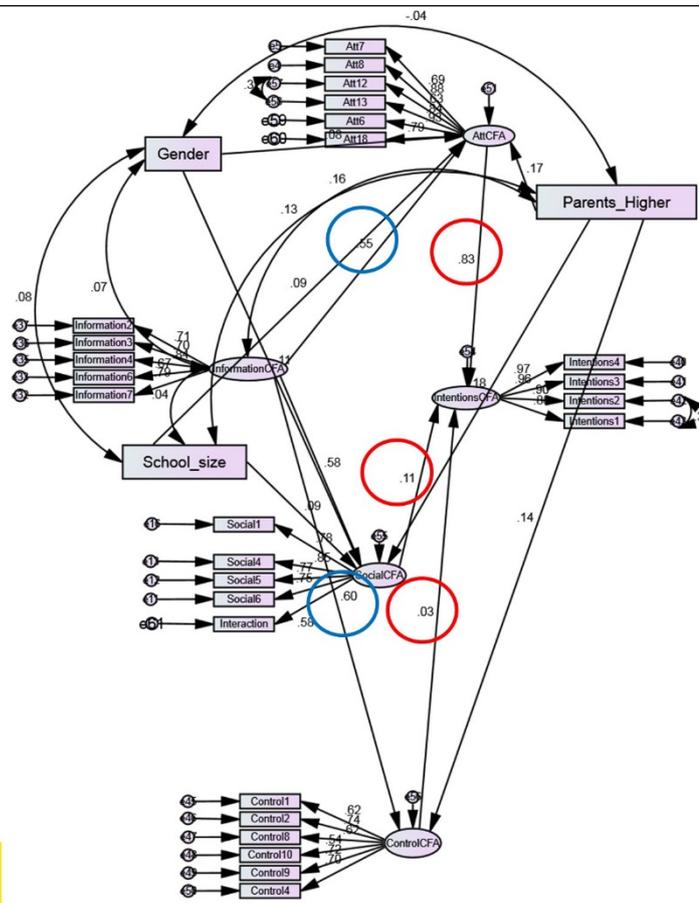
Structural Equation Modelling

- Statistical technique
- Use of abstract constructs, which are composed of several observed variables
- Method allows to test several sorts of scale validity through confirmatory factor analysis (CFA)
- Assessment of relationships between constructs

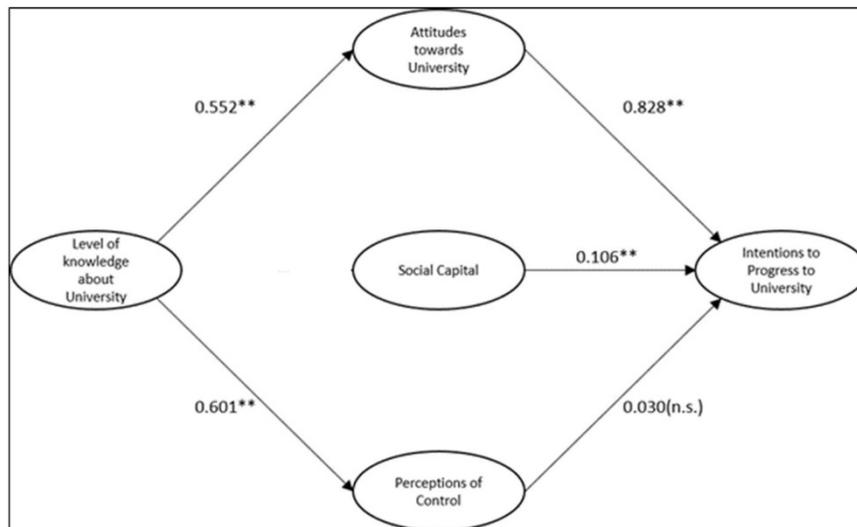
Structural model



Structural model



Results



Conclusions and implications for practitioners

- Attitudes held by students towards university is the most important predictor of intentions
 - Confirms results found by Cooper et al. (2017)
 - Students with positive attitudes are very likely to have positive intentions
 - Help and support students to build their goals in life
 - Explain university's role as a facilitator for achieving these goals
 - Assessing and monitoring goals' evolution throughout school years
 - Advantages/Disadvantages of job/university option
- Subjective norms also influence students' intentions
 - This confirms roles of parents, teachers, peers and friends in supporting students' intention of progressing to university
- Information and level of understanding about university was found to be equally and strongly relevant in promoting both positive attitudes and confidence in rural high school students about progressing to university

Conclusions and implications for practitioners

- Perceptions of Control was found not relevant when simultaneously assessing them along attitudes and subjective norms
 - Perceptions of control might have already contributed to the shaping of students' attitudes
 - Studies arguing that decision is taken in Years 9-10 (Auger et al., 2005; Watson and McMahon, 2005)
 - If this is the case, practitioners should concentrate efforts on these years, supporting them in building self-confidence in their skills and increasing controllability about the decision of progressing to university



Thanks!

Would you want to know more:
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Scales	Factor Loading
Intentions ($\alpha=0.96$)	
I'm willing to take the challenge of going to university once I finish school	0.90
I'm going to work as hard as I can to go to university once I finish school	0.92
My plan for once I finish school is to go to university	0.96
I am determined to go to university once I finish school	0.97
Information ($\alpha=0.87$)	
I have a clear idea of what I would like to study	0.73
I have a clear idea of what university would be like	0.71
I have a clear idea of the career opportunities I would have with a university degree	0.85
I have a clear idea about pathways to study programs and entry requirements	0.68
I have a clear idea of the jobs and roles that I could take back to my community if I get a university degree	0.80
Attitudes ($\alpha=0.91$)	
I would like to go to university	0.93
I'm not bothered about university, since I could get a good job without going to university	0.68
I think university would help me to achieve my goals in life	0.88
I think it is worth sacrificing some things, such as being far from the family, in order to get a university degree	0.65
I think going to university would make a positive difference in my life	0.86
University is not for people like me	0.79
Perceptions of Control ($\alpha=0.82$)	
I think I don't have the right skills to succeed at university	0.61
I think I am smart enough to go university	0.74
I think I would fit in at university	0.70
I am confident that I can go to university if I want to	0.62
I think my school grades are good enough to allow me to go to university	0.72
I am confident that I could find financial support to go to university (regardless of the source: family, government, universities, etc.)	0.53
Social Capital ($\alpha=0.87$)	
Most people who are important to me think that I should go to university	0.80
My parents/caregivers support and encourage the idea of me going to university	0.83
My teachers support and encourage the idea of me going to university	0.76
My friends think it is a good idea if I go to university	0.77
Frequency in the interaction with parents about topics related to school and university	0.58

