



Investigating the Relationship Between Basic Values, Two Aspects of Self-Determination and Academic Self-Perception

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ABSTRACT

The purpose of this research was to determine whether university students' basic values and self-determination are associated with their academic self-perception. Additionally, the study also looked to find any differences in academic self-perception across different years of study, and different courses of study.

An opportunity sample of 137 current university students was used. Participants were required to answer three questionnaires, The Academic Self-Perception Subscale, The Self-Determination Scale and The Portraits Values Questionnaire.

Results found that the two aspects of self-determination studied both had a significant correlation with students' academic self-perception. Additionally, self-enhancement, one of the basic values, was found to negatively correlate with academic self-perception.

The research shows that teachers and lecturers should focus on ensuring students have a sense of choice in their studies and studying habits, whilst still offering support and guidance when needed. More so, teaching self-awareness, especially from a young age, could positively impact upon academic self-perception as one develops through their school career.

KEY WORDS:	ACADEMIC SELF-PERCEPTION	AWARENESS OF SELF	BASIC VALUES	PERCIEVED CHOICE	QUESTIONNAIRE
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Introduction

Self-Determination Theory

Self-determination can be defined as “determination by oneself or itself, without outside influence” or “the process by which a person controls their own life” (Oxford University Press, 2016)

The Self-Determination Theory (SDT) is a theory of human motivation, development and wellness (Deci and Ryan, 2008), and rather than focusing on the amount of motivation an individual has, this theory focuses on types of motivation. SDT is based around the idea that we, as humans, have three necessary psychological needs. The first need is *competence*; being able to control and master the environment. The second need is *relatedness*, we desire to interact with, care for and be connected to other people, seeking a feeling of ‘belongingness’. The third need is *autonomy*, having a sense of free will, and acting because of our own personal values and interests (Tran, 2014). The dynamics of these psychological needs have been studied within a range of areas such as in families, cultures and classrooms (selfdeterminationtheory.org, 2016).

Self-Determination in the Academic Setting

There is surprisingly very little research that examines self-determination in the academic setting, however, Erickson et al. (2015) discovered that in students with intellectual disabilities, those with improved self-determination skills have increased productivity and organisation during school life. It is important to note that this study only used individuals with intellectual disabilities, so it is unclear whether the link between self-determination skills and increased productivity is applicable to the whole academic population. Therefore, this research will expand and look across students as a whole.

Additionally, Taylor et al. (2014) looked at motivation in high school and college students in Canada, using The Self-Determination Theory as their theoretical background. They found that intrinsic motivation (an aspect of autonomy) predicts school achievement and that it was the only motivation type that was positively associated with academic achievement. Additionally, a-motivation was found to be negatively associated with academic achievement. They also found that intrinsic motivation was associated with less a-motivation one year later, suggesting that intrinsic motivation can prevent students from becoming disengaged.

Liu et al. (2013) studied 238 junior college students, looking at individual differences in self-regulated learning, in terms of SDT related variables (autonomy, competence, relatedness), alongside a ‘motivated strategies for learning’ questionnaire, an academic self-regulation questionnaire and an intrinsic motivation inventory. It was found that those who had positive psychological outcomes in terms of the SDT variables had better grades. As this research focuses on students who take the same classes, it would be interesting to see if these results reoccur within students across a variety of classes.

The present study aims to develop upon such findings by looking at aspects self-determination, alongside basic values, as a potential factor in developing a positive academic self-perception. One of these aspects of self-determination is *awareness of self*, which has been found to be linked to increased motivation and academic performance. Flavian (2016) looked at how developing a stronger understanding and implementing methods that can develop self-awareness and strengthen students' education experience. Through a series of interviews, they found that teachers who based their teaching on building reciprocity and more meaningful learning processes better understood each students' individual self-awareness, which then allowed them to improve their students' internal motivation as well as creating a more positive atmosphere in class. Flavian (2016) also stated that children need to develop self-awareness in their early childhood in order to be more successful in school later in their lives.

The other aspect of self-determination used in this research is *perceived choice*. Ross and Broh (2000) studied students from 8th grade to 10th grade and found that those who had higher perceived personal control in 8th grade had higher academic achievement in 10th grade, and this academic achievement increased their perception of personal control.

Research that may explain the above findings suggests that perceived choice increases intrinsic motivation. Patall et al. (2008) looked at the effects of choice on intrinsic motivation in both adults and children. They established that having a sense of choice enhanced intrinsic motivation, increased effort and task performance, as well as perceived competence. Additionally, they found that choice had a better outcome on intrinsic motivation for children than for adults, and further stated that although the SDT makes no predictions regarding the moderating effects of age, previous meta-analyses examining other aspects of SDT have found differences between adults and children also.

Theory of Basic Values

Schwartz (2006) states that values are beliefs that we have and that these values act as a motivational construct. Values are the "desirable goals" that people are constantly working towards. Values serve as 'standards' or 'criteria', guiding the selection or evaluation of actions policies, people and events. Each individual organises their values into an order of importance, relative to one another. This order of importance is what characterises them as an individual. Additionally, because of this hierarchical format of values, values are separated from standard social norms and attitudes. There are ten basic types of values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security. From this, four higher order values have developed, which encompass the ten basic values. This research looks specifically at these four higher-order values in the theory of Basic Values: Openness to change, Self-Transcendence, Conservation and Self-Enhancement, as well as two key areas relating to The Self-Determination Theory; awareness of self and perceived choice. The four higher order values are (Norwegian Social Science Data Services, 2016):

1. **Openness to change:** An individual pursues the intellectual or emotional directions that they wish, regardless of how unpredictable or unclear the outcomes may be (self-direction, stimulation, hedonism).
2. **Conservation:** Upholds the three values; conformity, tradition and security. It is the idea of Upholding the 'status quo' and the certainty it provides in relationships with close others, institutions, and traditions (conformity, tradition, security).
3. **Self-enhancement:** Boosting one's own personal interests, even if this is at the expense of others (power, achievement).
4. **Self-transcendence:** Exceeding one's selfish concerns and supporting the welfare of others, close and distant, and of nature (universalism, benevolence).

Values in the Academic Setting

Fatoki (2014) looked at the personal values of university students in South Africa. Schwartz (2012) portraits values questionnaire was used and results showed that students' most significant value was *achievement* (an aspect of self-enhancement), followed by self-direction (an aspect of openness to change), benevolence and universalism (aspects of self-transcendence) and security (an aspect of conservation). Additionally, it was also found that those students who scored high in conformity had a tendency to behave well and avoid doing wrong. Fatoki (2014) states that "caution must be exercised in interpreting the findings and making generalisations", as the participants within this study were all students from the same university. The proposed research aimed to develop and expand upon research such as Fatoki's (2014), and look across a variety of students studying at *different* universities.

Liem et al. (2011) looked at whether value orientations (achievement, security, conformity, hedonism) are linked to achievement goals as predictors of achievement in English and Mathematics. They found that achievement values 'security' and 'conformity' positively predicted the social-orientated achievement motive, and that 'self-direction' values positively predicted individual-orientated achievement motive. Additionally, it was also found that 'hedonism' was negatively associated with social-orientated and individual-orientated achievement motives. It is important to note, however, that with this research, although it can be seen as one of the study's strengths, only focuses on Indonesian students. The researchers state that comparison of their "findings with data from Western and other Asian cultures ... are needed to clarify the extent to which the hypothesized told true across a range of cultures."

Lietz and Matthews (2006) looked at 207 University students and to see how students' values and approaches to learning influence academic achievement both directly and indirectly. Results showed that values and learning approaches have a moderate impact upon achievement when considered with other factors such as gender and whether the students studied an arts or a science degree.

Building from this, Tarabashkina and Lietz (2011) looked at the impact of values and learning approaches on achievement in students in Germany from 2004-2007, 'structural equation modelling' was used to see how values influenced learning approaches and how these are related to academic achievement. Results found that specific value combinations were related to specific learning approaches and that this

consistency was seen across three years. It was also found that deeper learning approaches were associated with academic achievement. Therefore, this suggests that basic values may aid in learning approaches which therefore aids in academic achievement.

Academic Self-Perception in Relation to Academic Achievement

As there is an absence of research that looks at academic self-perception in relation to the predictor variables used in this study, much of the above research focuses on the predictor variables in relation to academic achievement. Therefore, it is important to establish a link between academic achievement and academic self-perception as justification for the use of such research.

Capara et al. (2008) looked at perceived efficacy for self-regulated learning in relation to academic achievement and how likely students were to remain in school. This was a longitudinal study over ten years. Analysis revealed a progressive decline in self-regulatory efficacy as the years progressed, this decline affecting more males than females. It was also found that the lower decline in academic self-efficacy, the higher the reported grades and the higher the likelihood of remaining in high school. This research shows the positive effect that a high academic self-efficacy can have on high school grades, as well as a reduction in likeliness to drop out.

Furthermore, Guay et al. (2010) examined the relationships between academic self-concept, autonomous academic motivation and academic achievement. 952 high school students participated and were asked to complete a questionnaire on two occasions, with a year gap in between. It was found that academic self-concept mediates the relation between autonomous motivation and academic achievement, academic motivation mediates academic self-concept and achievement, and academic motivation and self-concept both contribute in predicting academic achievement. In other words, students who perceived themselves to be achieving well academically were more likely to receive higher grades as a result of their academic self-perception causing them to becoming more autonomously motivated. One excellent aspect of this study is that it was a large sample size across a variety of classes, making the results more applicable to students' in general. Guay et al. (2010) mentioned that one of the limitations of their study was that their variables were assessed irrespective of school's subject.

Research Questions / Hypotheses

The purpose of this research project was to see whether university students' basic values (openness to change, conservation, self-enhancement, self-transcendence) and aspects of self-determination (perceived choice, awareness of self) are associated with their academic self-perception. Do the values that an individual holds the strongest predict how well they perceive themselves to be achieving academically? Are there certain aspects of self-determination that predict a positive academic self-perception? Additionally, this study also considered academic self-perception in relation to year of study, do we perceive ourselves to be achieving more academically as the year's progress? Additionally, do those studying specific courses perceive themselves to be more achieving than those studying other courses?

From this, the following hypotheses were derived:

H1. There will be a positive correlation between Perceived Choice and Academic Self-Perception.

H2. There will be a positive correlation between Awareness of Self and Academic Self-Perception.

H3. There will be a positive correlation between Self-Enhancement and Academic Self-Perception

H4. There will be a negative correlation between Conservation and Academic Self-Perception.

H5. There will be no correlation between Self-Transcendence and Academic Self-Perception.

H6. There will be a positive correlation between Openness to Change and Academic Self-Perception.

H7. Year of study will have an effect on academic self-perception.

H8. Course of study will have no effect on academic self-perception.

Method

Design

This quantitative research used a correlational, cross-sectional survey design in order to see if a relationship could be established between basic values, self-determination and academic self-perception. There were six predictor variables, four for basic values (*openness to change, conservation, self-enhancement and self-transcendence*) and two for self-determination (*awareness of self and perceived choice*). The criterion variable in this study was academic self-perception.

Participants

In order to recruit an opportunity sample of participants, an invitation letter (APPX 5) was posted on social media, using Facebook and Twitter, for potential participants to read and decide if they would like to participate in the study. In addition to this, Manchester Metropolitan University's (MMU) research participation pool was also used as a method for recruiting participants. This allowed direct access to current students studying at MMU. All participants were required to be at least 18 years of age, and be a current student at any university.

The ideal amount of participants to be recruited for this study was required to be between 97-684, dependent upon effect size. This had been decided using an a-priori sample size calculator for multiple regression (Soper, 2006). This option was chosen due to the fact that it takes into consideration effect size, whereas other techniques, such as Greens (1991) rule of thumb, however useful, do not consider this. The actual number of participants in this study after deletion of those who did not fully complete the survey was 137, which is within the required sample size range.

Materials

The survey can be accessed via Qualtrics, an online survey platform (<https://mmupsych.eu.qualtrics.com>).

Facebook (<https://www.facebook.com/>) - used for recruiting participants.

Twitter (<https://twitter.com/>) - used for recruiting participants.

Manchester Metropolitan University's Research Participation Pool – used for recruiting participants

Measures

Portraits Values Questionnaire (PVQ21), a 21 item questionnaire which measured participant's basic values based on the four higher order values (four predictor variables); openness to change, conservation, self-enhancement and self-transcendence. Participants answered these questions by selecting an option from a seven-point Likert scale from 'very much like me' to 'not like me at all'. In the original questionnaire, these options are set out in a horizontal format. The options had been edited in this study to appear vertically, which allowed ease of access for participants

using a mobile phone. Item numbers 1, 6, 11, 10, 15, 21 measured *openness to change*. Item numbers 5, 7, 9, 14, 16, 20 measured *conservation*. Item numbers 2, 4, 13, 17 measured *self-enhancement*. Item numbers 3, 8, 12, 18, 19 measured *self-transcendence*. There was good internal consistency for each of the higher order values within this questionnaire, with alpha levels ranging from .74 - .81. Scoring and copyright information can be found in the appendices (APPX 2).

- Example for openness to change: *“Having a good time is important to her/him. She/he likes to “spoil” herself/himself.” (Q10)*
- Example for conservation: *“It is important to her/him to live in secure surroundings. She/he avoids anything that might endanger her/his safety.” (Q5)*
- Example for self-enhancement: *“Being very successful is important to her/him. She/he hopes people will recognise her/his achievements” (Q13)*
- Example for self-transcendence: *“It is important to her/him to be loyal to her/his friends. She/he wants to devote herself/himself to people close to her/him.” (Q18)*

The Self-Determination Scale (SDS) (Sheldon et al., 1996), which is a 10 item questionnaire, split into two 5 question Likert-style subscales. One subscale measures awareness of self (predictor variable), the other measures perceived choice (predictor variable). The questionnaire, on a whole, aims to measure the extent to which individuals tend to function in a self-determined way. Once again, the format of the questionnaire had been changed so that the options appeared vertically, to allow ease of access on mobile phones. Although copyrighted, permission is not needed to use this scale unless used for commercial purposes (See APPX 3). Item numbers 2, 4, 6, 8, 10 measured *awareness of self*; the degree to which one feels like themselves, and that their emotions are an integral part of them. Item numbers 1, 3, 5, 7, 9 measured *perceived choice*; the degree to which one feels a sense of choice in their life. The scale had a high internal consistency, with alpha levels ranging from .85 - .93 (Sheldon et al., 1996). The questionnaire and scoring information can be found in the appendices (APPX 3).

- Example for Awareness of Self:
“2A. My emotions sometimes seem alien to me”.
“2B. My emotions always seem to belong to me.”
- Example for Perceived Choice:
6A. “When I accomplish something, I often feel it wasn't really me who did it.”
6B. “When I accomplish something, I always feel it's me who did it”.

Academic Self-Perception Subscale (ASPS), which has been derived from the School Attitudes Assessment Survey (McCoach, 2002). This five-item questionnaire measures the extent to which one has a positive self-perception about their academic abilities (criterion variable). This questionnaire was originally used on school children aged twelve to eighteen, however, questions two and five have been edited to say 'University' instead of 'School', in order to fit the target population of university students for this study. Answers to the questionnaire are in a 7-point Likert scale format, and are in a vertical layout, like the questionnaires discussed above. The higher the score, the more positive the academic self-assessment. This questionnaire has a high internal consistency with an alpha level of .88. Permission to use this scale and scoring information can be found in the appendices (APPX 4).

Example question: *“I am confident in my ability to succeed in University”* (Q5).

Procedure

Before participating in the study, participants were required read a study information sheet before giving their consent to participate in the study. (APPX 6). Once consent was given, participants started the study by answering series of demographic questions (APPX 1), in order to gather information about their level of study (undergraduate or postgraduate), year of study, and area of academic study. These questions were created in order to see, during analysis, whether these may also be linked to students’ academic self-perception.

The main research data was collected using a survey composed of three established questionnaires. The Portraits Values Questionnaire (PVQ21), The Self-Determination Scale (SDS) and The Academic Self-Perception Subscale (ASPS)

Participants first completed the Portraits Values Questionnaire (PVQ21). Following this, participants then completed The Self-Determination Scale (SDS), and lastly the Academic Self-Perception Subscale.

After submitting their answers, participants were then given a debrief sheet to read which included contact details for any help, questions or advice that they may need (APPX 7).

The study was carried out in full accordance with BPS ethical guidelines and the guidelines set by Manchester Metropolitan University’s Psychology Department. Additionally, an Application for Ethical Approval Form had been completed and can be found in the appendices (APPX 8).

Data Analysis

Multiple regression analysis was used to measure the variance in the relationship between the variables. This is an appropriate method of analysis, as there are multiple predictor variables within this study. Multiple regression “...can be used when we have a set of variables ... each of which correlates to some known extent with a criterion variable...” (Coolican, 2014). Before conducting a multiple regression analysis, correlations were computed and parametric assumptions were tested. Following the multiple regression analysis, frequencies were examined and two one-way ANOVA’S were conducted.

Results

The following section will discuss the analysis of the survey data, the results found, and interpretation of these results in relation to the proposed hypotheses.

Firstly, Internal consistency was calculated for each measure. Academic Self-Perception demonstrated a Cronbach's alpha value of .88, which can be considered as a relatively high alpha value, significantly above a commonly acceptable value of .70 (Tavakol and Dennick, 2011). Additionally, self-enhancement (.77), awareness of self (.73), and perceived choice (.77) also demonstrated internal consistency, with alpha values above .70.

Table 1
Internal Consistency scores for all measures

Measures	Number of items on scale	Cronbach's alpha	95% Confidence Interval for Alpha	
			Lower	Upper
^a Academic Self-Perception	5	.88	.83	.91
^b Openness to change	6	.68	.59	.76
^b Conservation	6	.64	.54	.73
^b Self-enhancement	4	.70	.61	.78
^b Self-transcendence	5	.68	.58	.76
^c Awareness of Self	5	.73	.65	.79
^c Perceived Choice	5	.77	.71	.83

Note. $N = 137$

^a Response format for each item on academic achievement measure ranges from 1 (strongly disagree) to 7 (strongly agree), with 4 indicating 'neither agree nor disagree'.

^b Response format for each item on the values measure ranges from 1 (not at all like me) to 6 (very much like me), with 3 indicating 'a little like me' and 4 indicating 'somewhat like me'.

^c Response format for each item on the self-determination measures ranges from 1 (only A feels true) to 5 (only B feels true)

Following this, descriptive statistics were calculated for the 4 predictor variables and the criterion variable. Participants ($N = 137$) scored on average the highest on the conservation measure ($M = 3.12$, $SD = 0.84$), and on average the lowest on the self-transcendence measure ($M = 2.05$, $SD = 0.69$) of the Portraits Values Questionnaire. Additionally, participants scored on average the highest on the perceived choice measure of the Self-Determination Scale ($M = 3.51$, $SD = 0.77$). The Academic Self-Perception subscale showed a mean of 4.95 and a standard deviation of 1.13. Indicating that most participants had slightly more of a positive than a negative self-perception of their academic abilities, but for the majority appeared to have no strong

opinion on their academic self-esteem with the mean choice appearing to be 'neither agree nor disagree' (Table 2).

Table 2
Scores on Academic Self-Perception^a, Four Measures of Values^b and Two Measures of Self-Determination^c

Measures	<i>M</i>	(<i>SD</i>)
Academic Self-Perception	4.95	(1.13)
Openness to change	2.41	(0.72)
Conservation	3.12	(0.84)
Self-enhancement	2.80	(0.89)
Self-transcendence	2.05	(0.69)
Awareness of Self	3.47	(0.90)
Perceived Choice	3.51	(0.77)

Note. Above Means and standard deviations for each measure are calculated from the individual's mean response across the items on the scale.

^a Response format for each item on academic achievement measure ranges from 1 (strongly disagree) to 7 (strongly agree), with 4 indicating 'neither agree nor disagree'.

^b Response format for each item on the values measure ranges from 1 (not at all like me) to 6 (very much like me), with 3 indicating 'a little like me' and 4 indicating 'somewhat like me'.

^c Response format for each item on the self-determination measure ranges from 1 (only A feels true) to 5 (only B feels true)

In order to establish any significant relationships between variables, a series of Pearson's correlations were implemented. In relation to our hypotheses, significant positive correlations were found between academic self-perception and perceived choice ($r(135) = .51$ $p < .01$) and academic self-perception and awareness of self ($r(135) = .42$ $p < .01$), the strongest correlation being between perceived choice and academic self-perception, therefore we can accept both H1 and H2. More so, significant negative correlations were found between academic self-perception and self-enhancement ($r(135) = -.18$ $p < .05$), meaning that the hypothesis that there will be a positive correlation between self-enhancement and academic self-perception is rejected (H3). A slight negative correlation was found between openness to change and academic self-perception, and slight positive correlations were found between conservation and academic self-perception, and self-transcendence and academic self-perception. However, these results were not found to be significant (Table 3).

Table 3
Pearson Correlation Matrix for Academic Self-Perception, Four Measures of Values and Two measures of Self-Determination

	Perceived Choice	Awareness of Self	Openness to change	Conservation	Self-transcendence	Self-enhancement	Academic Self Perception
Perceived Choice	-	.40**	-.21*	-.01	.02	-.11	.51**
Awareness of Self	-	-	-.13	.06	.01	-.01	.42**
Openness to Change	-	-	-	-.06	.31**	.15	-.09
Conservation Self- transcendence	-	-	-	-	.25**	.40**	.11
Self- enhancement	-	-	-	-	-	-.09	.10
Academic Self- Perception	-	-	-	-	-	-	-.18*

Note. $N = 137$. Two-tailed probability. * $p < .05$. ** $p < .01$.

Following this, a multiple regression analysis was then computed in order to address the relationships amongst the variables. Overall, it was found that all of the variables explain 37% of the variance in academic self-perception scores, and that this finding was statistically significant ($F(6, 130) = 12.44, p < .001$). From the analysis, we can see that the higher participants scored on conservation, awareness of self and perceived choice, the higher their academic self-perception. The strongest contributor according to this analysis is perceived choice, with every 1-point increase in the perceived choice score resulting in an increase of .59 for academic self-perception score.

Table 4

Summary of Multiple Linear Regression Analysis for Measures of Values and Self Determination in Predicting Academic Self-Perception

Variable	<i>B</i>	β	<i>t</i>	<i>Sig. (p)</i>
Constant	1.44			
Openness to Change	.10	.06	.81	.42
Conservation	.26	.19	2.27	.03*
Self-enhancement	-.27	-.21	-2.59	.01**
Self-transcendence	.01	.01	.08	.94
Awareness of Self	.32	.26	3.34	.00***
Perceived Choice	.59	.40	5.19	.00***

Note. $R^2 = .37$, *Adjusted* $R^2 = .34$

^a = openness to change, conservation, self-enhancement and self-transcendence,

^b = awareness of self and perceived choice

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In addition to this, a one-way between subjects' ANOVA was conducted in order to look at the relationship between year of study with academic self-perception. Only undergraduate 1st, 2nd and 3rd-year participants were included in this due to the fact that there were very few postgraduate participants, and very few undergraduate 4th-year participants (see frequencies table within APPX 9). Results showed that the effect of year of study on academic self-perception was insignificant, $F(2, 118) = 2.73, p = .07$. Therefore, the hypothesis that there will be an effect of year of study on academic self-perception is rejected (H7).

Another one-way between subjects' ANOVA was conducted in order to see the relationship between course of study and academic self-perception. Courses were separated into two categories 'Psychology' and 'Other', as the majority of respondents were Psychology students (see frequencies table within APPX 9). Results showed that the effect of course of study on academic self-perception was insignificant, $F(1,135) = .000$, $p = .1.00$. This is in agreement that there will be no effect of course of study on academic self-perception, and therefore this hypothesis can be accepted (H8).

Discussion

This research focused on looking at the relationship between students' basic values, aspects of their self-determination, and whether these factors have an effect on academic self-perception. It was found that both aspects of self-determination studied (perceived choice and awareness of self) did have an effect on academic self-perception. However, students' basic values for the majority, appeared to have no effect on academic self-perception. This excludes one value (self-enhancement) which was found to negatively correlate with academic self-perception. Below is each hypothesis and a discussion about what was found. Along with strengths and limitations in relation to real world applications, as well as suggestions for future research.

Self-Determination (Perceived Choice and Awareness of Self)

As predicted, both perceived choice and awareness of self were both found to be significantly correlated with academic self-perception. Additionally, the multiple regression analysis found that these two variables were the most significant predictors of academic self-perception. This confirms both H1 (there will be a positive correlation between Perceived Choice and Academic Self-Perception) and H2 (there will be a positive correlation between Awareness of Self and Academic Self-Perception).

The relationship between awareness of self and academic self-perception is supported by and provides justification for research such as that by Flavian (2016) who stated that awareness of self influences student motivation and learning experience and that by developing a self-awareness in early life, this positively impacts upon schooling in later life. In relation to real world settings, teachers should focus on developing children's awareness of self throughout their schooling career, but especially in their earlier years, which could ultimately impact their academic self-perception and overall achievement in their later life.

Perceived choice had the strongest positive correlation with academic self-perception, as well as being the strongest predictor. This may be because, as suggested by Ross and Broh (2000), as students achieve well, their sense of perceived control (or perceived choice), which creates a cycle. By university level, after achieving throughout school and college this sense of perceived choice will have increased largely, which could explain the link between perceived choice and perception of academic achievement.

Basic Values

Self-enhancement: Interestingly, results found that there was, in fact, a negative correlation between self-enhancement and academic self-perception, and therefore the hypothesis that there will be a positive correlation between self-enhancement and academic self-perception is rejected (H3). Further research into self-enhancement in relation to academic self-concept may provide an explanation for such finding. Sticca et al. (2017) examined the short and long-term effects of self-enhancement on academic self-concept as well as academic achievement. It was found that in the short term, self-enhancement was positively associated with increased academic self-concept, however, in the long term, self-enhancement was associated with a decrease in academic self-concept – as well as stronger decreases in academic achievement that were linked to inflated self-concepts.

Conservation: A positive correlation was in fact found between conservation and academic self-perception, but this correlation was found to be insignificant. Therefore, H4 is rejected (there will be a negative correlation between conservation and academic self-perception). However, the multiple regression analysis suggested that conservation was a significant predictor of academic self-perception ($p < .05$). Research such as that by Fatoki (2014) found that students scored high in the conformity (an aspect of conservation) tended to behave well and avoid doing wrong. Speaking on a priori grounds, those students who behave well are more likely to listen to lectures, complete all assignments as required, and complete all extra reading, therefore, are more likely to excel.

Self-Transcendence: A small positive correlation was found between self-transcendence and academic self-perception, however, the correlation was deemed insignificant. Furthermore, results from the multiple regression analysis show no significant relationship between the two variables. Therefore, the hypothesis that there will be no correlation between self-transcendence and academic self-perception is accepted (H5).

Openness to change: A slight negative correlation was found between openness to change and academic self-perception, however, this correlation was not found to be significant. Therefore, the hypothesis that there will be a positive correlation between openness to change and academic self-perception (H6) is rejected. In comparison to Fatoki's (2014) research, which stated that students scored the second highest on the openness to change value, students did not score so high in this study. Additionally, no relationship was found between this and academic self-perception.

Year of Study

After analysis, year of study was found to have no effect on academic self-perception., therefore, H7 (year of study will have an effect on academic self-perception) is rejected. This may be due to the fact that university students may already perceive themselves to be achieving academically, which can be shown by the fact that they have already made it to a higher level of study.

Course of Study

As predicted, course of study was found to have no effect on academic self-perception. This supports H8 (course of study will have no effect on academic self-perception). Interpretations, in this case, should be taken with caution, as there was not an even divide of participants studying different courses, as a result, groups were separated into 'Psychology' and 'Other' before analysis.

Strengths and Limitations

One limitation that arises with this study that questionnaires were used as a method of data collection. Although questionnaires are one of the easiest ways to gain a larger amount of participants in a smaller amount of time, they are also subject to demand characteristics. With questionnaires, it is very easy for participants to choose an option that is not the truth, but rather how they would like to represent themselves to be. There is also the chance that participants may choose an answer either without reading the question or only briefly read it.

In terms of generalisability, the sample in this study was gathered via opportunity sampling, and therefore cannot be generalised to the entire student population. Additionally, the majority of university students who participated were Psychology students, and therefore there was not a balanced number of students across different courses. This meant that independent variables for H8 were separated into 'Psychology' and 'Other' rather than a variety of different courses.

Another limitation of this study is that academic self-perception may be interpreted differently by each participant. Those who perceive themselves to not be doing well academically may still be achieving high grades and vice versa.

Future research

In future, it would be better to ensure that participants are from a wide range of courses and that there is an equal amount of participation from each subject area, this will ensure that the majority participants do not study the same subject, allowing a more reliable analysis to take place when assessing year of study in relation to academic self-perception.

Furthermore, if this study was to be repeated, it may also be useful to look at whether students' academic self-perception is reflected in their average grades, as it is not useful for someone who has a high academic self-perception to be achieving poorly.

More so, future research should focus on the individual variables used in this study. For example, as awareness of self and perceived choice were both found to be significantly correlated with academic self-perception, it would be useful to see if developing these aspects within a person is possible and whether this improves their self-perception.

Real World Applications

Teachers should focus on ensuring students have a sense of choice in their studies and studying habits, whilst still offering support and guidance when needed. More so, teaching self-awareness, especially from a young age, could positively impact upon academic self-perception as one develops through their school career.

Conclusion

From this study, it can be concluded that the two aspects of self-determination examined (awareness of self and perceived choice) do in fact predict a student's academic self-perception. For the majority, university students' basic values do not correlate with their academic self-perception. This is with the exception of self-enhancement, which was found to negatively correlate with academic self-perception. Conservation was found to have a slight significant relationship to academic self-perception. Teachers and lecturers should focus on improving students' awareness of self, and develop their sense of choice. More research is needed in this area, as so far it has been sparsely approached.

References

- Aelterman, N., Vansteenkiste, M., Van Keer, H. and Haerens, L. (2016) 'Changing teachers' beliefs regarding autonomy support and structure: The role of experienced psychological need satisfaction in teacher training.' *Psychology of Sport and Exercise*, 23, March, pp. 64–72.
- Caprara, G., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G., Barbaranelli, C. and Bandura, A. (2008) 'Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement'. *Journal of Educational Psychology*, 100(3) pp. 525-534.
- Coolican, H. (2014) *Research Methods and Statistics in Psychology*. 6th ed., East Sussex: Psychology Press.
- Deci, E. L. and Ryan, R. M. (2008) 'Self-Determination Theory: A Macrotheory of Human Motivation, Development, and Health.' *Canadian Psychology*, 49(3) pp. 182–185.
- Fatoki, O. (2014) 'The Personal Values of University Students in South Africa.' *Mediterranean Journal of Social Sciences*, 5(23) pp. 758–763.
- Flavian, H. (2016) 'Towards teaching and beyond: Strengthening education by understanding students' self-awareness development.' *Power and Education*, 8(1) pp. 88-100.
- Green, S. B. (1991) 'How Many Subjects Does It Take to Do a Regression Analysis.' *Multivariate Behavioral Research*, 26(3) pp. 499–510.
- Gaumer Erickson, A. S., Noonan, P. M., Zheng, C. and Brussow, J. A. (2015) 'The Relationship Between Self-Determination and Academic Achievement for Adolescents with Intellectual Disabilities.' *Research in Developmental Disabilities*, 36, pp. 45–54.
- Guay, F., Ratelle, C. F., Roy, A. and Litalien, D. (2010) 'Academic self-concept, autonomous academic motivation, and academic achievement: Mediating and additive effects.' *Learning and Individual Differences*, 20(6) pp. 644–653.
- Korthagen, F. A. J. and Evelein, F. G. (2016) 'Relations between student teachers' basic needs fulfillment and their teaching behavior.' *Teaching and Teacher Education*, 60, November, pp. 234–244.
- Liem, G. A. D., Martin, A. J., Porter, A. L. and Colmar, S. (2011) 'Sociocultural Antecedents of Academic Motivation and Achievement: Role of Values and Achievement Motives in Achievement Goals and Academic Performance.' *Asian Journal of Social Psychology*, 15(1) pp. 1–13.

Lietz, P. and Matthews, B. (2006) 'Are Values More Important Than Learning Approaches? Factors Influencing Student Performance at an International University.' *In AARE 2006 Conference*. Adelaide Australia.

Liu, W. C., Wang, C. K. J., Kee, Y. H., Koh, C., Lim, B. S. C. and Chua, L. (2013) 'College Students' Motivation and Learning Strategies Profiles and Academic Achievement: A Self-Determination Theory Approach.' *Educational Psychology*, 34(3) pp. 338–353.

McCoach, D. B. (2002) 'A Validation Study of the School Attitude Assessment Survey.' *Measurement and Evaluation in Counselling and Development*, 35, pp. 66-77.

Norwegian Social Science Data Services. (2016) *Topics*. European Social Survey Education Net. [Online] [Accessed on 28th November 2016] <http://essedunet.nsd.uib.no/cms/topics/1/5/all.html>

Oxford University Press. (2016) *Self-Determination*. Oxford Dictionaries. [Online] [Accessed on 28th November 2016] <https://en.oxforddictionaries.com/definition/self-determination>

Patall, E., Cooper, H. and Robinson, J. (2008) 'The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings.' *Psychological Bulletin*, 134(2) pp. 270-300.

Ross, C. and Broh, B. (2000) 'The Roles of Self-Esteem and the Sense of Personal Control in the Academic Achievement Process.' *Sociology of Education*, 73(4) p. 270.

Schwartz, S. H. (2006) *Basic Human Values: An Overview*. Jerusalem: The Hebrew University of Jerusalem.

Schwartz, S. H. (2012) 'An Overview of the Schwartz Theory of Basic Values.' *Online Readings in Psychology and Culture*, 2(1).

selfdeterminationtheory.org. (2016) *Theory*. [Online] [Accessed on 28th November 2016] <http://selfdeterminationtheory.org/theory/>

Sheldon, K. M., Ryan, R. and Reis, H. T. (1996) 'What makes for a good day? Competence and autonomy in the day and in the person.' *Personality and Social Psychology Bulletin*, 22(12) pp. 1270–1279.

Soper, D. (2006) *Free a-priori Sample Size Calculator for Multiple Regression*. Free Statistics Calculators. [Online] [Accessed on 17th November 2016] <http://www.danielsoper.com/statcalc/calculator.aspx?id=1>

Sticca, F., Goetz, T., Nett, U., Hubbard, K. and Haag, L. (2017) 'Short- and Long-Term Effects of Over-Reporting of Grades on Academic Self-Concept and Achievement.' *Journal of Educational Psychology*.

Tarabashkina, L. and Lietz, P. (2011) 'The impact of values and learning approaches on student achievement: Gender and academic discipline influences.' *Issues in Educational Research*, 21(2) pp. 210–231.

Tavakol, M. and Dennick, R. (2011) 'Making sense of Cronbach's alpha.' *International Journal of Medical Education*, 2, pp. 53-55.

Taylor, G., Jungert, T., Mageau, G. A., Schattke, K., Dedic, H., Rosenfield, S. and Koestner, R. (2014) 'A Self-Determination Theory Approach to Predicting School Achievement Over Time: The Unique Role of Intrinsic Motivation.' *Contemporary Educational Psychology*, 39(4) pp. 342–358.

Tran, N. (2014) *What is Self-Determination Theory?* Positive Psychology Programme. [Online] [Accessed on 25th November 2016] <https://positivepsychologyprogram.com/self-determination-theory/>

University of Surrey. (2009) *Introduction to Research*. 12th November. [Online] [Accessed on 28th November 2016] [http://libweb.surrey.ac.uk/library/skills/Introduction to Research and Managing Information Leicester/page 44.htm](http://libweb.surrey.ac.uk/library/skills/Introduction%20to%20Research%20and%20Managing%20Information%20Leicester/page_44.htm)