

# Does Gender Moderate the Intention to Attend Vocational College among High School Students in Northwestern China?

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## Abstract

On a global scale, vocational education is widely recognised as a cornerstone for economic growth and a key solution to industry skill gaps. As part of the national agenda to inculcate more skilled and technical talents to boost the economy, China has created the most extensive vocational education in the world. Yet enrolment for vocational higher education is still relatively low, and this can derail its national agenda. This study aims to explore the intention to attend vocational college among general senior high school students in Northwestern China of Ningxia using the Theory of Planned Behaviour and to investigate the role of gender as a moderator in this intention. Data was collected from 432 senior three high school students in Ningxia, China, using a survey instrument which contains four variables with 28 items. The independent variables are attitude towards attending vocational college, subjective norms, perceived behavioural control; while intention to attend college is the dependent variable. SmartPLS was used to analyse these relationships and the moderating effect of gender on these relationships. Analysis showed that attitude had a positive and significant relationship with intention while subjective norms and perceived behavioural control did not. Gender was found to moderate the relationship between attitude and intention where the effect is stronger for males. Gender also moderates the relationship between subjective norm and intention where the effect is stronger for females. This study is significant as it sheds more light into what factors contribute to the intention to attend vocational college. Finally, based on the findings of this study, recommendation were put forward for policy makers to increase enrolment for higher vocational education to meet the country's demand for skilled workers.

**Keywords:** Attitude, Perceived Behavioural Control, Subjective Norm, Intention to attend Vocational College, Theory of Planned Behaviour

## Introduction

China's vocational education system plays a pivotal role in nurturing a well-rounded and diversified national workforce (Tian et al., 2022). It has a comprehensive and adaptable

framework that encompasses a variety of program types, each catering to specific industry needs and student aspirations (Guan & Dai, 2018; Zhang & Cheng, 2020). These are the Secondary Vocational Education, Apprenticeship Training, Technical Schools and Higher Vocational Education that offers 2 to 3-year higher education with the emphasis on training practice-oriented talents, craft-oriented, and skill-oriented workers. By fostering a robust pipeline of skilled workers, vocational education acts as a crucial bridge between theoretical knowledge and practical application. This bridge empowers graduates to seamlessly integrate into the workforce, addressing industry demands for skilled technicians and specialists. Furthermore, vocational education fosters innovation and entrepreneurship by equipping individuals with the necessary technical expertise and problem-solving skills to identify and pursue business opportunities. Students in Higher Vocational Education, or in this study it is also known as vocational college, are recruited from general high school and secondary vocational school graduates. These colleges are established to meet the increasing needs of local economic and social development. It aims at producing tens of millions of high-tech personnel after high school education. This multifaceted approach to vocational education ensures that China's workforce is equipped with the necessary skills to thrive in a dynamic and competitive global economy. There is a growing demand for service-oriented jobs in China today, which now offer higher salaries compared to previous years. The expansion of high-end manufacturing and production industries, particularly in sectors such as electric vehicles, has contributed to this trend (Yu, 2022). Recognizing this shift, the Chinese government has addressed the need for skilled workers during discussions on vocational education laws in 2021. It was announced that key manufacturing and service industries would require 30 million and 40 million skilled workers, respectively. However, despite the projected demand, only 10 million vocational school students graduate annually with the necessary skills (Doing Business in China, 2023).

Since the establishment of modern day China in 1949, her population had an exponential growth the current day of 1.425 billion (Worldometer, 2024). Famine and the need for economic reform encouraged leaders to seek ways to manage the population growth. Against this backdrop, the government implemented the One Child Policy (OCP) in 1979 (Cameron et al, 2013) to curb the population growth by limiting the number of children born in each family. OCP was promoted as a trade-off between quality and quantity (Falbo and Hooper, 2015). Married couples among the Hans in urban areas were advised to focus their energies and financial resources on one child. In mid 1980s, the policy was extended to other ethnics such as Machu and Zhuang people. A series of rewards and punishments underpinned the compliance of OCP, these includes priority to social welfare assistance to the only-children, or financial penalties, dismissal from work and properties confiscation on the parents (Hesketh et al, 2005). Although the OCP has been relaxed in 2016 to allow couples to have a second child if either parent is an only child, the impacts on economic and social are difficult to ignore for a few generations to come. One of the prominent impacts of OCP is a gender-skewed country, with a 104.49 male to every 100 female (Textor, 2023).

**Ningxia, located in Northwestern China faces a critical challenge of a persistent lack of student interest in vocational college education.** This threat acts as a roadblock to the development of a skilled workforce, a crucial element for aligning with the ever-changing demands of industries (Guan & Dai, 2018). On a global scale, vocational education is widely recognized as a cornerstone for economic growth and a key solution to industry skill gaps.

However, research indicates a substantial portion of Ningxia secondary school students exhibit a distinct disinclination towards pursuing vocational college (Zhang & Cheng, 2020). Potential contributing factors likely encompass a complex interplay of societal perceptions, parental influence, and a lack of awareness. Students may be unaware of the diverse and lucrative career opportunities offered by vocational education, potentially due to a prevailing cultural bias that favours traditional academic trajectories. This cultural bias might be reinforced by societal perceptions that portray vocational education as a less prestigious path compared to university studies.

To date, limited studies have been conducted to investigate intention to attend vocational college among senior high school students in Ningxia using Theory of Planned Behaviour. Even fewer studies were conducted to investigate the effects of gender as the moderator in the relationship between attitude, subjective norm, perceived behavioural control and intention to attend vocational college. Therefore the objectives of this paper are:

- i. To investigate the relationship between attitude, subjective norm, perceived behavioural control and intention to attend vocational college.
- ii. To investigate if gender moderates the intention to attend vocational college among general high school students in Ningxia, China.

## Literature Review

### *Theory of Planned Behaviour*

Theory of Planned Behaviour is the most popular theory of attitude-behaviour relationship in social psychology. This theory can comprehensively consider psychological factors and external factors that affect individual behavioural performance, and has been widely applied in many behavioural fields Lim & Dubinsky (2015), and has been proven to significantly improve the explanatory and predictive power of research on behaviour. Theory of Planned Behaviour believes that the implementation of individual behaviour depends on behaviour intention, which is determined by attitude, subjective norm and perceived behaviour control. That is, the more positive the individual's attitude towards pursuing the implementation of the behaviour, the greater the perception of external pressure, and the more perceived control over the specific behaviour, the stronger the individual's intention to implement the behaviour, and the easier the corresponding specific behaviour will be implemented. On the other hand, Theory of Planned Behaviour believes that perceived behavioural control can directly predict the possibility of behaviour occurrence, of course, the accuracy of prediction depends on the true degree of perceived behavioural control. Attitude, subjective norm, and perceived behavioural control are conceptually distinct, but sometimes they may share a common belief base, so they are both independent and interrelated. Many researchers have all found in their studies that perceived behavioural control is an important explanatory factor and predictor of behaviour (e.g. Blue, 1995; Conner & Spark, 1996; Ajzen & Fishbein, 2010). In this study, senior high school students' intention to refers to the positive or negative reaction tendency of senior high school students to the selected education type in the process of school selection after taking the college entrance examination. The behaviour of senior high school students to choose higher vocational education after taking the college entrance examination is their choice of education type in the process of learning, which contains a thoughtful decision-making process. Previous studies have proved that Theory of Planned Behaviour constructs the prediction framework of behavioural intention and behaviour from attitude, subjective norm and perceived behavioural control based on the perspective of behavioural subjects, and has good explanatory and predictive power in consumption,

tourism, advertising, medical treatment, job hunting, entrepreneurship, school selection and other behaviour-related research fields.

*Attitude, subjective norm, perceived behavioural control and intention*

Attitude, as defined by Ajzen (1991), encompasses the extent of a person's favourable or unfavourable evaluation of a particular behaviour. It holds significant sway in forecasting and elucidating human conduct. This finding is supported by a study in Singapore by Chua et al (2020) where attitude towards vocational education played an important role in shaping the intention pursue a vocational pathway. Griggs and Crawford (2017) in a study not directly related to vocational education, find that academic performance plays an important role in choosing education pathway post-secondary school. Sahari (2019) finds that attitude plays an important role in influencing students towards entrepreneurial intention in Malaysia. Likewise, Santhanamery et al (2023) attitude exerts a significant relationship on entrepreneurial intention among university students in Malaysia.

Subjective norm (SN) pertains to the impact of significant individuals or perceived social norms on an individual's behaviour when engaging in a specific activity. It reflects one's perception of the social context surrounding the behaviour (Ajzen, 1991). In this study, subjective norms are defined as the inclination of senior high school students to select their higher education institution based on the views and advice of their parents, teachers, and friends. Apart from that, the findings in this study are also supported by Chen and Wang (2019); Ayub (2017), where family background and parental expectations play a positive roll on students' intentions to enrol in vocational higher education programs. Other than that, although not directly related to vocational education, findings by Johnson, Smith and Brown (2017) supports the results in the current study where peer relationships, social norms and impact students' educational pathways. In another study by Smith et al (2016), they examined the role of teachers in shaping students' intentions to pursue vocational education and training (VET) and found that teacher attitudes, support, and guidance on students' perceptions of VET options and career pathways have a significant influence on student's intention. Based on a study by Hofman and Hofman (2001), they found that teacher attitudes, expectations, and guidance impact students' decisions regarding their educational pathways.

Perceived behavioral control (PBC) is an individual's assessment of how easy or challenging it is to engage in a particular behaviour (Ajzen, 1991). This sense of control tends to heighten when individuals perceive themselves as having more resources and confidence (Ajzen, 1985; Hartwick & Barki, 1994; Lee & Kozar, 2005). It can significantly influence whether the intended behaviour will be carried out. In the context of this study, perceived behavioural control refers to the extent to which senior high school students believe they have the ability to pursue vocational higher education. Wang et al (2021) find that perceived behavioural control had a positive and significant relationship with intention to attend vocational college among vocational high school students in western China. Sahari (2019) in his study also find that self-efficacy, which was a major part of perceived behavioural control was a significant predictor of entrepreneurial intention among university students in Malaysia. However, this is contrary to what Santhanamery et al discovered 2023.

Intention refers to an individual's inner readiness to execute a particular behaviour, signifying their conscious decision or plan to act in a certain way (Conner & Armitage, 1998). It's

essential to note that intention is distinct from the behaviour itself; rather, it serves as the most direct factor influencing individual behaviour. Intention can forecast the intensity or effort invested in executing the behaviour. The stronger the intention, the greater the likelihood of significant efforts in carrying out the behaviour (Armitage & Christian, 2003). Intention is considered the optimal variable for predicting behaviour. In this study, intention refers to respondents positive or negative inclination towards opting for vocational college. This findings is contrary to Wang et al (2021) where perceived behavioural control had a positive and significant relationship with intention to attend vocational college among vocational high school students in western China. Sahari (2019) in his study also find that self-efficacy, which was a major part of perceived behavioural control was a significant predictor of entrepreneurial intention among university students in Malaysia. However, this is contrary to what Santhanamery et al (2023) discovered.

Therefore, this study applies Theory of Planned Behaviour to investigate senior high school students' intention to attend vocational college, focusing on their attitudes towards attending higher vocational education, the social support or social pressure they feel when they choose to go to higher vocational colleges for higher vocational education and their perception of the ease or difficulty of attending higher vocational colleges and the impact on intention to attend vocational college. This idea is highly consistent with the expectations of Theory of Planned Behaviour, and fully follows the ideas of attitude, subjective norm and perceived behaviour control to determine intention. Thus this study hypothesise that:

Hypothesis 1: Attitude has a positive and significant relationship with intention to attend vocational college

Hypothesis 2: Subjective norm has a positive and significant relationship with intention to attend vocational college

Hypothesis 3: Perceived behavioural control has a positive and significant relationship with intention to attend vocational college

#### *Moderating role of gender*

Studies have been conducted to assess the impact of One Child Policy (OCP) on economic outcome e.g. Liu and Hu (2013), with the overall OCP has been lauded for slowing down population growth and contributing to the rapid growth of economic development. Economic wonders aside, OCP has been widely criticized for producing a rapidly aging population and shrinking labour force Cao et al (2015) that threw the social structure off balance. China's fertility rate dropped 2.75 in 1979 to 1.3 in 2024, while the proportion of population aged 65 and above increased from 4.39 percent to 16.65 percent during the same period (World Health Organisation, 2024). Further, OCP has significantly changed the structure of many Chinese households. A 4-2-1 structure that comprises of four grandparents, two parents and one child Cao et al (2015) has cause great strain on the only child when dealing with aging grandparents and parents. The responsibility to look after the six elders fall on the shoulders of the only child, without any support from siblings. Apart from that, as a result of OCP, China now has a considerable gender skew—there are roughly 3 to 4% more males than females in the country, which is translated into between 42 million to 48 million less females compared to males. This is due to the preference for sons overs daughters among the more traditional Chinese during the close to four decades OCP implementation. In 2023, there were around 720 million male inhabitants and 689 million female inhabitants living in China, amounting to



around 1.41 billion people in total, with a ratio of 104.49 male to 100 female (Textor, 2023). This continues to affect marriage and birth rates around the country. Fewer females means there were fewer women of childbearing age in China. The drop in birth rates meant fewer children, which occurred as death rates dropped and longevity rates rose. It is estimated that the share of adults ages 65 and older will have risen from just 12% to a projected 26% by 2050 (Cao et al., 2015). The silver lining in this gender-skewed society is that the proportion of female and male students has changed from 36.1% : 63.9% in 1997 to 42.1%: 57.4% in 2018. With the close of the gender difference gap, however, the participation rate in vocational schools has decreased. This situation can be attributed to two potential reasons. Firstly, it stems from China's historical and cultural background, particularly influenced by Confucian philosophy. Confucianism places greater emphasis on moral values than on practical skills, leading to a prevailing bias against individuals trained in vocational education in China (Xiong, 2011).

Due to the lack of studies carried on investigating the role of gender moderating the intention to attend vocational schools in China, references were made based on other studies but using Theory of Planned Behaviour. Bagheri and Lope (2014) find that gender significantly moderates the relationship between students' entrepreneurial intention and attitude, subjective norm and perceived behavioural control. They found that while subjective norms had stronger impact on females' entrepreneurial intentions, entrepreneurial attitude and perceived behavioural control and self-efficacy had greater effects on males' intentions to become entrepreneurs. In line with empirical methodological approach, other investigations have used the same quantitative perspective and the effect of gender to study the particular case of female university students' intentions towards entrepreneurship. In this way, gender has been paid attention to in others' Theory of Planned Behaviour work approach (e.g. Díaz-García & Jiménez-Moreno, 2010; Maes et al, 2014; Verheul et al., 2012). Considering the aforementioned explanation, this study posit the following hypotheses:

Hypothesis 4: The relationship between Attitude and Intention to attend vocational college would be stronger for male compared to female.

Hypothesis 5: The relationship between Subjective Norm and Intention to attend vocational college would be stronger for female compared to male

Hypothesis 6: The relationship between Perceived Behavioural Control and Intention to attend vocational college would be stronger for male compared to female.

## **Research Methodology**

### *Data collection and sample*

This study employed a non-experimental quantitative design. The survey instrument, which is a set of questionnaire, was adopted and adapted based on Ajzen's Theory of Planned Behaviour (1991), Intention of Secondary Vocational Students to Enter a Higher College Wang (2020) and Willingness of Senior High School Students to Choose Chemistry Course (Niu, 2019). It has two sections. The first section is to collect basic information of respondents. The second section contains four constructs: attitude, subjective norm, perceived behavioural control and intention, with a total of 28 items. These items were measured using six-point Likert scale, with anchors ranging from 1 (strongly disagree) to 6 (strongly agree). Statistical Package for Social Science (SPSS) Version 26 and SmartPLS version 4 were used to analyse the

data. SPSS was used to analyse the demographic information of the participants while Smart PLS 4 was used for regression and moderation analyses. Partial Least Squared method was used to test the study model. This technique simultaneously assesses the measurement model and the structural model by minimizing the error variance. Smart PLS 4 was used to analyse the relationship among the variables. Bootstrapping function with 5000 resamples was employed to assess the significance level of the paths.

## Findings

### *Descriptive Statistics*

The required number of responses was 384 based on Krejcie and Morgan for a population of up to one million. However, there were a total of 432 completed sets of questionnaire returned via online submission between June 2023 to December 2023. This sample size is sufficient for analysis using SmartPLS. Table 1 shows the descriptive statistics of the demographic profiles of the respondents. Slightly more than half the respondents were female, one in every 3 respondents were single-children in their family, all of them were 18 years old, studying in Senior Three in their school. Crosstabulation analysis shows that only 18 percent of male and close to 20 percent of females indicated that they intend to attend vocational college while the remaining did not have such intention.

Table 1

### *Demographic Background*

Demographic	N	%
<b>Gender</b>		
Male	192	44.4
Female	240	55.6
<b>Single Child</b>		
Yes	146	33.8
No	286	66.2
<b>Age</b>		
18	432	100
<b>Intention to attend vocational college, by gender</b>		
Yes (Male)	78	18.0
No (Male)	114	26.4
Yes (Female)	85	19.7
No (Female)	155	35.9

Table 2 shows the descriptive statistics of the constructs used for further analysis. The four constructs are Attitude, Subjective Norm, Perceived Behavioural Control and Intention. Perceived Behavioural Control has the highest mean value, while Intention has the lowest.

Table 2

### *Descriptive statistics of the Constructs*

Scale	No of items	Mean	Std Dev
Attitude	6	3.55	1.52
Subjective Norm	9	3.21	1.31
Perceived Behavioural Control	9	3.87	1.13
Intention	4	2.99	1.40

### Research model and analysis methods

SmartPLS 4 was used in analysing the hypotheses developed for this study. SmartPLS 4 is used as it is known for its ability to handle both reflective and formative measures, and it places a minimal restriction on the sample size (Chin, 1998). In analysing the data, the two-step analytical procedure by Anderson and Gerbing (1988) was adopted whereby the measurement model was evaluated first and then the structural model. The bootstrapping method (5000 resample) was performed to determine the significant level of loadings, weights and path coefficients (Chin, 1998). Figure 1 shows the Research Model.

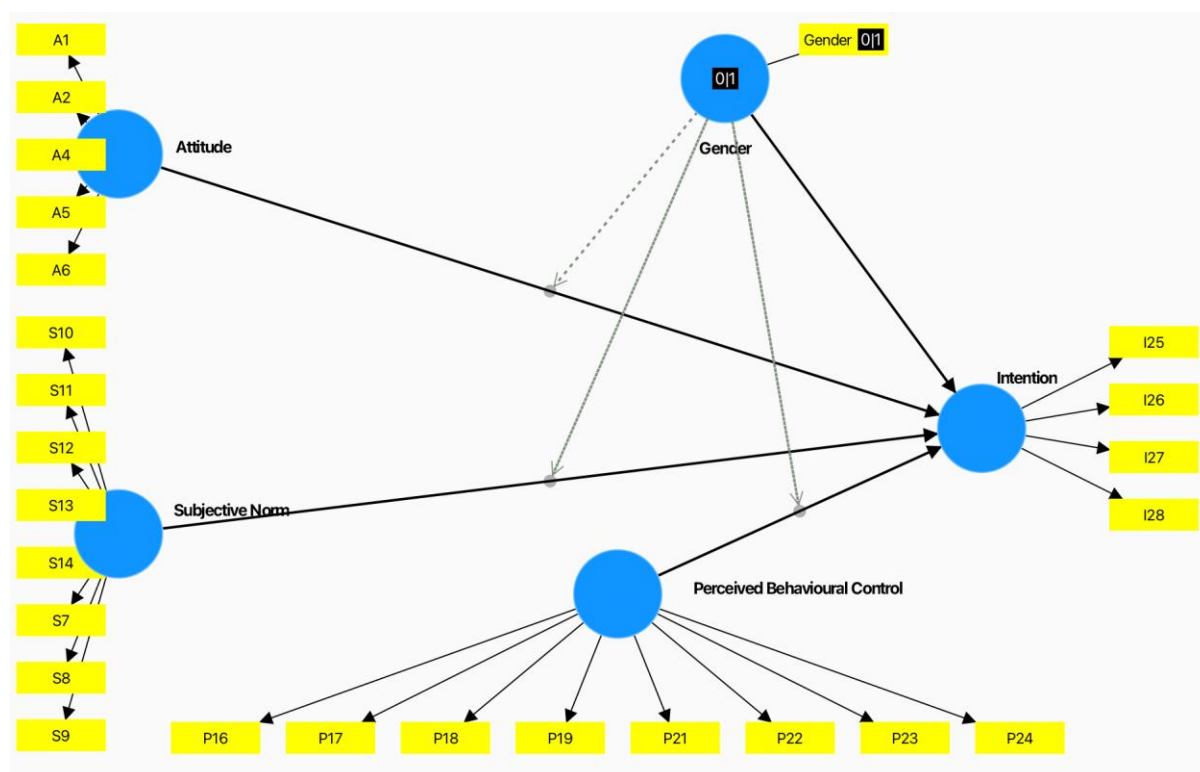


Figure 1. Research Model

### Measurement Model

Convergent validity is the extent to which a measure correlates positively with alternative measures of the same constructs. Therefore, the items that are indicators of a specific construct should converge or share a high proportion of variance (Hair et al., 2010). In establishing convergent validity, outer loadings and Average Variance Extracted (AVE) of more than 0.5 and Composite Reliability (CR) of 0.7 or above are considered to be adequate. As a result, the item for Attitude (A3), Subjective Norm (S15) and Perceived Behavioural Control (PCB 20) which has a loading of 0.431, 0.479 and 0.489 respectively were omitted. The data was reanalysed, and the new loadings and cross-loadings were obtained. Based on Table 3, all loadings and AVE are above 0.5 and the composite reliability values are more than 0.7. Thus, it can be determined that convergent validity has been established.

### Discriminant Validity

Discriminant validity is the degree to which a construct is truly different from other constructs (Hair et al., 2010). This can be established by the low correlations between all the measures of the variables of interest and the measures of other constructs. To address discriminant



validity, the square root of the AVE is compared against the correlations of the other constructs. If it is greater than its correlations with all the other constructs then discriminant validity has been established (Fornell & Larcker, 1981). The result is presented in Table 4.

Table 3

*Results of Measurement Model*

Convergent Validity					
Construct	Item	Factor loading	AVE	Composite reliability	R <sup>2</sup>
Attitude	A1	0.810	0.601	0.857	0.604
	A2	0.813			
	A4	0.735			
	A5	0.707			
	A6	0.803			
Intention	I25	0.924	0.711	0.952	0.604
	I26	0.938			
	I27	0.910			
	I28	0.732			
Subjective Norm	S10	0.862	0.711	0.906	0.604
	S11	0.910			
	S12	0.884			
	S13	0.833			
	S14	0.891			
	S7	0.619			
	S8	0.828			
	S9	0.831			
Perceived Behavioural Control	P16	0.755	0.570	0.898	0.604
	P17	0.696			
	P18	0.760			
	P19	0.717			
	P21	0.793			
	P22	0.799			
	P23	0.812			
	P24	0.779			

Table 4

*Discriminant Validity of Constructs*

	Attitude (ATT)	Intention (IN)	Perceived Behavioural Control (PCB)	Subjective Norm (SN)
Attitude (ATT)	0.775			
Intention (IN)	0.752	0.880		
Perceived Behavioural Control (PCB)	0.780	0.592	0.755	
Subjective Norm	0.761	0.695	0.721	0.843

*Note: Diagonal represents the square root of Average Variance Extracted (AVE) while the other entries represents squared correlations.*

Henseler et al (2015) report that the Fornell Larcker criterion and cross-loadings do not reliably detect the discriminant validity in a survey-based study. They proposed a new technique based on the multitrait-multimethod matrix (HTMT) ratio to address the issue of discriminant validity. The HTMT test involves the calculation of a ratio of the average correlations between constructs to the geometric mean of the average correlations within items of the same constructs (Voorhees et al., 2016). In order to obtain the HTMT results, this study runs the bootstrapping routine. Henseler et al (2015) suggest a cut-off point of 0.85 and 0.90 for establishing discriminant validity between two reflective constructs, whereas HTMT 0.85 is the most conservative criterion. If the HTMT ratio is below 0.85, then discriminant validity between the two constructs is established. As shown in Table 5, the results reveal that all HTMT ratios are less than 0.85, indicating discriminant validity is established in this study. Therefore, based on the previous tests and results of the HTMT test, it is concluded that discriminant validity is established in this study.

Table 5

*Multitrait-multimethod matrix test (HTMT) results*

	Attitude (ATT)	Intention (INT)	Perceived Behavioural Control (PCB)	Subjective Norm (SN)
Attitude (ATT)				
Intention (INT)	0.843			
Perceived Behavioural Control (PCB)	0.830	0.660		
Subjective Norm (SN)	0.848	0.746	0.775	

### *Structural Model*

The structural model represents the connection between constructs that were hypothesised in the research model in Figure 1. The goodness of the theoretical model is recognised by the variance explained ( $R^2$ ) of the endogenous constructs and the significance of all path estimates (Chin, 2010). The  $R^2$  and the path coefficients results specifies how well the data supports the hypothesized model (Chin, 1998). The results of the structural model from the SmartPLS output can be seen in Figure 2 and Table 6. Attitude and was found to be significantly and positively related to Intention ( $\beta = 0.616$ ,  $t = 4.646$ ,  $p < 0.01$ ), thus supporting H1 of this study. However, Subjective Norm, Perceived Behavioural Control did not have any significant relationship with Intention to attend vocational college, ( $\beta = 0.195$ ,  $t = 1.373$ ,  $p > 0.01$ ;  $\beta = 0.002$ ,  $t = 0.018$ ,  $p > 0.01$ , respectively). H2 and H3 were thus not supported in this study.

### *Moderating effect of Gender*

The study analysed the moderating effect of gender on the relationship between Attitude, Subjective Norm, Perceived Behavioural Control and Intention to attend vocational education, with a bootstrapping measure at 5000 setting a significance level of 5%, i.e.,  $p < 0.05$ . Without taking into account the moderating effect, the  $R^2$  for Intention was 0.604. This shows that up to 60.4% of variance in Intention were accounted for by Attitude, Subjective Norm, and Perceived Behavioural Control. With the inclusion of the interaction term, the  $R^2$

increased to 0.618. This shows an increase of 1.4% in the variance explained by gender. Results from the moderation analysis showed that gender positively and significantly moderates the relationships between Attitude and Intention to attend vocational college, with a standardized coefficients of 0.299 with  $t$  value of 1.738,  $p < 0.5$ , hence hypotheses H4 was supported. Likewise, gender is found to positively and significantly moderates the relationships between Subjective Norm and Intention to attend vocational college, with standardized coefficients at 0.327 and  $t$  value at 2.253,  $p < 0.5$ ; hypotheses H5 was supported. However, for the moderating effect of gender on the relationship between Perceived Behavioural Control and Intention was negative and not significant, with standardized coefficients of -0.06,  $t$  value of 0.418, and  $p > 0.05$ , thus hypotheses H6 was not supported. The presence of gender as a moderating factor suggests that the relationship between Attitude and Intention, between Subjective Norm and to attend vocational college may differ between males and females. The moderation analysis is presented in Table 6.

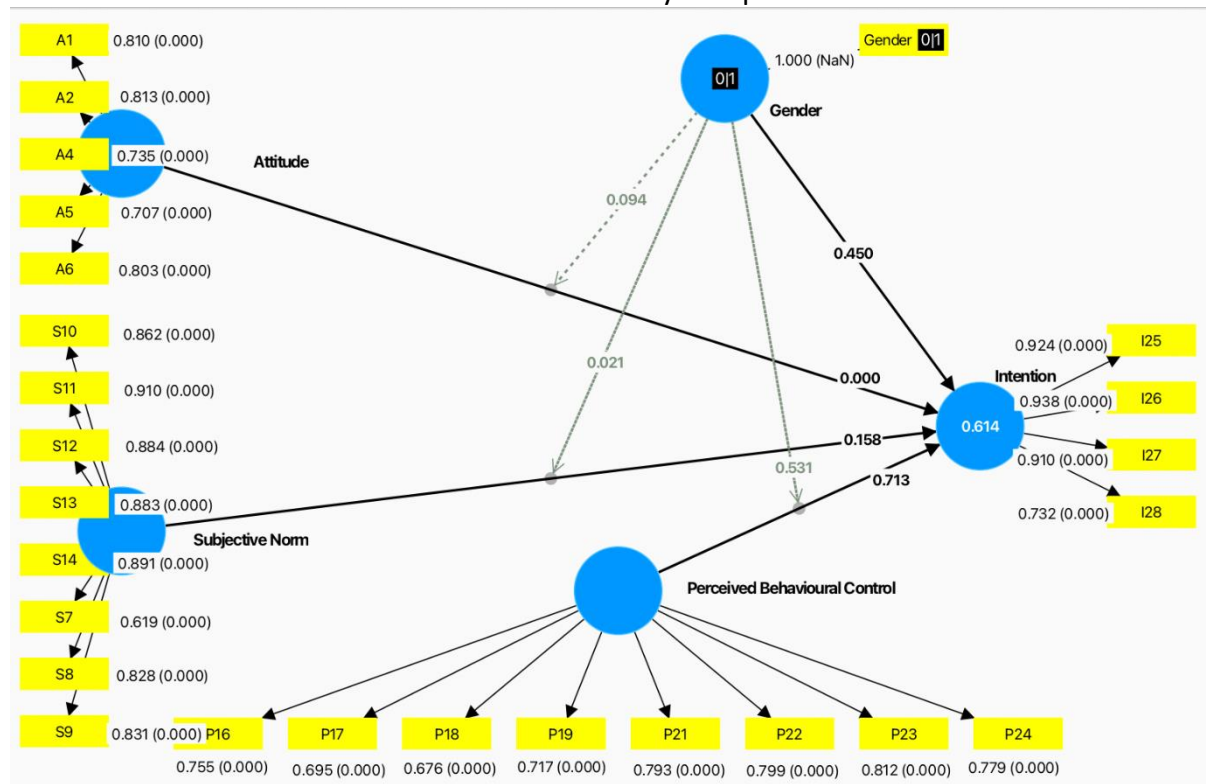


Figure 2. Structural Model

Table 6  
*Hypotheses Testing (Direct and Indirect Effects)*

	Hypotheses	Path Coefficient	Standard Dev	t value	p value	Results
<i>Direct Effect</i>						
ATT -> IN	H1	0.616	0.133	4.636	***0.000	Supported
SN -> IN	H2	0.195	0.142	1.373	0.17	Not supported
PCB -> IN	H3	0.002	0.193	0.018	0.985	Not supported
<i>Indirect Effect</i>						
<i>Moderating Effect</i>						
Gender x ATT -> IN	H4	0.299	0.132	1.738	*0.082	Supported
Gender x SN -> IN	H5	0.327	0.145	2.253	**0.024	Supported
Gender x PBC-> IN	H6	-0.06	0.143	0.418	0.676	Not supported

Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

ATT- Attitude, SN- Subjective Norm, PCB- Perceived Behavioural Control, IN- Intention

Slope analysis was conducted and is presented to understand better the nature of the moderating effects. Figure 3 shows the moderating effect of gender on the relationship between Attitude and Intention. The graph represents the relationship between Attitude and Intention to attend vocational college moderated by gender. The graph shows both lines have a positive slope, indicating that as Attitude increases, the intention to attend vocational college for both gender groups. The red line represents the relationship between Attitude and Intention for male (Gender at zero), while the green line represents female (Gender at one). The increase in Intention with increasing Attitude is more pronounced for the males compared to females. The gradient of the slope for males has a steeper gradient compared to females, indicating that the positive relationship is stronger for male. Thus, Hypothesis 4 that posits the relationship between Attitude and Intention to attend vocational college would be stronger for male is supported.

Similarly, for the moderating effect of gender on the relationship between Subjective Norm and Intention, it can be seen from Figure 4. The graph shows both lines have a positive slope, indicating that as Subjective Norm increases, the intention to pursue higher vocational education also increases for both gender groups. Female (Gender at one) has a steeper gradient compared to male (Gender at zero), indicating that the positive relationship is stronger for female. The increase in Intention with increasing Subjective Norm is more pronounced for the females compared to males. Thus, Hypothesis 5 that posits that relationship between Subjective Norm and Intention to attend vocational college would be stronger for female is supported.

While gender did not have the positive moderating effect on the relationship between Perceived Behavioural Control and Intention, Figure 5 is presented to show the negative relationship. The graph shows both lines have a negative slope, indicating that as Perceived Behavioural Control increases, the intention to attend vocational college decreases for both gender groups. The slope for female is steeper than that for male. This suggests that the decrease in intention with increasing Perceived Behavioural Control is more pronounced for the females compared to males. This findings thus did not support Hypothesis 6 that posits the relationship between Perceived Behavioural Control and Intention to attend vocational college would be stronger for male compared to female.

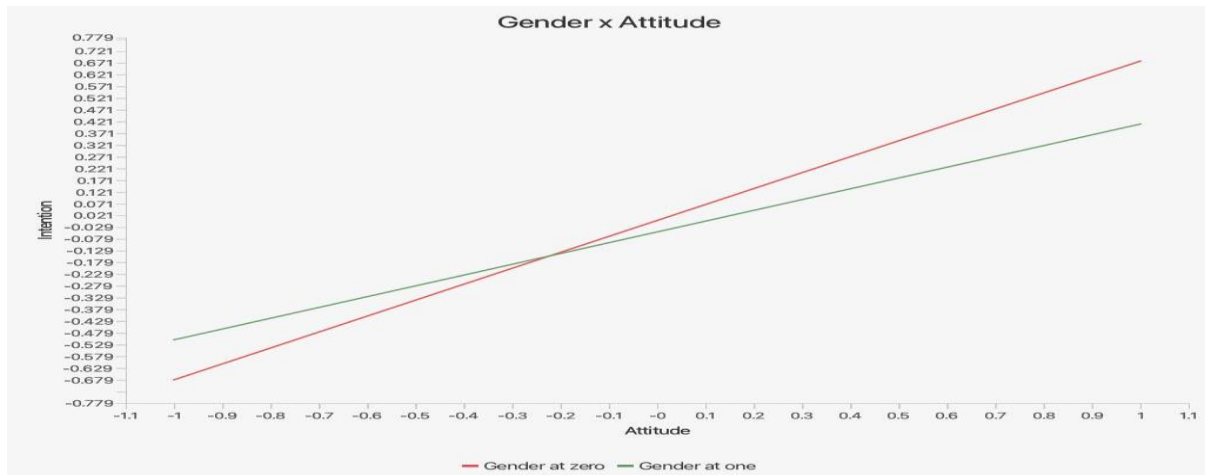


Figure 3. Moderation effect of gender on the relationship between Attitude and Intention to attend vocational college

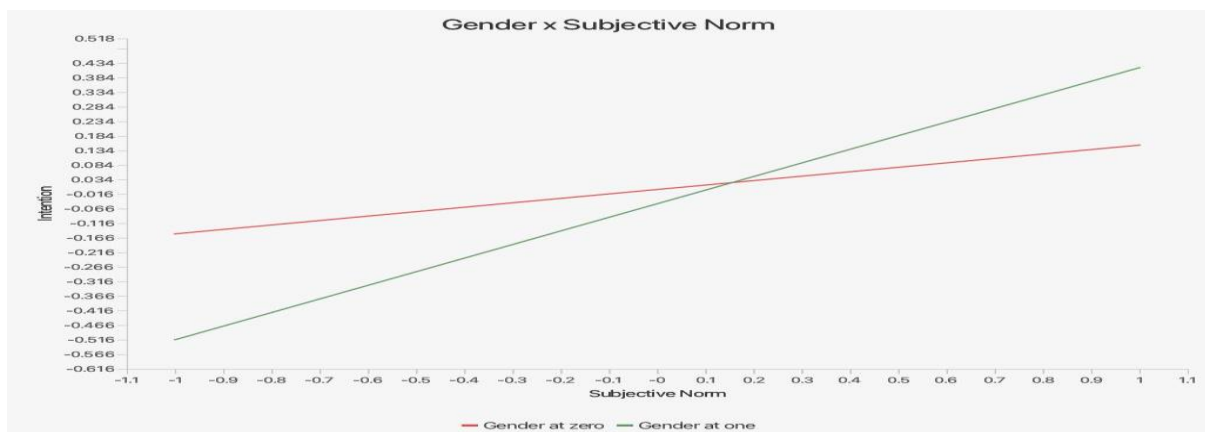


Figure 4. The moderation effect of gender on the relationship between Subjective Norm and Intention to attend vocational college.

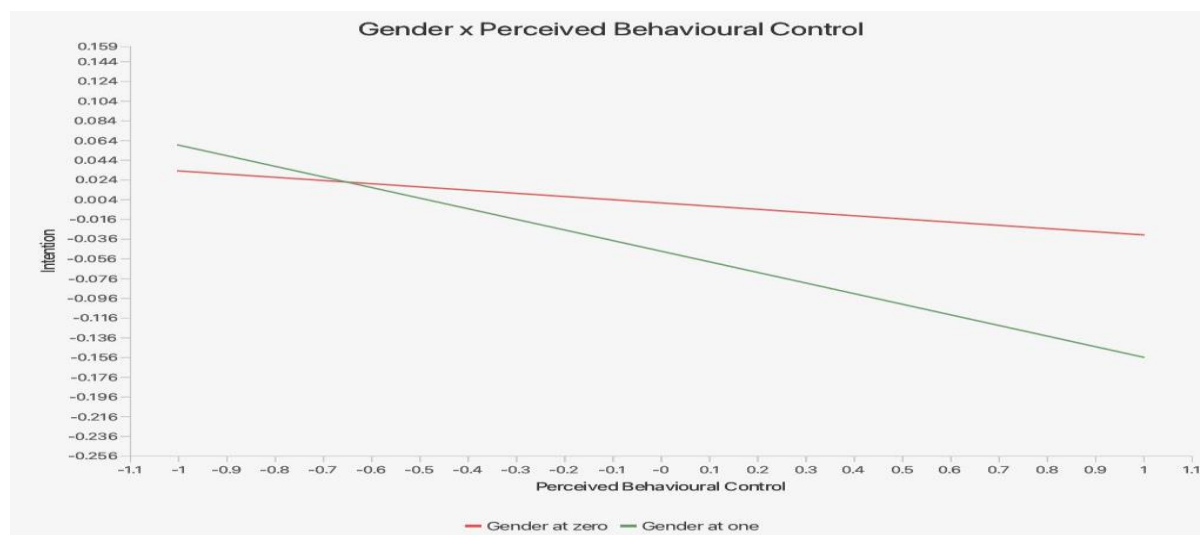


Figure 5. The moderation effect of gender on the relationship between Perceived Behavioural Control and Intention to attend vocational college.

The path coefficient bootstrapping results in Table 7 showed that relationship between Attitude and Intention to attend vocational education is larger for males ( $\beta = 0.695$ ) compared to females ( $\beta = 0.449$ ). It confirms that attitude has a stronger effect on intention for males compared to females. On the contrary, the coefficient for the relationship between subjective norm and intention to attend vocational education is larger for females ( $\beta = 0.457$ ) compared to males ( $\beta = 0.148$ ), it also confirms that Subjective Norm has a stronger effect on intention for females compared to males. This could be due to the societal norm that females tend to listen to teachers, peers and parents more than males. On the other hand, the coefficient for the relationship between Perceived Behavioural Control and Intention to attend vocational education is larger for female ( $\beta = -0.092$ ) compared to male ( $\beta = -0.029$ ), it suggests that Perceived Behavioural Control has a stronger but negative effect on Intention for females compared to males.

Table 7

*Path-Coefficient Bootstrapping Results For Male And Female*

	$\beta$ for Male	Stand Dev	t value	$\beta$ for female	Stand Dev	t value
ATT -> IN	0.695	0.104	***6.7	0.449	0.082	***5.454
SN-> IN	0.148	0.108	1.372	0.457	0.086	***5.296
PCB -> IN	-0.029	0.093	0.312	-0.092	0.077	1.189

Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

ATT- Attitude, SN- Subjective Norm, PCB- Perceived Behavioural Control, IN- Intention

## Discussion and Conclusion

This paper investigated the relationship between Attitude, Subjective Norm, Perceived Behavioural Control and Intention to attend vocational college. It also investigated the role of gender in moderating the intention to attend vocational college among high school students in Ningxia, China. The analysis using SmartPLS 4 showed that Attitude has a positive and significant relationship with intention to attend vocational college, supporting H1. This finding is supported by a study in Singapore by Chua et al (2020) where attitude towards



vocational education played an important role in shaping the intention to pursue a vocational pathway. Griggs and Crawford (2017) in a study not directly related to vocational education, find that academic performance plays an important role in choosing education pathway post-secondary school. In this study, respondents indicated that they believe their current academic results is good enough to enter vocational college. Apart from that, Sahari (2019) finds that attitude plays an important role in influencing students towards entrepreneurial intention in Malaysia. Likewise, Santhanamery et al (2023) attitude exerts a significant relationship on entrepreneurial intention among university students in Malaysia.

However, Subjective Norm and Perceived Behavioural Control did not have any positive nor significant relationship with intention to attend vocational college, thus H2 and H3 were not supported in this study. This is also consistent with Kamaruddin et al (2023)'s study which found that perceived behavioural control is not essential in influencing the entrepreneurial intention among Malaysian hospitality students. Likewise, Santhanamery et al (2023) has similar findings among university students' entrepreneurial intention in Malaysian university students. Nevertheless, this finding is contrary to Wang et al (2021) where it was found that perceived behavioural control had a positive and significant relationship with intention to attend vocational college among vocational high school students in western China. Sahari (2019) in his study also find that self-efficacy, which was a major part of perceived behavioural control was a significant predictor of entrepreneurial intention among university students in Malaysia.

In the moderation analysis, gender was found to moderate the relationship between Attitude and Intention, where Attitude has a stronger effect on Intention for males compared to females. This findings is supported by Bagheri and Lopez (2014) in their study on entrepreneurial intention using the Theory of Planned Behaviour. A positive attitude towards vocational education among males could be due to the general notion that vocational education provide more practicality and relevance of skills acquired, compare to the academic pathway (Eren and Henderson, 2011)

As for Subjective Norm, it has a stronger effect on Intention for females compared to males. This could be due to the general societal norms where females tend to listen to important people in their lives such as their parents, teacher and peers. Eccles (1994) discusses how gender roles and societal expectations influence educational and career choices. Females might conform to vocational paths that are perceived as more appropriate for their gender. In many cultures, there are specific expectations and traditional gender roles that influence educational and career choices. Females might feel pressure to conform to these norms, leading them to consider vocational schools that align with societal expectations. Also, family members, especially parents, often play a significant role in shaping educational decisions (Wang and Eccles, 2012). If parents and family members value vocational education and convey this positively, females might be more likely to consider vocational schools. The attitudes and decisions of peers can significantly impact a student's choices. If a female student's friends or classmates view vocational education positively, she might be more inclined to follow a similar path (Leaper et al., 2012).

H6 was however not supported in this study as Perceived Behavioural Control has a negative relationship Intention, and the relationship is stronger for female. This could be because male

high school students believe they have control over their educational and career outcomes, and that their current academic results are better than what is required to enter vocational education. Therefore, their intention to attend vocational college decreases as their perceived behavioural control increases. This applies to both gender.

The implication of the findings can be divided into two; theoretical and practical. Theoretically, this study adds to the growing body of literature that focuses on the factors that have the potential to influence intention to attend vocational college, particularly among high school students. It also contributes to the evidence in support of the moderating effect of gender towards attitude, subjective norm and intention to attend vocational college. This model of moderation has not been previously addressed among the high school students in Ningxia, China studies. Thus, this study will provide a solid ground for future research to establish a deeper moderation model tested in this study. Practically, this paper emphasizes the importance of vocational education in advancing the Chinese economy to become the next global power house. Policy makers and educators should take this into consideration and understands the need to improve further and strengthen the policy of vocational education among students. Understanding the moderating effect of gender can inform strategies to promote vocational education among both genders effectively. For example, if the analysis reveals that attitude and subjective has a stronger effect on intention for one gender, tailored interventions or educational campaigns can be designed to address the specific needs and preferences of that gender.

### **Limitation and Future Research**

This study has several limitations. The limitations in the current study can serve as suggestions for future research. Due to the limited available studies on the role of gender in affecting the intention to attend vocational college, the study used entrepreneurial education as a surrogate to measure the moderating role of gender while firmly grounded on the use of Theory of Planned Behaviour. Findings in this study can be utilised as a reference for other researchers to expand the studies on vocational education. Secondly, the current study only focused on Ningxia in China, therefore the results may not be generalisable to other provinces in China. Future studies can replicate this study in other provinces in China. Thirdly, this study uses Theory of Planned Behaviour to investigate the intention to attend vocational college, future studies can look into other factors that could affect such intention such as job prospects, and perhaps dive deeper to uncover the lack of interest in vocational education.

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