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Article

A study of the doctoral preparatory behaviour of female teachers in independent colleges in China: The moderating role of perceived risk

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Abstract: This study is based on the theory of planned behaviour, and its aim is to understand the impact of doctoral pursuit intention on the doctoral preparatory behaviour of female teachers in independent colleges in China, as well as to determine the moderating effect of perceived risk between doctoral pursuit intention and doctoral preparatory behaviour. The participants in the study were female teachers from independent colleges in China, who were recruited between February and March 2024 based on convenience sampling. 776 valid questionnaires were obtained, and the data were analyzed using a hierarchical regression method. According to the results, a doctoral pursuit intention has a significant and positive predictive effect on doctoral preparatory behaviour, while the perceived risk has a significant and negative moderating effect between doctoral pursuit intention and doctoral preparatory behaviour. This indicates that female teachers with high doctoral pursuit intention more actively prepare to pursue a doctoral degree when the perceived risk is low, whereas the doctoral preparatory behaviour of those with high perceived risk shows a limited increase as their doctoral pursuit intention increases. Therefore, female teachers' pursuit of a doctoral degree should be supported on an individual basis and analysed within the broader context of the transformation of independent colleges.

Keywords: doctoral preparatory behaviour; doctoral pursuit intention; female teachers; perceived risk; theory of planned behaviour

1. Introduction

As the highest level of degree education, doctoral education is a key indicator of the development of a country's scientific, cultural and higher education (Turner, 2022). China has been awarding doctoral degrees since the 1980s, and the number of doctoral students has substantially increased along with technological advancement and economic growth (Ayoobzadeh, 2023), reaching 556,065 in 2022 (Ministry of Education of China, 2023b). It is evident that China is striving to build a world-class higher education system based on advancing doctoral education (Li et al., 2021).

Independent colleges are an important component of China's higher education system, being established by regular higher education institutions collaborating with social organisations or individuals (Ministry of Education of China, 2003). In 2008, the Ministry of Education began to promote the conversion of independent colleges, and further clarified conversion paths in 2020, which included conversion to private universities, public universities, cessation of operations, or merging with local vocational colleges (Ministry of Education of China, 2021). Regardless of which conversion path was chosen by independent colleges, building a high-quality faculty team was crucial (Jiang and Wang, 2024).

China currently has 164 independent colleges with 83,915 faculty members,

58.08% of whom are female (Ministry of Education of China, 2023c). The proportion of full-time teachers with doctoral degrees in independent colleges is 16% (Dai et al., 2021), which is significantly lower than the 43.38% in regular universities (Ministry of Education of China, 2023a), and obtaining a doctoral degree is a long-term prerequisite for becoming a university teacher (Liu and Morgan, 2016). Completing a doctoral tests students' perseverance, intellect, coping skills, and interpersonal communication abilities (Syed Mohamed et al., 2020). Factors like funding, advisor support, research opportunities, health and family, influence females' decisions to pursue a doctoral degree (Cronshaw, 2017). They consciously choose whether or not to pursue a doctoral degree based on a variety of information, and their behavioural intentions are influenced by consequences, their significant others, and resources and opportunities (Omura et al., 2018), consistent with the theory of planned behaviour (TPB), which supports the process of behavioural design (Wahyuni et al., 2020).

Ajzen proposed the theory of planned behaviour in 1985, arguing that human social behaviour is not complex, as individuals process different types of behaviour in roughly the same way and the same limited constructs can be used to predict and understand any behaviour of interest (Ajzen, 1985). The TPB's behavioural design is useful for predicting human behaviour and accurately describing it using intentions, which can lead to behaviour (Ponjuán et al., 2023). This theory has been widely applied in the research of human behaviour, such as studies of enrolment behaviour in higher education (Duong et al., 2023; Ingram et al., 2000), academic career intentions (Evers and Sieverding, 2015), international higher education decision-making (Rethinam et al., 2018), and studying abroad (Phan, 2022), demonstrating the predictive and explanatory power of intentions on educational behaviour (Dijks et al., 2024).

However, the pursuit of a doctoral degree often involves certain risks, with a dropout rate as high as 50% (Amida et al., 2020; Carter et al., 2013), and a higher dropout rate among females (Haines et al., 2024). Perceived risk, defined as the degree of potential loss individuals perceive due to uncertainty in the behavioural process (Sánchez-Cañizares, 2021), has gained much attention in the field of higher education (Lam, 2017). The perceived risk has a significant and negative impact on intentions and behaviour (Javier et al., 2022). As a moderating variable, perceived risk can affect individuals' behavioural intentions, with higher risk inhibiting their exploratory tendency (Tavitiyaman and Qu, 2013).

Despite the emphasis of society on doctoral education, élite females are still discriminated against. Females who pursue a doctoral degree are often labeled as "a third type of people" or "extinct masters" (Dai et al., 2021). Females face particular challenges when preparing for a doctoral degree, such as a lack of role models (Almukhambetova, 2023), obstacles (Webster et al., 2021), or negative gender socialisation experiences (Linan and Fayolle, 2015). Male-dominated values blur the boundary between female public and private spheres in academia, prioritising family roles and limiting their choices in higher education (Berggren, 2006). Females bear significant pressure in balancing family and academic life, struggling between roles as wives, mothers and students (Aiston and Jung, 2015), making them feel isolated and stressed, which diminishes their self-esteem (Brown and Watson, 2010). This leads to potential physical risks induced by the pressure of study (Peltonen et al., 2017),

psychological risks from burnout and emotional exhaustion (Brownlow et al., 2023), or social risks based on family relationships, unstable employment, and economic pressures (Arr et al., 2023). Females have lower risk tolerance than males, are more cautious, and less inclined to take risks (Singoei, 2022).

In summary, women face a challenge that involves balancing the pursuit of a doctoral degree with time constraints, family obligations and work responsibilities (Yuan and Tang, 2024). The doctoral preparatory behaviour of female teachers at China's independent colleges is examined in this study as the dependent variable, and results reveal that perceived risk negatively moderates the relationship between doctoral pursuit intention and doctoral preparatory behaviour. This finding represents a new avenue to further validate the directional relationship between perceived risk, intention and behaviour. Additionally, while existing studies based on the Theory of Planned Behaviour have predominantly focused on intention, the transformation of intention into behaviour has been less thoroughly explored (Evers and Sieverding, 2015; Lu et al., 2023). Therefore, this study contributes to the literature by enriching the understanding of the relationship between intention and behaviour with findings that enhance the TPB's applicability in the career context of higher education, as well as offering practical recommendations to support female faculties' preparation for doctoral studies. On this basis, the aim of the study is to draw attention to a group of female teachers in China's independent colleges, highlighting the "pipeline leakage" risks faced by females in academia (Ayyildiz and Banoglu, 2024), thereby breaking discursive marginalisation constraints (Li, 2021), which enables them to continue their academic interests.

2. Development of research theory and hypothesis

2.1. Research theory

The aim of the theory of planned behaviour (TPB) is to predict and explain human behaviour in specific contexts by proposing that individuals' behaviour is the result of deliberate and rational decision-making processes that encompass attitude, subjective norms, perceived behavioural control and intention (Ajzen, 1985). This theory analyses the formation of behaviour in three stages: intention determines behaviour; attitude, subjective norms and perceived behavioural control influence intention; and exogenous variables affect attitude, subjective norms and perceived behavioural control (Conner, 2020).

The intention to engage in a certain behaviour is the direct determinant of that behaviour. People are expected to act according to their intentions unless unforeseen events occur (Abd-Mutalib et al., 2023). Intention is considered to capture the motivational factors of behaviour (Sujood et al., 2022), which include the positive value judgment of a doctoral degree (Cronshaw, 2017), support from significant others (Ghahremani et al., 2022), and the availability of sufficient opportunities and resources (Izadpanah and Rezaei, 2022).

What is more, Huyen-Thi et al. (2023) suggest that incorporating perceived risk as a factor that influences behavioural intentions can enhance the applicability of the TPB in different research contexts. Perceived risk is a powerful predictor of individual behaviour and plays a central role in decision-making (Stuck and Waker, 2019).

Individuals tend to be cautious when deciding to pursue a doctoral degree due to uncertain returns and high dropout rates in doctoral education (Shin et al., 2022). The relationship between intention and behaviour may weaken when people perceive risks (Susanto et al., 2022). Therefore, perceived risk can be integrated into the TPB model for examination and discussion. Previous researchers have shown that the TPB is suitable for use in this research (Rethinam et al., 2018).

2.2. Relationship between doctoral pursuit intention and preparatory behaviour

Intention refers to individuals' inclination to engage in a particular behaviour, which indicates their willingness to invest effort and time in it (Ponjuán et al., 2023). Dai et al. (2021) define doctoral pursuit intention as subjective thoughts and feelings about pursuing a doctoral degree. Doctoral pursuit intention is defined in this study as the subjective inclination to prepare for a doctoral degree.

Behaviour consists of four components: the performance of an action, the target of that action, the context in which that action is performed, and the time of the action (Ajzen, 1985). It is crucial to make a comprehensive examination of the experience of doctoral candidates, especially during the initial planning stages (Xu and Chia, 2024). An individual's level of preparation can be measured by understanding the doctoral application process (DeWitty et al., 2016). Preparatory behaviour for doctoral pursuit is defined in this study as actions taken by female teachers in independent colleges in China, alongside fulfilling other life obligations, to realise their doctoral intentions.

Intention is a factor that motivates behaviour; individuals are more likely to invest energy in a particular behaviour if they have a strong intention to do so (van et al., 2018). However, gender roles, expectations and social norms limit female educational aspirations within the same cohort (Shen and Liu, 2022). While possessing a Bachelor's or Master's degree may be a source of pride for families, pursuing a Doctoral degree could delay marriage and childbirth, making it a subject of curiosity and awkwardness in some families (Carter, 2013). Families' lesser recognition of the value of a doctoral degree and the high opportunity costs involved in doctoral education make it a distinct experience for females compared to males. Consequently, the process of developing doctoral pursuit intention is more complex for females than for males (Dai et al., 2021). If individuals cannot overcome these obstacles and lack sufficient control of their behaviour, they will be unable to form an intention to act, thereby not executing the behaviour when opportunities arise (Conner, 2020). On this basis, the following hypothesis is proposed;

Hypothesis 1: The doctoral pursuit intention of female teachers in independent colleges in China has a significant impact on their preparatory behaviour.

2.3. Moderating effect of perceived risk on the relationship between doctoral pursuit intention and preparatory behaviour

Perceived risk refers to individuals' perception of any situation that may directly affect them or threaten their beliefs (Vu et al., 2022). The perception of risk has two dimensions: cognitive perception, which is the perceived probability of a negative outcome, and emotional perception, which is the emotional response to a risk (Day et

al., 2009). It is important for those preparing to pursue a doctoral degree to consider all the positive and negative aspects, as it is not easy to obtain this type of degree and they may encounter many risks along the way (Svitek, 2022). Perceived risk is defined in this study as the perception of uncertainty and potential of adverse outcomes while preparing to pursue a doctoral degree.

Deciding to pursue a doctoral degree is a high-risk strategy (Golde, 2000). Failing to complete the programme causes economic, emotional and social costs, which have the potential to disrupt the individual's existing identity (Shin et al., 2022). More than three-quarters of doctoral students experience above-average levels of stress, and commonly complain about stress, anxiety and exhaustion (Svitek, 2022). Therefore, females usually consider the potential risks when preparing to study for a doctoral degree (Aitchison and Mowbray, 2013), such as guilt and frustration, more than the high cost, lost time, opportunities, relationships, and the work-life imbalance (Ayoobzadeh, 2023).

Because the behavioural, normative and control beliefs of males and females are different (Hentschel et al., 2019), individuals internalise societal expectations that certain behaviour is suitable for males and another for females. Therefore, females are more likely to perceive risks related to gender roles (Mello et al., 2019). Although people's perception of risk may be more or less aligned with reality, as risk involves anticipation of loss, it is highly likely to have a negative impact on specific behaviour and intentions (Rahmafitria et al., 2021). Consequently, individuals will bear the risk after forming behavioural intentions, with perceived risk moderating the relationship between intention and behaviour (Ta-Tine, 2014). When individuals perceive risks, it can have a negative effect on the relationship between their intentions and behaviour (Susanto et al., 2022). On this basis, the following hypothesis is proposed;

Hypothesis 2: The perceived risk of pursuing a doctoral degree moderates the relationship between the doctoral pursuit intention and preparatory behaviour of female teachers in China's independent colleges.

3. Methodology

3.1. Research framework

The aim of this study, which is based on the TPB, is to explore the influence of doctoral pursuit intention on doctoral preparation behaviour using perceived risk as a moderating factor. The Academic Ethics Committee of Dhurakij Pundit University, Thailand, approved this study before the data was collected. The questionnaire was distributed via Questionnaire Star (www.wjx.cn), which enabled the participants to scan a QR code and complete the survey electronically. The hierarchical regression method was used to analyse the data. The research framework is shown in **Figure 1**.

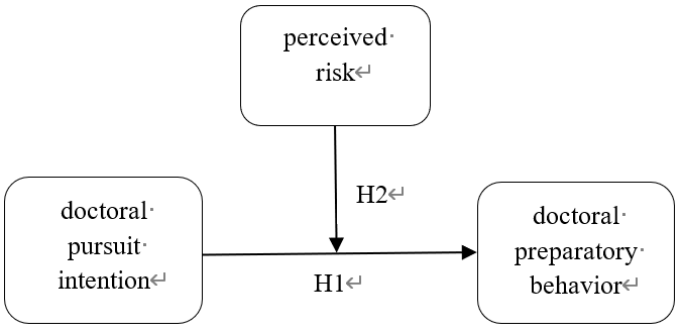

Figure 1. Research framework.

3.2. Research participants

The participants in this study were female teachers from independent colleges in China. They were recruited during February and March 2024 using convenience sampling. There are 164 independent colleges in China, with 48,741 female teachers (Ministry of Education of China, 2023c). The size of the sample was calculated by considering several factors, including the desired confidence level, the width of the confidence interval, and the estimated standard deviation (Creswell and Creswell, 2017). Given the constraints of precision and reliability with $\alpha = 0.05$, $e = 0.05$, and $N = 48{,}741$ (Rea and Parker, 1997), the minimum required sample size was deemed to be 384. With 776 valid questionnaires collected in this study, the sample size exceeded the required criteria.

$$n = \frac{\frac{Z^2 \times p(1-P)}{e^2}}{1 + \left(\frac{Z^2 \times p(1-P)}{e^2 N}\right)}$$

where,

n: Sample size;

Z: Z-score (quantile of the standard normal distribution at the specified confidence level). For a 95% confidence level, Z is 1.96;

N: Population size;

e: Margin of error.

In the normality test, the skew values for the three items in the doctoral pursuit intention dimension ranged from 0.467 to 0.514, with the kurtosis values ranging from 0.121 to 0.289. As for the 11 items in the doctoral preparatory behaviour dimension, the skew values ranged from 0.386 to 0.517, and the kurtosis values ranged from 0.332 to 0.557. For the 19 items in the perceived risk dimension, the skew values ranged from 0.048 to 0.393, with the kurtosis values ranging from 0.416 to 1.020. Since the absolute values of both skew and kurtosis were less than 2, the sample data was considered to follow a normal distribution.

3.3. Research tools

The scales used in this study were not specifically designed for female teachers preparing to pursue a doctoral degree. Therefore, following the principle of linguistic equivalence, an English professor was asked to correct the initial draft against the original English version to ensure that the content was expressed clearly and without ambiguity. Linguistic equivalence means that a concept expressed in one language can

be accurately expressed in another, meaning that the sentences are conceptually or semantically equivalent, rather than all the words being identical (Zhang and Fu, 2000). Subsequently, seven experts in the field of educational management were invited to give their opinion of the suitability of the scales' dimensions and items, which served as the basis for revising the scale.

The overall model fit indices for the scale were as follows: Measures of absolute fit: $\chi^2 = 2487.805$, $\chi^2/d = 5.057$, RMSEA = 0.072, GFI = 0.766, AGFI = 0.733, SRMR = 0.053. Incremental fit measures: CFI = 0.897, NFI = 0.875, RFI = 0.866. Parsimonious fit measures: PNFI = 0.815, PGFI = 0.672. Therefore, the fit between the theoretical model and the observed data was acceptable based on these results.

(1) Doctoral pursuit intention scale

The graduate school enrollment intention questionnaire developed by Ingram et al. (2000), was used in this study to modify the target population from "college students" to "female teachers at China's independent colleges." The questionnaire consisted of three items, for example, "I intend to apply to graduate school for admission within the next two years", scored on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). The reliability of the scale was confirmed with a Cronbach's Alpha value of 0.861, which exceeds the standard threshold of 0.70. The Kaiser-Meyer-Olkin (KM*O*) measure of sampling adequacy was 0.734, and Bartlett's test of sphericity was significant ($p < 0.001$), indicating that the factor analysis was appropriate. The cumulative percentage of variance explained was 78.313%. The confirmatory factor analysis (CFA) showed factor loadings ranging from 0.792 to 0.857, with a composite reliability (CR) value of 0.862 and an average variance extracted (AVE) value of 0.675. These results met the standards of standardised regression weight (SRW) > 0.500, CR > 0.700, and AVE > 0.500 (Fornell and Larcker, 1981).

(2) Perceived risk scale

The perceived risk scale developed by Lam et al. (2017) was used in this study. This scale consists of 7 dimensions and 19 items, scored on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). The results of a principal component analysis (PCA) revealed eigenvalues of 7.394 and 5.122. Contrary to the original theoretical assumption of 7 factors, 2 common factors were extracted, accounting for 65.874% of the cumulative variance, which indicates a good explanation of variance. Each item had a loading higher than 0.5, suggesting that the two extracted factors comprehensively captured the information without showing high double-factor loadings, and the observed variables were re-clustered under the new dimensions. The Cronbach's Alpha values for the two dimensions were 0.951 and 0.918. A CFA showed that the factor loadings for each dimension ranged from 0.738 to 0.844, with CR values of 0.951 and 0.917, and AVE values of 0.619 and 0.615, respectively.

(3) Doctoral preparatory behaviour scale

The doctoral preparatory behaviour scale was adapted from the graduate school application preparedness scale developed by Ingram et al. (2000). This scale consists of 11 items, scored on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). The scale demonstrated a Cronbach's Alpha of 0.956, KMO value of 0.976, and Bartlett's test of sphericity was significant, with a *p*-value of 0.000 ($p < 0.001$). The cumulative explained variance percentage was 69.277%, indicating a good

explanation of the variance. The CFA showed factor loadings ranging from 0.789 to 0.829, with a CR value of 0.956 and an AVE value of 0.662.

4. Results and discussion

4.1. Descriptive statistics of participants

A total of 921 questionnaires were collected, 776 of which were valid, resulting in an effective response rate of 84.26%. 320 teachers (41.20%) were aged 30 and below, 324 teachers (41.80%) were aged 31–40, and 132 teachers (17.00%) were aged 41 and above. 635 of them were married (81.70%), 91 unmarried (11.70%), and 50 (6.40%) with other marital statuses. In terms of professional titles, 295 teachers (38.00%) were assistant professors or below, 414 teachers (53.40%) were lecturers, and 67 teachers (8.60%) were associate professors or above.

4.2. Descriptive statistics and correlation analysis of variables

As shown in **Table 1**, the means (*M*) and standard deviations (*SD*) of the variables were as follows: doctoral pursuit intention ($M = 4.611$, $SD = 1.293$), perceived risk ($M = 4.379$, $SD = 1.152$), and doctoral preparatory behaviour ($M = 4.762$, $SD = 1.312$). Since these three were based on a 7-point scale, their average scores were at an above-average level.

According to the results of the correlation test, the correlation between doctoral pursuit intention and perceived risk was low, but significant ($r = 0.112$, $p < 0.01$). The correlation between doctoral pursuit intention and doctoral preparatory behaviour was medium and significant ($r = 0.611$, $p < 0.001$), and the correlation between perceived risk and doctoral preparatory behaviour was low, but significant ($r = 0.165$, $p < 0.001$).

Table 1. Descriptive statistics and correlation analysis of the variables.

Variable	*M*	*SD*	Doctoral pursuit intention	Perceived risk	Doctoral preparatory behaviour
Doctoral pursuit intention	4.611	1.293	1		
Perceived risk	4.379	1.152	0.112^{**}	1	
Doctoral preparatory behaviour	4.762	1.312	0.611^{***}	0.165^{***}	1

Note: $n = 776$, $^{**}p < 0.01$, $^{***}p < 0.001$.

4.3. Common method bias test

The Harman's single factor test was used to determine the common method bias in the data, and the results indicated that the KMO value was 0.965 and Bartlett's test of sphericity was significant ($p < 0.001$). The cumulative explained variance was 68.298%, and the variance explained by the first common factor was 24.438%, which was below the critical threshold of 40% (Harris and Mossholder, 1996). This suggests that common method bias did not substantially affect the results of the study, and the inferred relationships between the variables are reliable (Podsakoff et al., 2003).

4.4. Predictive power of doctoral pursuit intention to predict doctoral preparatory behaviour

A hierarchical regression analysis was used in this study. After controlling for the

three demographic variables of age, marital status and professional title, doctoral pursuit intention was included in the regression equation. Model 1 in **Table 2** shows that doctoral pursuit intention had a significant and positive effect on predicting the doctoral preparatory behaviour of female teachers in independent colleges in China ($\beta = 0.587$, $p < 0.001$) as it explained 40.30% of the variance in their doctoral preparatory behaviour. Therefore, hypothesis 1 was supported.

Table 2. Hierarchical regression analysis of the moderating effect of perceived risk on the influence between doctoral pursuit intention and doctoral preparatory behaviour.

	Model 1		**Model 2**		**Model 3**		
Variable	**DPB**		**DPB**		**DPB**		
	β	***t***	***β***	***t***	***β***	***t***	**VIF**
Age 1	0.142	2.839**	0.144	2.877**	0.122	2.537*	3.251
Age 2	0.036	0.798	0.035	0.792	0.026	0.599	2.578
Married	0.076	−1.704	−0.073	−1.638	−0.054	−1.269	2.571
Unmarried	−0.120	−2.678**	−0.117	−2.607**	−0.088	−2.055*	2.621
PT 1	0.108	1.723	0.089	1.424	0.042	0.072	5.148
PT 2	0.054	0.941	0.045	0.781	0.014	0.259	4.251
DPI	0.587	20.717***	0.579	20.452***	0.544	19.858***	1.064
PR			0.082	2.901**	0.084	3.108**	1.033
DPI*PR					−0.230	−08.398***	1.065
F	73.971***		66.402***		72.211***		
R^2	0.403		0.409		0.459		
$\triangle R^2$			0.006		0.050		

Note 1. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.
Note 2. Reference group: age (41 years and above), marriage (others), professional title (associate professor or above).
Note 3. Age 1 = 30 years and below, Age 2 = 31–40 years; PT 1 = Assistant and below, PT 2 = Lecturer.
Note 4. DPI = doctoral pursuit intention, PR = perceived risk, DPB = doctoral preparatory behaviour, DPI × *PR = doctoral pursuit intention × *perceived risk.

4.5. Moderating effect of perceived risk on the relationship between doctoral pursuit intention and doctoral preparatory behaviour

A hierarchical regression analysis was conducted to examine the moderating effect of perceived risk on the relationship between doctoral pursuit intention and doctoral preparatory behaviour, controlling for the three demographic variables of age, marital status and professional title. Doctoral pursuit intention and perceived risk were standardised to avoid multicollinearity. As shown in **Table 2**, all the variable variance inflation factor (VIF) values were less than 10, and the collinearity diagnosis condition index was 20.018, which indicated that there is no severe multicollinearity among the variables.

The results of the hierarchical regression analysis of the moderating effect of perceived risk on the relationship between doctoral pursuit intention and doctoral preparatory behaviour are presented in **Table 2**. The *F* value of Model 1 was 73.971 ($p < 0.001$), and doctoral pursuit intention had a significant effect on doctoral

preparatory behaviour ($\beta = 0.587$, $p < 0.001$). The F value of Model 2 was 66.402 ($p < 0.001$), with both doctoral pursuit intention ($\beta = 0.579$, $p < 0.001$) and perceived risk ($\beta = 0.082$, $p < 0.01$) having a significant effect on doctoral preparatory behaviour. The F value of Model 3 was 72.211 ($p < 0.001$), and the interaction term between doctoral pursuit intention and perceived risk had a significant effect on doctoral preparatory behaviour ($\beta = -0.230$, $p < 0.001$). These results indicated that perceived risk had a negative moderating effect on the relationship between doctoral pursuit intention and doctoral preparatory behaviour, weakening the effect of doctoral pursuit intention on doctoral preparatory behaviour. Therefore, hypothesis 2 was supported.

The regression analysis data was used to draw an interactive plot in order to better illustrate the direction of the interaction. As shown in **Figure 2**, female teachers with a low level of perceived risk were more active in preparatory doctoral behaviour than those with a high level of perceived risk, as their doctoral pursuit intention increased. In other words, low perceived risk led to more active preparation for a doctoral degree by female teachers with a high level of perceived risk, whereas the increase in doctoral preparatory behaviour of those with a high level of doctoral pursuit intention was limited as their doctoral pursuit intention increased

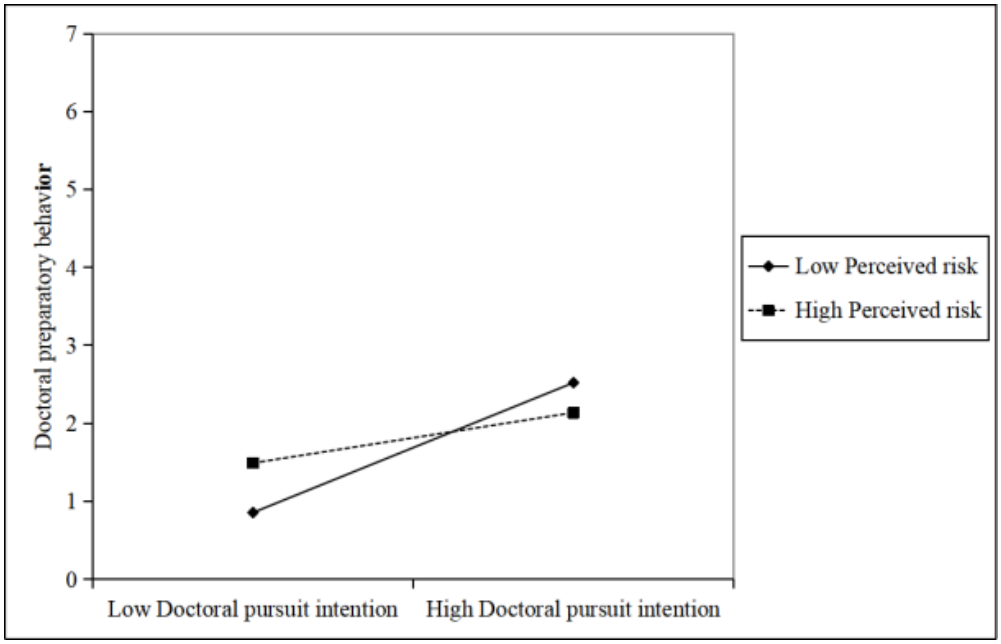

Figure 2. Moderating effect.

4.6. Discussion of the results

(1) Doctoral preparatory behaviour is positively predicted by the doctoral pursuit intention

Based on the results of this study, the doctoral preparatory behaviour of female teachers independent colleges in China can be positively predicted by their doctoral pursuit intention. This finding is consistent with that of previous researchers, who have confirmed that university students' educational aspirations have a positive impact on their application to attend graduate school (Ingram et al., 2000; Li et al., 2021; Phan, 2022). This study extends those findings to a different research subject.

In the context of transforming China's independent colleges, pursuing a doctoral

degree not only helps female teachers to develop and advance their academic career, by earning a doctoral title, but also contributes to the development of higher education institutions. The social allure of high academic qualifications tends to generate a strong intention to pursue a doctoral degree and motivates individuals to start preparing for it. However, traditional Confucian cultural concepts, such as "a female's virtue lies in her lack of talent" and "supporting her husband and educating the children," along with the "ideal worker norm" in the professional environment, limit female teachers' ability to participate in doctoral education. Their studies are often interrupted by having to balance them with their family's needs (Heijstra et al., 2013). This gender-based social role inference further restricts females' ability to pursue their career and life choices (Aiston and Jung, 2015).

Hence, women's doctoral pursuit intention is not only influenced by their gender, but also by cultural factors. Traditional academic and familial norms often shape their doctoral pursuit intention. Women who choose to study at the doctoral level may face more significant challenges in overcoming these cultural and social barriers, which often require them to invest more time, energy and resources in their preparation.

(2) Perceived risk negatively moderates the relationship between doctoral pursuit intention and doctoral preparatory behaviour.

According to the results of the study, perceived risk negatively moderates the relationship between doctoral pursuit intention and doctoral preparatory behaviour. This finding is aligned with that of previous researchers, who have discovered that the relationship between intention and behaviour weakens or becomes negatively affected when individuals perceive risk (Huyen-Thi et al., 2023; Susanto et al., 2022).

Preparing for a doctoral degree typically requires a substantial investment of time and energy. Participants in doctoral studies are more inclined to link their investment in education to stages in their career and other life goals (Dai et al., 2021). Female teachers with a high level of perceived risk are more aware of opportunity costs and economic costs, such as concerns about missing out on job opportunities or promotion, and whether the cost of pursuing a doctoral degree is worthwhile. As most people are inherently risk-averse (Lam et al., 2017), female teachers need to feel that the potential rewards of further education outweigh the perceived risks before considering it. If it were otherwise, they would lack the resilience, curiosity and excitement necessary for successfully undertaking doctoral education. Therefore, perceived risk may influence women faculty members' assessment of the value of doctoral education. When they possess a high level of perceived risk, they may be more concerned about the potential negative consequences, such as unclear employment prospects, lack of autonomy over their time, significant academic pressure (Van Tienoven et al., 2024), anxiety, burnout (Sabagh et al., 2018), and the severe disruption of the work-life balance (Ashencaen Crabtree et al., 2020), which will diminish their enthusiasm for pursuing a doctoral degree.

5. Conclusion

5.1. Conclusion

If doctoral candidates lack or have no positive intention and hence, adopt an "inertia strategy" by starting to prepare for a doctoral degree without careful reflection

or considering feasible alternatives, it may ultimately lead to a lack of active preparation, resulting in failure to commence the doctoral programme (Bridgeman et al., 2023). Therefore, female teachers often have a strong desire for a clear career path; hence, they carefully consider both educational goals and academic and non-academic factors when deciding whether or not to pursue a doctoral degree. They are likely to embark on this journey with a genuine aspiration to advance their academic career. Preparing for a doctoral degree can also enable them to reconnect with their personal ambitions and boost their self-confidence, especially after years dedicated to roles such as daughters, spouses, mothers, or teachers.

However, female doctoral students are frequently marginalised in the national discourse, which can have a negative impact on their self-esteem. This marginalisation may cause them to limit their self-development and perceive deviation from the norm as highly risky behaviour. Women generally have lower risk tolerance, possess greater caution, and are more reluctant to take risks than men, which further amplifies their perception of the risks associated with doctoral studies. Consequently, it is crucial to understand and manage these risks in order to optimise the advantages of doctoral education programmes and support female teachers in preparing for doctoral studies.

In summary, it is essential to focus on their intention to engage in this academic journey to effectively support female faculty members' pursuit of doctoral studies, and help them to overcome potential barriers based on the use of robust risk management strategies.

5.2. Recommendations

Firstly, it is necessary to mitigate the restrictions imposed on female teachers by traditional Confucian cultural concepts to enhance their perception of the value of a doctoral degree and alleviate the anxiety of pursuing academic goals. Female teachers should be guided to rationally assess their research interests and avoid making inappropriate choices due to forming doctoral intentions due to "inertia learning," "avoiding work," or "self-display".

Secondly, the building of social and family communities that offer economic and emotional support to female teachers should be strongly supported by recognition from parents, children, partners, relatives, friends, supervisors and mentors, as well as more information resources to support the doctoral decision-making process, enabling them to more reasonably judge the benefits and drawbacks of pursuing a doctoral degree. Meanwhile, organising seminars and sharing sessions would enable successful female doctoral students and professors to share their academic experience, and the provision of rich academic resources and opportunities like time management training, research skills courses, academic writing guidance and programmes dedicated mentoring could inspire female teachers to self-affirm their scientific capabilities and expectations of a doctoral degree, thereby helping them to acquire the skills, behaviour and character of a scholar (Patterson-Stephens, 2017).

Additionally, when preparing for a doctoral degree, female teachers should avoid allowing perceived risk to continuously lead to self-limitation by breaking the shackles of gender culture. Independent colleges should provide flexible work and study modes for female teachers, enabling them to balance their academic commitment with family or career responsibilities. At the same time, China's independent colleges should help

female teachers to understand academic regulations and concepts, plan their career development, and establish a psychological support system, thereby alleviating the burden of a negative experience. Other strategies like sufficient savings, advice from family, friends or academic mentors, well-organised study management, and the desire to give back to the family, are also effective in reducing risk by addressing financial, safety, psychological and performance-related issues.

5.3. Limitations

Although the sample was aimed to encompass a wide range of population groups from various regions in China, the use of convenience sampling may have introduced bias in terms of the representativeness of specific regions or groups, which may have affected the generalisability of the findings. Furthermore, the preparation for doctoral behaviour among different demographic groups was not compared in this study, and the difference between regional groups is not yet clear. Future studies could be focused on comparing regional differences and analysing the different doctoral preparation behaviour of female teachers in independent colleges in diverse regions of China, and the social, cultural and economic factors for these differences. The scope of future research should also be broadened to ensure that the results are more comprehensive.

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