

Factors Affecting Academic Performance of International Students in China: A Theory of Reasoned Action Approach

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Abstract

This study aimed to investigate the factors affecting the academic performance of international doctoral students in China. In particular, using insights from the theory of reasoned action, this study analyzed the interplay of academic attitude, subjective norms, knowledge-seeking intention, and academic performance. Data were collected from 415 international doctoral students from six universities in China (61.4 % male, 38.6 % female, 45.5 % Asian, 40 % African, 9.4 % European and 5.1 % American). SPSS (version 23) and AMOS (version 22) were used for data analyses. While academic attitude, subjective norms and knowledge-seeking intentions were found to be positively associated with academic performance, knowledge-seeking intentions mediated the positive relationships of academic attitude and subjective norms with academic performance. The findings suggest that students' positive attitude toward studies and subjective norms are critical to their academic performance. Implications for theory and practice are discussed.

Key words: *academic attitude; academic performance; knowledge-seeking intention; students; subjective norms; university.*

Introduction

The advent of a knowledge-based economy has compelled nations to scale up investments in education, training, research and innovation (Hammond, 2016). China

has also allocated substantial resources for research and development and provides financial assistance, educational opportunities and scholarships for domestic and international students across different disciplines (Alemu & Cordier, 2017). According to a report of the Ministry of Education (MoE) China, the number of international students in China has increased from 1,236 to 3,976.351 in a short period (Wen et al., 2018). To produce cutting-edge research and contribute to the country's development efforts, higher education institutions (HEIs) in China have become very concerned about their education and research quality. The quest to improve education and research quality has increased the institutional efforts and strengthened institutional commitment to improving students' learning and academic performance (AP). In this regard, almost every higher education institution in China has crafted policies and designed overarching programs (Khuram et al., 2017; Kun Dai et al., 2020). Existing studies indicate that students' AP is a dynamic and complex phenomenon influenced by several individual and social factors such as self-efficacy, study efforts, family involvement and socioeconomic status (Andrietti & Velasco, 2015; De Paola & Gioia, 2017). A critical review of the extant and yet rapidly emerging body of literature on the factors influencing students' AP revealed, however, does not provide answers to some pertinent questions. For instance, literature is mainly silent about the role of students' academic attitude (AA) – students' predispositions towards study/academic (Malmström & Öqvist, 2016) – in determining their AP. Hence, the first objective of this study is to answer this fundamental question. The second objective of this study dovetails with the first one, i.e., to explore the 'process' by which students' AA and subjective norms (SN) might influence their AP. A plethora of insights on the conduits through which various factors might influence students' AP exist (Carmona-Halty et al., 2019; Martínez et al., 2019). However, we know of no prior study on the mediating role of knowledge-seeking intentions (KSI) – the degree to which students are willing to engage in the activities that could help them to acquire knowledge (Lai et al., 2014) – in the AA/SN–AP relationships. Anchored in the theory of reasoned action (TRA), this study proposes that KSI could serve as an intermediary through which AA and SN might bolster AP. We believe the insights produced from this research could help the academics and researchers to better understand how personal and social factors might enhance students' AP.

Theoretical Background and Hypotheses Development

Description of concepts

Before we explicate the interplay of this study's constructs, it is vital to define them. In this regard, we begin with an academic attitude.

Academic attitude (AA): Attitude is an essential construct in the social psychology field (Allport, 1935). It refers to the psychological orientations and beliefs that affect one's understanding of situations and events, and determines how one might react

(Eagly & Chaiken, 1998; Steele-Johnson et al., 2013). Therefore, when an individual forms a belief toward a particular action or behaviour, he/ she develops an attitude toward that particular action/behaviour (Fishbein & Ajzen, 1975). However, students' attitude in academic settings refers to their attitude about higher education, putting forth positive efforts and participating in academic activities (e.g., knowledge acquisition and research).

Subjective Norms (SN): We follow TRA's definition of SN. Particularly, we define it in terms of normative beliefs that significant others (family, friends and peers) might have about studies (Fishbein & Ajzen, 1975).

Knowledge Seeking Intention (KSI): In this study's context, KSI refers to the extent to which students willingly engage in activities that could help them acquire knowledge (Agolla et al., 2019; Chia-An Tsai & Kang, 2019; Khuram, Wang, et al., 2021b; Veeravalli et al., 2019).

Academic Performance (AP): AP has different conceptualizations in the field of educational research. Some researchers define it in terms of grade point average (GPA) or percentage marks that students may attain during their studies (Alhadabi & Karpinski, 2019), while others refer to it as research output (Kozhakhmet et al., 2020; Xu & Grant, 2020). Consistent with previous researchers in the field (Ahmed et al., 2020; Alhadabi & Karpinski, 2019; Marcos Carmona-Halty et al., 2019), we define AP in terms of percentage marks and research output (publications in peer-reviewed journals and conferences).

Theoretical background and hypotheses development

This study draws from TRA (Fishbein & Ajzen, 1975; Muhammad Jawad, 2011) to explicate *how* students' AP is influenced by AA and SN. The TRA assumes that people behave sensibly and rationally by considering the available information and potential implications of their behaviour. The theory describes the fundamental reasons behind one's behaviour. The TRA model is diagrammed in Figure 1.

According to TRA, individuals' behaviour can be predicted based on their behavioural intentions determined by their attitude toward behaviour and the SN. Behavioural intentions, which is a significant cornerstone in TRA, is a motivational construct representing "how much a person wants to try and what attempt he/she plans to make to perform a behaviour". In contrast, an attitude towards a behaviour may be referred to as 'what people feel about a behaviour.' It is worthy to note that an attitude towards a behaviour is influenced by two factors: the strength of behavioural beliefs (i.e., whether an outcome is probable) and the appraisal of outcomes (i.e., whether the outcome is positive or negative). When one believes that his/her behaviour could lead to positive and/or favourable outcomes, he/she is likely to have a positive attitude towards it and vice versa.

Meanwhile, SN connotes the normative beliefs of social groups (e.g., family and friends) about a particular behaviour. According to TRA, SN is also an important determinant of both behavioural intentions and behaviour. For instance, when one perceives that a behaviour is socially acceptable, he/she is likely to engage in it (Malmström & Öqvist, 2016).

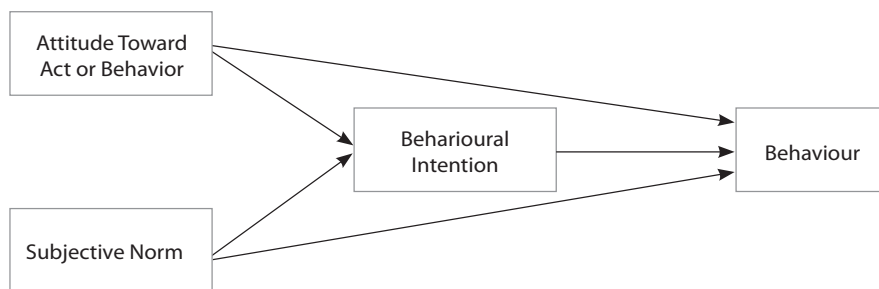


Figure 1. The Theory of Reasoned Action model
 Source: Adopted from Fishbein and Ajzen (1975)

Let us now turn the discussion to the relationship dynamics of this study’s constructs. In this nexus, we first elucidate the relationship between AA and AP. Research has shown that attitude is a perceptual construct that significantly affects developmental activity, such as educational learning and training (Khuram, Wang, Khan et al., 2021; Noe & Wilk, 1993). Generally, a person’s attitude toward education shows his/her behavioural attitude regarding learning and acquiring skills and knowledge through a formal learning process. Research has demonstrated favourable (positive) academic attitude to be positively linked to motivation and learning (Facteau et al., 1995; Tharenou, 2009). It has also been indicated that a positive attitude can bolster AP (Aiken Jr, 1976; Aiken Jr & Dreger, 1961; L. Chen et al., 2018; Paloş et al., 2019) and improve problem-solving skills (Lang Chen et al., 2018). Whereas individuals with negative academic attitudes are low in AP (Veas et al., 2019), and are likely to feel exhausted (Law, 2007) and academically burned out (Paloş et al., 2019; Trigueros et al., 2020). Thus, a direct positive relationship is predicted between academic attitude and academic performance.

H1: Students’ academic attitude will be positively associated with their academic performance.

Moving forward, we further anticipate a positive relationship between SN and AP. According to Fishbein and Ajzen (1975), social groups in the social environment could play a crucial role in one’s life. Particularly, the normative beliefs held by significant others (i.e., family and friends) can have profound effects on individuals (Lada et al., 2009). Studies have shown that social influence can positively impact students’ performance (Khuram, Wang, Khan et al., 2021; Wilcox et al., 2005). This is perhaps why social influence has been argued to be a vital determinant of student’s academic performance (Malecki & Elliott, 1999; Martinez-Martinez et al., 2020). Several scholars

have argued that family and friends are crucial to students' performance (Batool & Aziz, 2018; Dietz & Scheel, 2017). When one perceives that good academic performance is socially desirable, he/she is likely to perform well. Hence, we propose that:

H2: Subjective norm will be positively associated with academic performance.

A positive relationship is also predicted between AA and SN. There are two theoretical reasons why a positive relationship is expected between these constructs. First, the TRA posits that attitude is a significant predictor of behavioural intention, i.e., when one holds a positive attitude toward a behaviour, he/she is more likely to perform it (Ajzen et al., 2016; Fishbein & Ajzen, 1975; Fishbein et al., 1980; Malmström & Öqvist, 2016). For example, if a student holds that knowledge-seeking is beneficial, his/her intention towards knowledge-seeking will be higher. Therefore, we expect that academic attitude would be positively associated with knowledge-seeking intentions. The second reason AA and SN seem likely to be positively associated with each other is past research findings that attitudes can influence intentions (Chang et al., 2009; Lai et al., 2014; Veeravalli et al., 2019). Thus, the following hypothesis is proposed:

H3: Academic attitude will be positively associated with knowledge-seeking intentions.

We also expect that SN and KSI will be positively associated. The relationship between subjective norms and behavioural intentions has been discussed by several researchers (Ajzen, 1991; Hansen et al., 2004; Ryan & Bonfield, 1980). For instance, it has been shown that social groups, such as friends and families, can shape an individual's intentions (Ismail & Lim, 2018; Rodriguez-Gutierrez et al., 2020). It has also been suggested that norms view or opinion in one's surroundings can positively influence one's intentions towards knowledge seeking (Sharma & Bock, 2005). The TRA also proposes a direct link between SN and behavioural intentions (Fishbein & Ajzen, 1975); hence, it is proposed that:

H4: Subjective norm is positively related to knowledge-seeking intentions.

We further contend that KSI and AP should be positively associated. We expect this because knowledge-seeking is required to achieve a broader sense of self-confidence, motivating individuals to define their objectives and maintain interests (Cossins, 2017; Lai et al., 2014). Consequently, performance improves. Research shows that knowledge-seeking can lead to successful task accomplishment (Khuram & Wang, 2018; Leonardi & Neeley, 2017). Knowledge-seeking is a need-driven factor (He & Wei, 2009) that encourages people to seek and acquire knowledge and information from various sources (Gray & Meister, 2004), leading to higher performance. Thus, it can be asserted that those with high KSI can perform better. Researchers have also demonstrated that knowledge-seeking boosts students' performance, especially in conducting research. Thus, it is proposed that:

H5: Knowledge-seeking intention will be positively associated with academic performance.

Finally, we postulate that KSI will mediate the positive relationships between (1) AA and AP and (2) SN and AP. Our positioning of KSI as a mediating mechanism

in the AA/SN–AP is in-line with the TRA framework, which states that the attitude towards behaviour and normative beliefs are the antecedents of behavioural intentions, which then determines the behaviours/ actions (Lai et al., 2014; Veeravalli et al., 2019). Consistent with the TRA, we argue that AA and SN will positively influence KSI, which will in turn bolster AP. Therefore, we propose that:

H6a: Knowledge-seeking intentions will mediate the positive relationship between academic attitude and academic performance.

H6b: Knowledge-seeking intentions will mediate the positive relationship between subjective norms and academic performance. All hypothesized relationships are displayed in *Figure 2*, where the bold line epitomizes direct relationships and the dotted line represents indirect relationships.

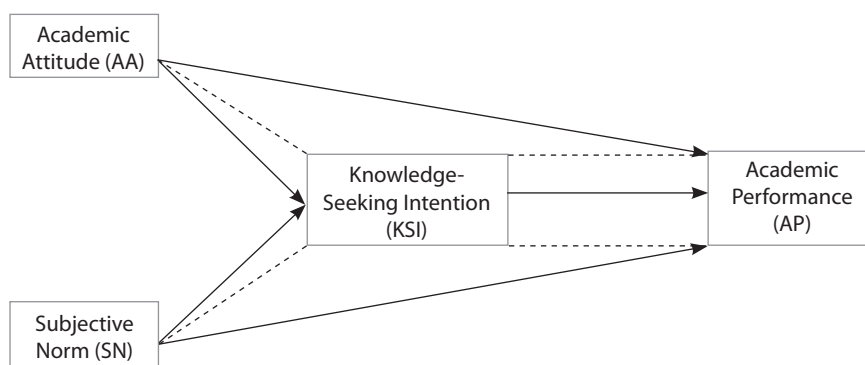


Figure 2. Hypothesized Model

Methodology

An online survey was administered among international students enrolled in doctoral degree programs in China’s research-oriented universities to collect data.

Sample and procedure

The doctoral students enrolled in the league of nine research-oriented universities (C9) in China, as listed below, were the targeted population for this study.

- Tsinghua University (TU);
- Peking University (PU);
- Shanghai Jiao Tong University (SJTU);
- Fudan University (FU);
- Zhejiang University (ZU);
- Nanjing University (NU);
- Harbin Institute of Technology (HIT);
- University of Science and Technology China (USTC);
- Xian Jiao Tong University (XJTU)

We considered drawing a sample from these universities because of a high enrollment of international students in PhD programs and having a similar PhD program structure (coursework and publications/research work). However, the doctoral students of only six universities (SJTU, FU, ZU, NU, HIT and XJTU) participated in this study's voluntary survey, which was administered online via *WeChat* – one of the widely used social networking sites in China. Of the 435 responses, 20 were discarded for high missing values; thus, this study's final sample comprised 415 responses. The demographic details of the sample are shown in Table 1.

Table 1
Demographic Profile (Total numbers of respondents = 415)

Measure	Items	N	%	M	SD
Gender	Male	255	61.4	1.39	0.487
	Female	160	38.6		
Age	20-25	120	28.9	2.08	0.882
	26-30	163	39.3		
	31-35	116	28.0		
	36-40	11	2.7		
	41 years and above	5	1.2		
University	FU	83	20.0	3.33	1.79
	HIT	93	22.4		
	NU	52	12.5		
	SJTU	51	12.3		
	XJTU	64	15.4		
	ZU	72	17.3		
	First	68	16.4	2.58	0.939
Year	Second	113	27.2		
	Third	184	44.3		
	Fourth	49	11.8		
	Fifth	7	1.7		
Region	Asian	189	45.5	1.9	0.958
	African	166	40.0		
	European	39	9.4		
	American	21	5.1		

Notes: N= numbers of respondents, %= percentage, M= mean, SD= standard deviation

Measurement

All variables were measured using previously developed and validated scales. Unless otherwise stated, the items for all scales were measured on a seven-point Likert type scale, ranging from 1= “strongly disagree” to 7= “strongly agree.” The details of the scales used are provided in the preceding paragraphs.

Academic attitude: The 17-item attitude towards college education scale (Steele-Johnson et al., 2013) with slight modifications was used to measure students' AA. A sample item was “The knowledge and skills that I will learn during my PhD studies

will be useful for my research". For analyzing whether 17 items load onto a single factor, both exploratory and confirmatory factor analyses were run. Based on the results, 4 out of 17 items were dropped for low factor loadings. The first-order confirmatory factor analysis of the 13 items indicated an adequate uni-dimensional model fit [chi square (χ^2) = 114.070, degrees of freedom (df) = 65, $\chi^2 / df = 1.755$, goodness of fit index (GFI) = 0.958, normed fit index (NFI) = 0.971, Tucker-Lewis index (TLI) = 0.985, comparative fit index (CFI) = 0.987, root mean square error of approximation (RMSEA) = 0.043]. The Cronbach's α for the 13 items was 0.953.

Subjective norms: Subjective norms were measured with 4-items scale that we adapted from Al-Swidi et al. (2014). A sample item was "My close friends and family members would appreciate it if I pursue research-based higher studies". The first-order confirmatory factor analysis (CFA) of the SN scale indicated an excellent uni-dimensional fit ($\chi^2 = 1.785$, df = 02, $\chi^2 / df = 0.892$, GFI = 0.998, NFI = 0.996, TLI = 1.00, CFI = 1.00, RMSEA = 0.00). Cronbach's α for this scale was 0.804.

Knowledge seeking intention: The 3-items scale (Khuram, Wang, Khan et al., 2021), initially developed by Lai et al. (2014), was used to measure the respondents' KSI. A sample item was "I intend to seek knowledge through the degree program that I am currently pursuing/enrolled in." Due to fewer items (03) and degrees of freedom, the individual CFA for this scale was not possible; however, the exploratory factor analysis (EFA) of this scale produced satisfactory results: Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy = 0.733, $p < 0.05$; Chi-square = 537.522, $p < 0.05$; factor loadings ≥ 0.803). Cronbach's α for this scale was 0.852.

Academic performance: The AA of study respondents was measured in terms of percentage marks and number of publications, using a single item for each (e.g., please indicate your overall/cumulative percentage marks in your course work). The response options for the question measuring % marks and number of publications were as follows:

(1) Percentage marks: 1 = $\leq 60\%$; 2 = 61–65%; 3 = 66–70%; 4 = 71–75%; 5 = 76–80%; 6 = 81–85%; 7 = $\geq 85\%$;

(2) Number of publications: 1 = 0; 2 = 1–2; 3 = 3–4; 4 = 5–6; 5 = 6–7; 6 = 8–9; 7 = ≥ 10 .

Results

Preliminary analysis

Before running the main analysis, the fitness of the measurement model was assessed via CFA. As can be seen in Table 2, the three factor model¹ (AA, SN and KSI) had a superior fit with the data ($\chi^2 = 213.224$, df = 167, $\chi^2 / df = 1.277$, GFI = 0.951, NFI = 0.960, TLI = 0.990, CFI = 0.991, RMSEA = 0.026) than the single factor model ($\chi^2 = 960.081$, df = 1170, $\chi^2 / df = 5.648$, GFI = 0.783, NFI = 0.819, TLI = 0.827,

¹ Since % Marks and No. of publications were each measured using a single item, these constructs were not included in the CFA.

CFI = 0.845, RMSEA = 0.106). The output of the three-factor CFA model is shown as Figure 3. The comparison of the single factor and the three factor model indicated that the common method bias was not a serious methodological issue in the data.

Table 2
Model Fit Analysis

Model Description	χ^2	df	χ^2/df	GFI	NFI	TLI	CFI	RMSEA
Single Factor	960.081	170	5.648	0.783	0.819	0.827	0.845	0.106
Three Factors (AA; SN; KSI)	213.224	167	1.277	0.951	0.960	0.990	0.991	0.026

The CFA results were further used to assess the convergent and discriminant validity. Table 3 shows that the average variance extracted (AVE) scores for all constructs were greater than 0.50, providing evidence for convergent validity. The maximum-shared variance (MSV) of each construct was also less than the respective AVE scores, supporting discriminant validity.

Table 3
Validity Analysis

	CR	AVE	MSV	SN	AA	KSI
SN	0.805	0.509	0.301	0.713		
AA	0.953	0.610	0.301	0.549	0.781	
KSI	0.852	0.658	0.223	0.408	0.472	0.811

Note(s): CR = composite reliability; AVE = average variance extracted; MSV = maximum shared variance; the bold values on diagonals are the square root of AVE values

Descriptive statistics (mean, standard deviation, skewness and kurtosis) are presented in Table 4, while the inter-construct correlations are shown in Table 5. As shown in Table 4, all constructs' skewness and kurtosis values were within the acceptable limits (± 2), indicating a normal distribution (Gravetter et al., 2020).

Table 4
Descriptive Statistics

Variables	Mean	SD	Skewness	Kurtosis
AA	4.744	1.069	-1.096	1.720
SN	5.483	1.166	-1.389	0.807
KSI	4.961	1.381	-0.982	0.336
% Marks	5.125	1.737	-1.058	0.321
Publications	5.207	1.723	-1.282	0.860

Table 5
Inter-construct Correlation Analysis

Variables	1	2	3	4	5
1 AA	---				
2 SN	0.481**	---			
3 KSI	0.427**	0.337**	---		
4 % Marks	0.321**	0.335**	0.299**	---	
5 Publications	0.377**	0.352**	0.328**	0.544**	---

Note: ** = $p < 0.01$

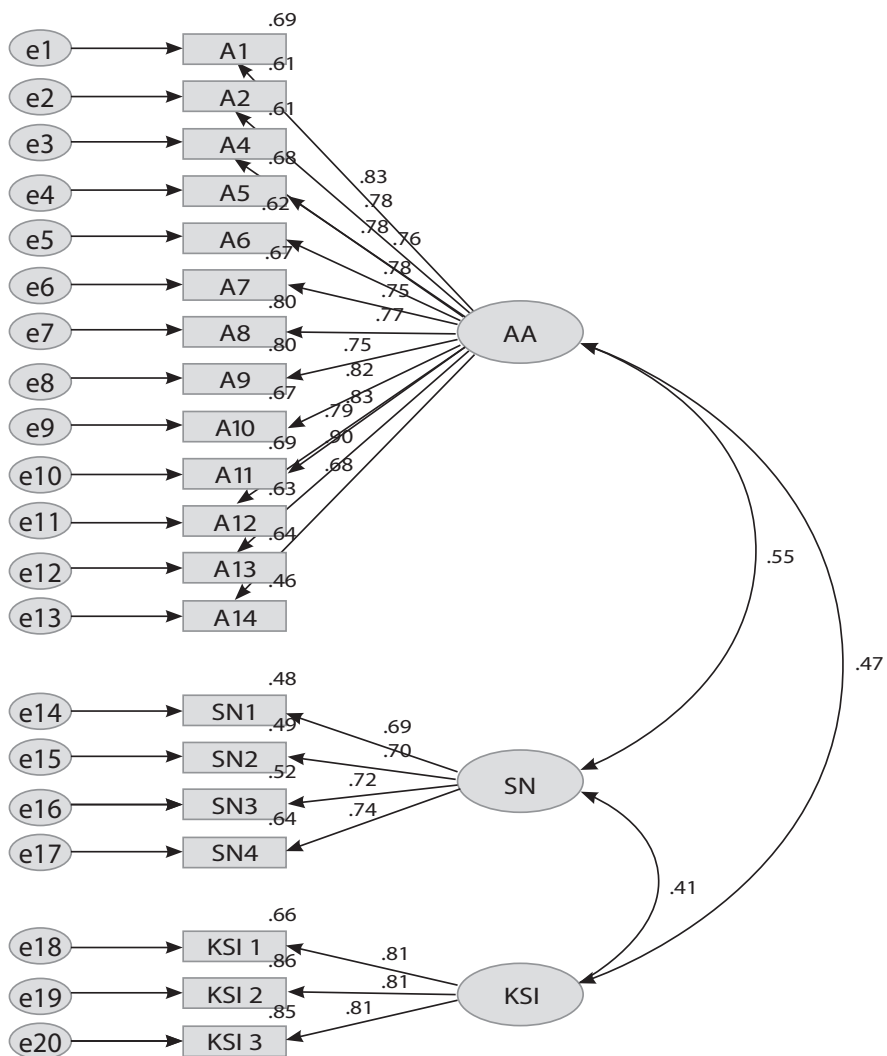


Figure 3. The confirmatory factor analysis

All inter-construct correlations were statistically significant and in anticipated direction, providing initial support for the hypothesized relationships between this study's constructs [(AA and KSI: $r = 0.427$ $p < 0.01$); (AA and % Marks: $r = 0.321$ $p < 0.01$); (AA and Publications: $r = 0.377$ $p < 0.01$); (SN and KSI: $r = 0.377$ $p < 0.01$); (SN and % Marks: $r = 0.335$ $p < 0.01$); (SN and Publications: $r = 0.427$ $p < 0.352$); (KSI and % Marks: $r = 0.299$ $p < 0.01$); (KSI and Publications: $r = 0.427$ $p < 0.0328$)]. The effect sizes for the observed relationships ranged from medium to large (Cohen, 1988).

Hypotheses testing

The hypotheses were tested by running model 4 of Hayes' (2018) PROCESS macro. Results are presented in Table 6 and Table 7.

Table 6
Total and Direct Effects

Paths	SE	t	95% CIs		
			LB	UB	
AA → KSI	0.551	0.057	9.595	0.438	0.664
AA → % Marks (path c; Model: AA → KSI → % Marks)	0.521	0.076	6.886	0.372	0.670
AA → % Marks (path c→; Model: AA → KSI → % Marks)	0.384	0.082	4.662	0.222	0.545
AA → Pub (path c; Model: AA → KSI → Pub)	0.608	0.073	8.276	0.463	0.752
AA → Pub (path c→; Model: AA → KSI → Pub)	0.467	0.080	5.864	0.311	0.624
SN → KSI	0.399	0.055	7.274	0.291	0.507
SN → % Marks (path c; Model: SN → KSI → % Marks)	0.500	0.069	7.237	0.364	0.636
SN → % Marks (path c→; Model: SN → KSI → % Marks)	0.394	0.072	5.492	0.253	0.535
SN → Pub (path c; Model: SN → KSI → Pub)	0.520	0.068	7.643	0.387	0.654
SN → Pub (path c→; Model: SN → KSI → Pub)	0.403	0.070	5.726	0.264	0.541
KSI → % Marks (Model: AA → KSI → % Marks)	0.250	0.064	3.917	0.124	0.375
KSI → % Marks (Model: SN → KSI → % Marks)	0.264	0.061	4.360	0.145	0.383
KSI → Pub (Model: AA → KSI → Pub)	0.255	0.062	4.130	0.134	0.376

Note(s): β = unstandardized coefficient; SE = standard error; LB = lower bound of 95% confidence interval; UB = upper bound of 95% confidence interval; c = total effects; c→ = direct effects; Pub = Publications

Table 7
Indirect Effects

Indirect Effects	Effect	Boot SE	95% Boot CIs	
			LB	UB
AA → KSI → % Marks	0.138	0.043	0.059	0.229
AA → KSI → Publications	0.140	0.043	0.061	0.230
SN → KSI → % Marks	0.105	0.036	0.041	0.180
SN v KSI → Publications	0.118	0.039	0.047	0.199

Note: Boot CIs = Bootstrap confidence intervals; Boot SE = Bootstrap standard error

The results indicate that AA had significant positive relationship with KSI ($B = 0.551$, $p < 0.05$); % marks ($B = 0.521$, $p < 0.05$); and publications ($B = 0.608$, $p < 0.05$). Similarly, SN was found to be positively associated with KSI ($B = 0.399$); % marks

($B = 0.500, p < 0.05$); and publications ($B = 0.520, p < 0.05$). Thus, hypotheses 1–4 were supported. As shown in *Table 6*, KSI in all the models had significant positive relationships with % marks and publications; hence, hypothesis 5 was also supported. The results in *Table 7* further revealed that KSI significantly mediated the AA/SN–AP relationships. The corresponding confidence intervals for the indirect effects were also different from zero, providing additional support to the mediational hypotheses.

Discussion and Implications

Using the overarching theoretical framework of the TRA, the present study examined the relationship dynamics of AA, SN, KSI and AP (percentage marks and a number of publications). The results indicated that students' AA positively influenced their AP (% marks and publication), which is consistent with the theoretical assumptions of TRA (Fishbein & Ajzen, 1975), and prior research findings (Ahmed et al., 2020; Bakar et al., 2010). The results indicate that a favourable attitude towards academics has positive implications for students. More specifically, a positive attitude towards learning and seeking knowledge could help doctoral students to perform better in their studies (course work) and conduct scientific research. Hence, it could be asserted that AA is a driving force that not only enables students to perform well in the course work of PhD but also helps them to conduct relevant research and publish quality articles. One possible justification for AA's positive implications for AP could be that it instills favourable or positive student's feelings. These feelings help them to deal better with challenging situations that might occur during the challenging and somewhat complex journey of doctoral studies and remain focused on learning (Khuram, Wang et al., 2021a). As such, they perform better and get optimum results.

The study also demonstrates that those with favourable AA are more inclined towards knowledge seeking. This finding is consistent with Veeravalli et al. (2019), who found that individuals' positive attitude toward knowledge-seeking is formed when they perceive that engaging in learning activities has beneficial outcomes. In this study's context, a positive relationship between AA and KSI implies that the doctoral students with good AA are more inclined to learning and seeking solutions for their research-related problems, which they might encounter during the pursuit of their PhD degree. This is perhaps why a positive relationship was observed between KSI and AP.

In addition to the findings stated above, the study also demonstrates that SN positively influences students' AP. More precisely, the family and friends' support and attitudes towards academics positively influence students' AP. This finishing is in line with Toneato and Binik (1987) and Kovac et al. (2014). They also observed that subjective norms (family, friends) significantly impact an individual's actions and behaviour. It may thus be stated that the support and encouragement that doctoral students receive from their family members and friends during their highly competitive, challenging, stressful and performance-oriented journey of PhD can work wonders. A strong social influence encourages, provides emotional, academic and psychological support to the

individual to become more resilient, and enables them to put forth more effort into all the activities pertinent to their academics. Prior research has also shown that students who receive support from their social circle, especially from their family and friends, tend to be highly motivated, passionate, focused, capable of transforming their ideas into innovative research work (Hauss et al., 2015) and achieve desired results. As the findings indicate, SN positively influenced KSI. It reinforces the theoretical underpinnings of the TRA that the normative beliefs determine the behavioural intentions of a person (social norms) (Fishbein & Ajzen, 1975; Fishbein et al., 1980). It also enhances the concord with past research findings that family and friends can profoundly influence a person's behavioral intention to exert more effort and seek knowledge (Alzahrani et al., 2017; Malmström & Öqvist, 2016), due to which their AP increases. KSI and AP's positive relationship reflects that doctoral students' KSI motivates them to outperform in coursework and research activities. In sum, the results demonstrate that students' AA and SN are the important determinants of their KSI and AP.

As for the theoretical implications, this study furthers our understanding of the factors that may bolster doctoral students' AP. It also expounds on a process by which this happens. To be more specific, this study enriches our understanding of the role of students' personal factors, especially of AA, in enhancing their AP, and introduces a new mechanism via which AA and SN could transmit their effects. The study is the first of its kind that uses the TRA framework in the academic context. Considering the findings, we suggested that due attention should be paid to bolster students' AA and KSI. For this, overarching interventions may be crafted by policymakers in HEIs, as such initiatives could be beneficial for both students and educational institutions.

Conclusion

This study examined the factors (AA, SN and KSI) affecting the academic performance of international doctoral students studying in China. The findings show that a student's favourable attitude and supportive influence from his/her norms (family, friends) motivated and encouraged them, which boosts one's intention to seek knowledge and perform better by securing high % marks and publishing quality research papers. This study, therefore, concludes that students' academic attitude (AA) and subjective norms (SN) are some of the important antecedents of their knowledge-seeking intention (KSI) and academic performance (AP) during doctoral candidature.

Limitations and future direction

Despite the theoretical contributions of this study, there are several limitations that should be noted. *First*, this study only focused on the international doctoral students in China. This limitation may raise concerns about the generalizability of this study's findings. Therefore, future researchers are encouraged to expand this study's scope by collecting cross-national data from native and international doctoral students. *Second*, due to access and information constraints, self-report measures of AP (percentage

marks and numbers of publication) were used. Researchers are, therefore, suggested to obtain more reliable information of doctoral students' AP (e.g., official grading and publication records). *Finally*, this research is cross-sectional. The factors affecting individual performance may change over time; therefore, longitudinal research designs are recommended for future studies.

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Čimbenici koji utječu na akademsku uspješnost međunarodnih studenata u Kini: teorija pristupa razumnoga djelovanja

Sažetak

Ovo je istraživanje imalo za cilj istražiti čimbenike koji utječu na akademsku izvedbu međunarodnih doktorskih studija u Kini. Konkretno, koristeći uvide iz teorije razumnoga djelovanja, u ovoj se studiji analiziralo međudjelovanje akademskoga stava, subjektivnih normi, namjere traženja znanja i akademskoga uspjeha. Podatci su prikupljeni od 415 studenata međunarodnih doktorskih studija sa šest sveučilišta u Kini (muškarci = 61,4 %, žene = 38,6 %; Azijci = 45,5 %, Afrikanci = 40 %, Europljani 9,4 % i Amerikanci 5,1 %). Za analizu podataka korišteni su SPSS (verzija 23) i AMOS (verzija 22). Utvrđeno je da su akademski stav, subjektivne norme i namjere traženja znanja pozitivno povezani s akademskim uspjehom, a namjere traženja znanja posreduju u pozitivnim odnosima akademskoga stava i subjektivnih normi s akademskim uspjehom. Nalazi upućuju na to da su pozitivan stav studentata prema studiju i subjektivne norme ključni za njihov akademski uspjeh. Raspravljaju se implikacije za teoriju i praksu.

Ključne riječi: akademski stav; akademski uspjeh; namjera traženja znanja subjektivne norme; studenti; sveučilište.

Uvod

Pojava gospodarstva temeljenoga na znanju natjerala je države da povećaju ulaganja u obrazovanje, obuku, istraživanje i inovacije (Hammond, 2016.). Kina je također dodijelila značajna sredstva za istraživanje i razvoj te pruža financijsku pomoć, mogućnosti obrazovanja i stipendije za domaće i međunarodne studente u različitim disciplinama (Alemu i Cordier, 2017). Prema izvješću Ministarstva obrazovanja (MoE) Kine, broj međunarodnih studenata u Kini porastao je s 1 236 na 3 976,351 u kratkom razdoblju (Wen i sur., 2018). Kako bi proizvele vrhunska istraživanja i doprinijele razvojnim naporima zemlje, institucije visokoga obrazovanja (HEI) u Kini

postale su vrlo zabrinute za kvalitetu svojega obrazovanja i istraživanja. Potraga za poboljšanjem kvalitete obrazovanja i istraživanja povećala je institucionalne napore i ojačala institucionalnu predanost poboljšanju učenja i akademskoga uspjeha studenata (AP). U tom smislu, gotovo svaka visokoškolska ustanova u Kini izradila je odgojno-obrazovne politike i osmislila sveobuhvatne programe (Khuram i sur., 2017.; Kun Dai i sur., 2020). Postojeće studije pokazuju da je studentski AP dinamičan i složen fenomen na koji utječu subjektivni i društveni čimbenici kao što su samoefikasnost, naponi u učenju, uključenost obitelji i socioekonomski status (Andrietti i Velasco, 2015.; De Paola i Gioia, 2017). Međutim, kritički pregled postojeće, ali i sve veći broj nove literature o čimbenicima koji utječu na AP učenika, ne daje odgovore na neka relevantna pitanja. Na primjer, u literaturi uglavnom se ne govori o ulozi studentskoga akademskoga stava (AA) predispozicije studenata prema studiju/akademskom sjećanju vještina i znanja (Malmström i Öqvist, 2016) u određivanju njihova AP-a. Stoga je prvi cilj ove studije odgovoriti na ovo temeljno pitanje. Drugi cilj ove studije u skladu je s prvim, tj. istražiti 'proces' kojim učenici AA i subjektivne norme (SN) mogu utjecati na njihov AP. Postoji mnogo uvida u kanale kojima različiti čimbenici mogu utjecati na AP učenika (M. Carmona-Halty i sur., 2019; Martínez i sur., 2019). Međutim, ne poznajemo prethodnu studiju o posredničkoj ulozi namjera traženja znanja (KSI) stupnja do kojeg su učenici voljni uključiti se u aktivnosti koje bi im mogle pomoći u stjecanju znanja (Lai i sur., 2014.) u AA/SN AP odnosima. Povezana s teorijom razumnoga djelovanja (TRA), ova studija predlaže da bi KSI mogao poslužiti kao posrednik preko kojeg bi AA i SN mogli ojačati AP. Vjerujemo da bi uvidi proizašli iz ovoga istraživanja mogli pomoći akademikima i istraživačima da bolje razumiju kako osobni i društveni čimbenici mogu poboljšati AP studenata.

Teorijska pozadina i razvoj hipoteza

Opis pojmovna

Prije nego što objasnimo međudjelovanje konstrukata ove studije, bitno ih je definirati. U tom smislu počinjemo s akademskim stavom.

Akademski stav: akademski stav (AA): Stav je bitan konstrukt u polju socijalne psihologije (Allport, 1935.). Odnosi se na psihološke orijentacije i uvjerenja koja utječu na nečije razumijevanje situacija i događaja te određuju kako bismo mogli reagirati (Eagly i Chaiken, 1998; Steele-Johnson i sur., 2013). Stoga, kada pojedinac formira uvjerenje prema određenoj radnji ili ponašanju, on/ona razvija stav prema toj određenoj radnji/ponašanju (Fishbein i Ajzen, 1975). Međutim, stav studenata u akademskom okruženju odnosi se na njihov stav o visokom obrazovanju, ulaganju pozitivnih napora i sudjelovanju u akademskim aktivnostima (npr. stjecanje znanja i istraživanje).

Subjektivne norme: subjektivne norme (SN): Slijedimo TRA definiciju SN. Konkretno, definiramo ih u smislu normativnih uvjerenja koja značajni drugi (obitelj, prijatelji i vršnjaci) mogu imati o studiju (Fishbein i Ajzen, 1975.).

Namjere u potrazi za znanjem: U kontekstu ove studije, KSI odnosi se na mjeru u kojoj se učenici voljno uključuju u aktivnosti koje bi im mogle pomoći u stjecanju znanja (Agolla i sur., 2019; Chia-An Tsai i Kang, 2019; Khuram, Wang i sur., 2021b; Veeravalli i sur., 2019).

Akademski izvedba: Academic Performance (AP) ima različite konceptualizacije u području istraživanja obrazovanja. Neki ga istraživači definiraju u smislu prosjeka ocjena (GPA) ili postotaka koje studenti mogu postići tijekom studija (Alhadabi i Karpinski, 2019), dok ga drugi nazivaju rezultatima istraživanja (Kozhakhmet i sur., 2020; Xu i Grant, 2020). U skladu s prethodnim istraživačima u ovom području (Ahmed i sur., 2020; Alhadabi i Karpinski, 2019; Marcos Carmona-Halty i sur., 2019), definiramo AP u smislu postotnih ocjena i rezultata istraživanja (publikacije u recenziranim časopisima i konferencije).

Teorijska pozadina i razvoj hipoteza

Ova se studija oslanja na TRA (Fishbein i Ajzen, 1975; Muhammad Jawad, 2011) kako bi objasnila kako na AP učenika utječu AA i SN. TRA pretpostavlja da se ljudi ponašaju razumno i racionalno uzimajući u obzir dostupne informacije i potencijalne implikacije njihova ponašanja. Teorija opisuje temeljne razloge za nečije ponašanje. TRA model prikazan je dijagramom na Slici 1.

Prema TRA, ponašanje pojedinaca može se predvidjeti na temelju njihovih namjera ponašanja određenih njihovim stavom prema ponašanju i SN. Bihevioralne namjere, koje su značajno uporište u TRA-u, motivacijski su konstrukt koji predstavlja „koliko osoba želi pokušati i koji pokušaj on/ona planira učiniti kako bi izvršio neko ponašanje”. Nasuprot tome, stav prema ponašanju može se nazvati „onim što ljudi osjećaju o ponašanju”. Vrijedno je napomenuti da na stav prema ponašanju utječu dva čimbenika: snaga bihevioralnih uvjerenja (tj. je li ishod vjerojatan) i procjena ishoda (tj. je li ishod pozitivan ili negativan). Kada netko vjeruje da njegovo/njezino ponašanje može dovesti do pozitivnih i/ili povoljnih ishoda, on/ona će vjerojatno imati pozitivan stav prema tome i obrnuto.

Slika 1.

U međuvremenu, SN konotira normativna uvjerenja društvenih grupa (npr. obitelji i prijatelja) o određenom ponašanju. Prema TRA, SN je također važna determinanta i namjera i ponašanja. Na primjer, kada netko percipira da je neko ponašanje društveno prihvatljivo, on/ona će se vjerojatno upustiti u to (Malmström i Öqvist, 2016).

Preusmjerimo sada raspravu na dinamiku odnosa konstrukata ove studije. U ovom neksusu prvo razjašnjavamo odnos između AA i AP. Istraživanje je pokazalo da je stav percepcijski konstrukt koji značajno utječe na razvojne aktivnosti, kao što je obrazovno učenje i obuka (Khuram, Wang, Khan i sur., 2021; Noe i Wilk, 1993). Općenito, stav osobe prema obrazovanju pokazuje njegovo/njezino ponašanje prema učenju i stjecanju vještina i znanja kroz formalni proces učenja. Istraživanje je pokazalo da je povoljan

(pozitivan) akademski stav pozitivno povezan s motivacijom i učenjem (Facteau i sur., 1995; Tharenou, 2009.). Također je naznačeno da pozitivan stav može pojačati AP (Aiken Jr, 1976; Aiken Jr i Dreger, 1961; L. Chen i sur., 2018; Paloš i sur., 2019) i poboljšati vještine rješavanja problema (Lang Chen i sur., 2018). Dok pojedinci s negativnim akademskim stavovima, imaju nizak AP (Veas i sur., 2019.) i vjerojatno će se osjećati iscrpljeno (Law, 2007) i akademski *izgorjeli* (Paloš i sur., 2019; Trigueros i sur., 2020). Stoga se predviđa izravan pozitivan odnos između akademskoga stava i akademskoga uspjeha.

H1: Akademski stav studenata bit će pozitivno povezan s njihovim akademskim uspjehom.

U nastavku predviđamo pozitivan odnos između SN i AP. Prema (Fishbein i Ajzen, 1975), društvene grupe u društvenom okruženju mogle bi igrati ključnu ulogu u nečijem životu. Osobito, normativna uvjerenja značajnih drugih osoba (tj. obitelji i prijatelja) mogu imati duboke učinke na pojedince (Lada i sur., 2009). Studije su pokazale da društveni utjecaj može pozitivno utjecati na tijek studiranja studenata (Khuram, Wang, Khan i sur., 2021; Wilcox i sur., 2005). To je možda razlog zašto se tvrdi da je društveni utjecaj vitalna determinanta akademskoga uspjeha učenika (Malecki i Elliott, 1999; Martinez-Martinez i sur., 2020). Nekoliko znanstvenika tvrdi da su obitelj i prijatelji ključni za uspjeh učenika (Batool i Aziz, 2018; Dietz i Scheel, 2017). Kada netko shvati da je dobar akademski uspjeh društveno poželjan, on/ona će vjerojatno biti dobar. Stoga predlažemo sljedeću hipotezu:

H2: Subjektivna norma bit će pozitivno povezana s akademskim uspjehom.

Također se predviđa pozitivan odnos između AA i SN. Dva su teorijska razloga zašto se očekuje pozitivan odnos između ovih konstrukata. Prvo, TRA tvrdi da je stav značajan prediktor namjere ponašanja, tj. kada netko ima pozitivan stav prema ponašanju, vjerojatnije je da će to i učiniti (Ajzen i sur., 2016; Fishbein i Ajzen, 1975; Fishbein i dr., 1980; Malmström i Öqvist, 2016). Na primjer, ako učenik smatra da je traženje znanja korisno, njegova/njezina namjera prema traženju znanja bit će veća. Stoga očekujemo da će akademski stav biti pozitivno povezan s namjerama traženja znanja. Drugi razlog zašto se čini da su AA i SN vjerojatno međusobno pozitivno povezani nalazi su prošlih istraživanja da stavovi mogu utjecati na namjere (Chang i sur., 2009; Lai i sur., 2014; Veeravalli i sur., 2019). Stoga se predlaže sljedeća hipoteza:

H3: Akademski stav će biti pozitivno povezan s namjerama traženja znanja.

Također očekujemo da će SN i KSI biti pozitivno povezani. Odnos između subjektivnih normi i namjera ponašanja istraživalo je nekoliko znanstvenika (Ajzen, 1991; Hansen i sur., 2004; Ryan i Bonfield, 1980). Na primjer, pokazalo se da društvene grupe, poput prijatelja i obitelji, mogu oblikovati namjere pojedinca (Ismail i Lim, 2018; Rodriguez-Gutierrez i sur., 2020). Također je sugerirano da normirani pogled ili mišljenje u nečijoj okolini može pozitivno utjecati na nečije namjere prema traženju znanja (Sharma i Bock, 2005). TRA također predlaže izravnu vezu između SN i namjera ponašanja (Fishbein i Ajzen, 1975), stoga se predlaže sljedeća hipoteza:

H4: Subjektivna norma pozitivno je povezana s namjerama traženja znanja.

Nadalje tvrdimo da bi KSI i AP trebali biti pozitivno povezani. To očekujemo jer je traženje znanja potrebno za postizanje širega osjećaja samopouzdanja, motiviranje pojedinaca da definiraju svoje ciljeve i zadrže interese (Cossins, 2017; Lai i sur., 2014). Posljedično, performanse se poboljšavaju. Istraživanja pokazuju da traženje znanja može dovesti do uspješnoga izvršavanja zadataka (Khuram i Wang, 2018; Leonardi i Neeley, 2017). Traganje za znanjem čimbenik je vođen potrebama (He i Wei, 2009) koji potiče ljude da traže i stječu znanje i informacije iz različitih izvora (Gray i Meister, 2004), što dovodi do boljega učinka. Stoga se može ustvrditi da oni s visokim KSI-jem mogu imati bolje rezultate. Istraživači su također pokazali da potraga za znanjem povećava učinak studenata, posebno u provođenju istraživanja. Stoga se predlaže sljedeća hipoteza:

H5: Namjera traženja znanja bit će pozitivno povezana s akademskim uspjehom.

Konačno, pretpostavljamo da će KSI posredovati u pozitivnim odnosima između (1) AA i AP, i (2) SN i AP. Naše pozicioniranje KSI-ja kao posredničkoga mehanizma u AA/SN AP-u u skladu je s TRA okvirom, koji navodi da su stav prema ponašanju i normativna uvjerenja prethodnici bihevioralnih namjera, koje zatim određuju ponašanja/radnje (Lai i sur., 2014; Veeravalli i sur., 2019). U skladu s TRA, tvrdimo da će AA i SN pozitivno utjecati na KSI, što će zauzvrat ojačati AP. Stoga predlažemo sljedeću hipotezu:

H6a: Namjere traženja znanja posredovat će u pozitivnom odnosu između akademskoga stava i akademskoga uspjeha.

H6b: Namjere traženja znanja posredovat će u pozitivnom odnosu između subjektivnih normi i akademskoga uspjeha. Svi pretpostavljeni odnosi prikazani su na Slici 2, gdje podebljana crta predstavlja izravne odnose, a isprekidana linija predstavlja neizravne odnose.

Slika 2.

Metodologija

Provedena je internetska anketa među međunarodnim studentima upisanim na doktorske programe na kineskim sveučilištima usmjerenim na istraživanje kako bi se prikupili podatci.

Uzorak i postupak

Doktorandi su se upisali u ligu devet istraživačko orijentiranih sveučilišta (C9) u Kini, kao što je navedeno u nastavku, bila je ciljana populacija za ovu studiju.

- Sveučilište Tsinghua (TU)
- Pekinško sveučilište (PU)
- Shanghai Jiao Tong University (SJTU)
- Sveučilište Fudan (FU)

- Sveučilište Zhejiang (ZU)
- Sveučilište Nanjing (NU)
- Harbin Institute of Technology (HIT)
- Sveučilište znanosti i tehnologije Kine (USTC)
- Sveučilište Xian Jiao Tong (XJTU)

Tablica 1.

Mjerenje

Sve varijable mjerene su pomoću prethodno razvijenih i validiranih ljestvica. Osim ako nije drugačije navedeno, stavke za sve ljestvice mjerene su na Likertovoj ljestvici od sedam stupnjeva, u rasponu od 1 = „uopće se ne slažem” do 7 = „u potpunosti se slažem”. Pojediniosti o korištenim ljestvicama navedene su u prethodnim odlomcima.

Akademski stav: Stav od 17 stavki prema ljestvici fakultetskoga obrazovanja (Steele-Johnson i sur., 2013) s malim izmjenama koristi se za mjerenje AA-a učenika. Primjer čestice bio je „Znanje i vještine koje ću naučiti tijekom doktorata bit će korisne za moje istraživanje.” Da bi se analiziralo opterećuje se 17 predmeta na jedan faktor, obavljene su istraživačkom i potvrdnom analizom faktora. Na temelju rezultata, 4 od 17 predmeta odbačeno je zbog opterećenja s malim faktorima. Potvrdna faktorska analiza prvoga reda za 13 predmeta ukazala je na odgovarajući jednodimenzionalni model uklapanja [hi kvadrat (χ^2) = 114,070, stupnjevi slobode (df) = 65, χ^2 / df = 1,755, indeks dobroga prilagođavanja (GFI) = 0,958, normirani indeks prilagođavanja (NFI) = 0,971, Tucker-Lewisov indeks (TLI) = 0,985, usporedni indeks uklapanja (CFI) = 0,987, korijenska srednja kvadratna pogreška aproksimacije (RMSEA) = 0,043]. Cronbachov α za 13 predmeta iznosio je 0,953.

Subjektivne norme: Subjektivne norme mjerene su s 4 stavke koje smo prilagodili (Al-Swidi i sur., 2014). Ogledna stavka bila je „Moji bliski prijatelji i članovi obitelji bili bi zahvalni ako nastavim s višim studijem koji se temelji na istraživanju.” Analiza potvrdnoga faktora prvoga reda (CFA) SN ljestvice pokazala je izvrsno jednodimenzionalno uklapanje (χ^2 = 1,785, df = 02, χ^2 / df = 0,892, GFI = 0,998, NFI = 0,996, TLI = 1,00, CFI = 1,00, RMSEA = 0,00). Cronbachov α za ovu ljestvicu bio je 0,804.

Namjera traženja znanja: Skala od 3 čestice (Khuram, Wang, Khan i sur., 2021), koju su prvobitno razvili Lai i sur. (2014), korištena je za mjerenje KSI-a ispitanika. Uzorak stavke bio je „Namjeravam tražiti znanje kroz studijski program koji trenutno pohađam/upisujem.” Zbog manje čestica (3) i stupnjeva slobode, pojedinačni CFA za ovu ljestvicu nije bio moguć, međutim eksplorativna faktorska analiza (EFA) ove ljestvice dala je zadovoljavajuće rezultate: Kaiser-Meyer-Olkin (KMO) mjera adekvatnosti uzorkovanja = 0,733, $p < 0,05$; hi-kvadrat = 537,522, $p < 0,05$; faktorska opterećenja $\geq 0,803$). Cronbachov α za ovu ljestvicu bio je 0,852.

Akademski uspjeh: AP ispitanika u studiji mjereno je u smislu postotnih ocjena i broja publikacija, koristeći jednu stavku za svaku (npr., navedite svoje ukupne/kumulativne

postotke u svom kolegiju). Mogućnosti odgovora na pitanje koje je mjerilo % bodova i broj publikacija bile su sljedeće:

Oznake postotka: 1 = ≤ 60 %; 2 = 61–65 %; 3 = 66–70 %; 4 = 71–75 %; 5 = 76–80 %; 6 = 81–85 %; 7 = ≥ 85 %.

Broj publikacija: 1 = 0; 2 = 1–2; 3 = 3–4; 4 = 5–6; 5 = 6–7; 6 = 8–9; 7 = ≥10.

Rezultati

Preliminarna analiza

Prije pokretanja glavne analize, prikladnost mjernoga modela procijenjena je pomoću CFA. Kao što se može vidjeti u Tablici 2, trofaktorski model² (AA, SN i KSI) imao je superiorno podudaranje s podacima ($\chi^2 = 213,224$, $df = 167$, $\chi^2 / df = 1,277$, $GFI = 0,951$, $NFI = 0,960$, $TLI = 0,990$, $CFI = 0,991$, $RMSEA = 0,026$) od jednofaktorskoga modela ($\chi^2 = 960,081$, $df = 1170$, $\chi^2 / df = 5,648$, $GFI = 0,783$, $NFI = 0,819$, $TLI = 0,827$, $CFI = 0,845$, $RMSEA = 0,106$). Izlaz trofaktorskoga CFA modela prikazan je na Slici 3. Usporedba jednofaktorskoga i trofaktorskoga modela pokazala je da pristranost zajedničke metode nije ozbiljan metodološki problem u podacima.

Tablica 2.

Rezultati CFA dalje su korišteni za procjenu konvergentne i diskriminativne valjanosti. Tablica 3 pokazuje da su prosječni rezultati ekstrahirane varijance (AVE) za sve konstrukte bili veći od 0,50, pružajući dokaze za konvergentnu valjanost. Maksimalna podijeljena varijanca (MSV) svakog konstrukta također je bila manja od dotičnih AVE rezultata, podržavajući diskriminirajuću valjanost.

Tablica 3.

Deskriptivna statistika (srednja vrijednost, standardna devijacija, asimetrija i kurtosis) prikazana je u Tablici 4, dok su korelacije među konstruktima prikazane u Tablici 5. Kao što je prikazano u Tablici 4, vrijednosti asimetrije i kurtoze svih konstrukata bile su unutar prihvatljivih granica (± 2), što ukazuje na normalnu distribuciju (Gravetter i sur., 2020).

Tablica 4.

Tablica 5.

Sve korelacije među konstruktima bile su statistički značajne i u očekivanom smjeru, pružajući početnu potporu za pretpostavljene odnose između konstrukata ove studije [(AA i KSI: $r = 0,427$, $p < 0,01$); (AA i % oznake: $r = 0,321$, $p < 0,01$); (AA i publikacije: $r = 0,377$, $p < 0,01$); (SN i KSI: $r = 0,377$, $p < 0,01$); (SN i % oznake: $r = 0,335$, $p < 0,01$); (SN i publikacije: $r = 0,427$, $p < 0,352$); (KSI i % arks: $r = 0,299$, $p < 0,01$); (KSI i publikacije: $r = 0,427$, $p < 0,0328$)]. Veličine učinka za promatrane odnose kretale su se od srednje do velike (Cohen, 1988).

² Budući da su postotak ocjena i broj publikacija izmjereni pomoću jedne stavke, ti konstrukti nisu uključeni u CFA.

Slika 3.

Ispitivanje hipoteza

Hipoteze su testirane pokretanjem modela 4 Hayesova (2018) PROCESS makroa. Rezultati su prikazani u Tablici 6 i Tablici 7.

Tablica 6

Tablica 7

Rezultati su ukazali da je AA imao značajan pozitivan odnos s KSI ($B = 0,551$, $p < 0,05$); % oznaka ($B = 0,521$, $p < 0,05$) i publikacije ($B = 0,608$, $p < 0,05$). Slično tome, utvrđeno je da je SN pozitivno povezan s KSI ($B = 0,399$); % oznaka ($B = 0,500$, $p < 0,05$); i publikacije ($B = 0,520$, $p < 0,05$). Dakle, podržane su hipoteze 1-4. Kao što se može vidjeti u Tablici 6, KSI je u svim modelima imao značajne pozitivne veze s % ocjena i publikacija, stoga je podržana i hipoteza 5. Rezultati (Tablica 7) nadalje su otkrili da je KSI značajno posredovao u odnosima AA / SN-AP. Odgovarajući intervali pouzdanosti za neizravne učinke također su se razlikovali od nule, pružajući dodatnu potporu medijskim hipotezama.

Rasprava i implikacije

Koristeći sveobuhvatni teorijski okvir TRA, u ovoj studiji ispitana je dinamika odnosa AA, SN, KSI i AP (postotne ocjene i niz publikacija). Rezultati su pokazali da je AA učenika pozitivno utjecao na njihov AP (% ocjena i publikacija), što je u skladu s teorijskim pretpostavkama TRA (Fishbein i Ajzen, 1975) i prethodnim nalazima istraživanja (Ahmed i sur., 2020; Bakar i sur., 2010). Rezultati pokazuju da povoljan odnos prema profesorima ima pozitivne implikacije na studente. Konkretnije, pozitivan stav prema učenju i traženju znanja, mogao bi pomoći doktorandima da bolje postignu svoje studije (nastavne radove) i provedu znanstvena istraživanja. Stoga bi se moglo ustvrditi da je AA pokretačka snaga koja ne samo da omogućuje studentima da dobro izvedu doktorski rad, već im također pomaže u provođenju relevantnih istraživanja i objavljivanju kvalitetnih članaka. Jedno od mogućih opravdanja za pozitivne implikacije AA-a na AP moglo bi biti da ulijeva povoljne ili pozitivne osjećaje učenika. Ti im osjećaji pomažu da se bolje nose s izazovnim situacijama koje bi se mogle dogoditi tijekom izazovnoga i donekle složenoga puta doktorskoga studija te da ostanu usredotočeni na učenje (Khuram, Wang i dr., 2021a). Kao takvi, oni rade bolje i postižu optimalne rezultate.

Studija također pokazuje da su oni s povoljnijim AA skloniji traženju znanja. Ovo otkriće je u skladu s Veeravalli i sur. (2019), koji je otkrio da se pozitivan stav pojedinaca prema traženju znanja formira kada oni percipiraju da sudjelovanje u aktivnostima učenja ima korisne rezultate. U kontekstu ove studije, pozitivan odnos između AA i KSI implicira da su doktorandi s dobrim AA skloniji učenju i traženju rješenja za svoje probleme povezane s istraživanjem, s kojima bi se mogli susresti tijekom stjecanja doktorskoga studija. To je možda razlog zašto je uočen pozitivan odnos između KSI i AP.

Uz gore navedene nalaze, u studiji je također pokazano da SN pozitivno utječe na AP učenika. Točnije, podrška obitelji i prijatelja te stavovi prema studentima pozitivno utječu na AP studenata. Ova završna obrada u skladu je s Toneato i BiniK (1987) i Kovac i sur. (2014). Također su primijetili da subjektivne norme (obitelj, prijatelji) značajno utječu na postupke i ponašanje pojedinca. Stoga se može reći da podrška i ohrabrenje koje doktorandi dobivaju od članova obitelji i prijatelja tijekom svojeg natjecateljskoga, izazovnoga, stresnoga i uspješnoga doktorskoga puta mogu učiniti čuda. Snažan društveni utjecaj potiče i pruža emocionalnu, akademsku i psihološku podršku pojedincu da postane otporniji i omogućuje mu da uloži više napora u sve aktivnosti koje se tiču njegova učenja. Prethodna su istraživanja također pokazala da su studenti koji dobivaju podršku iz svojeg društvenoga kruga, posebno od svoje obitelji i prijatelja, skloni biti visoko motivirani, strastveni, fokusirani, sposobni transformirati svoje ideje u inovativan istraživački rad (Haus i sur., 2015) i postići željene rezultate. Kako rezultati pokazuju, SN je pozitivno utjecao na KSI. Pojačava teorijsku podlogu TRA da normativna uvjerenja određuju namjere ponašanja osobe (društvene norme) (Fishbein i Ajzen, 1975; Fishbein i sur., 1980). Također povećava podudarnost s nalazima prošlih istraživanja da obitelj i prijatelji mogu duboko utjecati na namjeru ponašanja osobe da uloži više truda i traži znanje (Alzahrani i sur., 2017; Malmström i Öqvist, 2016), zbog čega se njihov AP povećava. Pozitivan odnos KSI-a i AP-a odražava da ih KSI studenata doktorskih studija motivira da budu bolji u nastavi i istraživačkim aktivnostima. Ukratko, rezultati pokazuju da su AA i SN učenika važne determinante njihovih KSI i AP.

Što se tiče teorijskih implikacija, ova studija unapređuje naše razumijevanje čimbenika koji mogu poboljšati AP studenata doktorskih studija. Također objašnjava proces kojim se to događa. Da budemo precizniji, ova studija obogaćuje naše razumijevanje uloge osobnih čimbenika učenika, posebno AA, u poboljšanju njihova AP-a i uvodi novi mehanizam kojim AA i SN mogu prenijeti svoje učinke. Studija je prva takve vrste koja koristi okvir TRA u akademskom kontekstu. Uzimajući u obzir nalaze, predložili smo da se dužna pozornost posveti jačanju AA i KSI studenata. U tu svrhu kreatori politika na visokim učilištima mogu osmisliti sveobuhvatne intervencije jer bi takve inicijative mogle biti korisne i za studente i za obrazovne ustanove.

Zaključak

U ovoj studiji ispitani su čimbenici (AA, SN i KSI) koji utječu na akademski uspjeh međunarodnih doktorskih studenata koji studiraju u Kini. Nalazi pokazuju da su studenta povoljan stav i podržavajući utjecaj njegovih/njezinih normi (obitelj, prijatelji) motivirali i ohrabрили, što je potaknulo njegovu/njezinu namjeru da traži znanje i postigne bolje rezultate osiguravanjem visokih % ocjena i objavljivanjem kvalitetnih istraživačkih radova. Stoga je zaključak ove studije da su studentski akademski stav (AA) i subjektivne norme (SN) neki od važnih prethodnika njihove namjere traženja znanja (KSI) i akademskoga uspjeha (AP) tijekom doktorske kandidature.

Ograničenja i budući smjer

Unatoč teoretskom doprinosu ove studije, postoji nekoliko ograničenja koja treba napomenuti. Prvo, ova je studija usredotočena samo na međunarodne doktorande u Kini. Ovo ograničenje može pobuditi zabrinutost u vezi s generalizacijom nalaza ove studije. Stoga se budući istraživači potiču da prošire opseg ove studije prikupljanjem podataka iz cijele zemlje od domaćih i međunarodnih doktorskih studenata. Drugo, zbog ograničenja pristupa i informacija, korištene su mjere samoprocjene AP-a (postotci i brojevi publikacija). Istraživačima se stoga predlaže da dobiju pouzdanije podatke o AP doktoranda (npr. službene evidencije o ocjenjivanju i publikacijama). Konačno, ovo istraživanje je presječno. Čimbenici koji utječu na individualnu izvedbu mogu se mijenjati tijekom vremena, stoga se za buduće studije preporučuju longitudinalni nacrti istraživanja.