

Flourishing Humanities Development in Science and Technology University: Social Support, Study Engagement and Student Loyalty

Xiang Deng¹, Zaida Nor binti Zainudin^{2*}, Rose Manisah binti Sulong³

Abstract

In recent years, the humanities have encountered several challenges, particularly in science and technology universities. This study aims to examine the relationship between student loyalty, social support, and study engagement among humanities students in science and technology universities, and attempts to provide novel concepts for encouraging humanities development. 256 humanities students who came from science and technology university participated in this study, three questionnaires were used to measure their social support (teacher support, family support, friend support), study engagement (absorption, vigour, dedication) and student loyalty, data was analysed by using software SPSS v.26.0 and Amos v.24. The results indicate that both teacher and family support are significant predictors of the absorption, dedication, and vigour engagement dimensions. Student loyalty is positively correlated with teacher support and vigour. Additionally, vigour significantly mediated the relationship between teacher support and student loyalty, as well as that between family support and student loyalty. The findings emphasized the importance of teacher and family support, as well as the vigour engagement dimension in fostering student loyalty, and offered theoretical and practical insights for higher educational administrators to flourish in humanities development in science and technology universities.

Keywords: *Social Support, Study Engagement, Student Loyalty, Humanities Students, Science and Technology University.*

Introduction

The development of a nation relies not only on advancements in the natural sciences but also on the flourishing of humanities and social sciences (Agasisti & Bertoletti, 2022). However, the humanities face a global crisis marked by declining enrollment rates. For instance, between 2007 and 2017, undergraduate enrollment in history and philosophy in the United Kingdom dropped by 11.6%, with even steeper declines in education (25.5%) and languages (21.3%) (Klugman, 2017). Similarly, the Ministry of Education in China reported a sharp reduction in humanities programs (Chen, 2020). In the United States, the proportion of undergraduates majoring in humanities fell by 30% between 2005 and 2020 (Sciences, 2021). This phenomenon is particularly pronounced at Science and Technology Universities (Davidson, 2013; Yasushi, 2017). Many of these universities have seen a significant drop in the number of students enrolling in humanities programs, and decreased the Financial support of humanities programs (Herman, 2023). It seems that attracting and retaining humanities students has become a critical concern, where the future of the humanities is at stake (Dengsheng et al., 2022; Yandong, 2013).

Hence, determining if humanities students exhibit behavioural and emotional support for their programmes or institution, possess favourable sentiments towards their staff or universities, and would recommend their universities (all collectively belonging to student loyalty) is the key to keep the retention of current humanities students, attracting future students into studying humanities, which also could construct the institutions' reputation from the student perspectives (Suomi et al., 2014). This kind of reputation is the source of competitive advantage as it constitutes a significant marker for evaluating the triumph of higher education at these institutions (Snijders et al., 2020). Thus, in this context, the loyalty of humanities students is crucial for attaining the objectives of professional development in universities within the humanities field. It is therefore necessary to investigate its influence factors with greater attention.

Student Loyalty

Student loyalty can be defined as the inclination of students to express a favourable and positive opinion of their university to others, including friends and family (Ahmad et al., 2021). Loyalty encompasses two

¹ Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Selangor, Malaysia. Email: GS61534@student.upm.edu.my.

² Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Selangor, Malaysia. Email: zaidanor@upm.edu.my. (Corresponding Author)

³ Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Selangor, Malaysia. Email: rosemanisah@upm.edu.my.

dimensions: attitudes and behaviours (Hallowell, 1996). Within the context of higher education, loyalty attitudes pertain to the optimistic sentiment students hold towards the university and/or its courses. Loyalty is exhibited through loyalty intentions and behaviours both during and after enrolment (Todea et al., 2022). For instance, students may provide positive recommendations for their university or courses or actively participate in extracurricular activities (Hennig-Thurau et al., 2001).

Student loyalty is a primary goal for academic institutions (Todea et al., 2022). Loyal student behaviour and active participation contribute positively to the quality of teaching and learning (Hennig-Thurau et al., 2001). Upon graduation, committed alumni are able to sustain their academic institution with monetary gifts, including donations or funding for research initiatives. In addition, they can endorse the university to prospective, current, or former students and offer possibilities for cooperative endeavours like internships or guest lecturing opportunities for students (Snijders et al., 2019). The benefits of retaining students extend beyond their time at university, with the greatest advantages experienced after graduation. Besides, increasing student retention has a positive impact on the tuition lifecycle and serves to recruit new students at a low cost through word-of-mouth referrals (Ghosh et al., 2008). Furthermore, the competitive advantage that a student brings to the university is enhanced if they continue their education at that institution (Ahmad et al., 2021).

Thus, in order for the university to survive the competition, it must identify the relative factors to increase student loyalty and enhance students' positive perceptions of their university from student perspectives. This will not only facilitate the attraction of future students but also enhance the retention of existing students and increase the possibility of choosing the same university in the future if they decide to pursue a higher degree. It is crucial to comprehend the determinants that influence student loyalty in order to identify the most appropriate management methods for safeguarding the long-term triumph of educational institutes (Yusof et al., 2019).

Social Support

Social support is the provision of moral and material aid and assistance to individuals by their family, friends, and teachers. It reflects the quality and closeness of a person's social connections (Cohen, 2000; Kocalevent et al., 2018; Sarason et al., 1983). Past researches show that social support, especially teacher support, is associated with increased student retention (O'Keeffe, 2013), improved academic performance (Klem & Connell, 2004), a sense of belonging to the institution (Wong et al., 2019), and lower student dropout rates (Jia et al., 2016). Thus, when students experience high-quality support from their social bonds, they may feel valued and engaged in their studies, finally leading to stronger loyalty to their university (Umbach & Wawrzynski, 2005).

Additionally, Social support is also crucial for student engagement and achievement in higher education (Klem & Connell, 2004). It is an important resource in the academic context. Researchers note that, particularly in higher education, social support plays a central role in increasing students' willingness to invest extra effort and energy in their academic tasks, thereby increasing their engagement (Othman & Nasurdin, 2013; Siu et al., 2021; Xerri et al., 2018). Engaged students who perform well tend to perceive their performance as positive feedback on the support they receive (Siu et al., 2021).

Study Engagement

In the context of higher education, the measurement of study engagement is pivotal to evaluating students' success rates. The study engagement conception comes from work engagement (Schaufeli & Bakker, 2010). Salanova pointed out that students' core activities, like attending classes, doing homework, and learning, can be considered as 'working' (Salanova et al., 2010). Furthermore, students' work objectives are similar to employees', including course completion, academic success, and degree attainment. Therefore, drawing on previous research on work and study engagement, this study defined study engagement as a state of mind characterised by vigour, dedication, and absorption (Salmela-Aro & Upadaya, 2012). Vigour entails high levels of energy when learning, combined with mental stamina and a readiness to invest additional effort in the learning process. Dedication is defined as a sense of purpose and inspiration that assists with

concentration while learning. Additionally, absorption is characterised by deep concentration and a sense of enjoyable immersion in one's academic work. (Schaufeli, Salanova, et al., 2002).

According to Nora's findings, study engagement fosters student persistence, access to four-year colleges, and degree attainment (Nora et al., 2011). Schaufeli discovered that all three components of study engagement are significantly correlated with academic achievement (Schaufeli, Martinez, et al., 2002), making it one of the most crucial factors in determining learning outcomes.

As for educational institutions, students are just like customers, when students have more engagement in their current educational institution, their brand loyalty to the the current educational institution will also be higher, and they will be more willing to stay in the current institution and recommend it to their friends and family (Dwivedi, 2015). Additionally, study engagement affects an individual's aspirations and intentions to extend their education (Brint et al., 2008). It is also a significant predictor of student loyalty (Tinto, 1988). Besides, recent studies examining higher education students have demonstrated that study engagement can indeed forecast student loyalty (Lee & Anantharaman, 2015; Manggarani, 2018; Snijders et al., 2020).

Consequently, it can be reasonably concluded that students who perceive greater perception of social support, enhance their educational experiences, resulting in increased engagement with studies, which positively impacts their participation in school activities and further influences evaluations of their current institution or field of study (i.e. student loyalty).

Several previous studies have partially explored the relationship between these three variables. For example, it is reported the potential mediator of study engagement between teacher support and student loyalty (Snijders et al., 2022; Snijders et al., 2020). Positive teacher-student relationships hold significant implications for higher education institutions, as they enable students to enjoy learning, become more engaged, offer more positive evaluations of the university, stay in touch with faculty and the post-graduation, and support the university (Kim & Schallert, 2014; Veldman et al., 2013). However, there is a lack of research that comprehensively examines the relationship between students' perceived social support, study engagement, and student loyalty.

Conceptual Framework and Hypotheses

Drawing on existing literature, this study proposes a conceptual framework (Figure 1) to explore the relationships between social support, study engagement, and student loyalty. The following hypotheses are formulated:

H1: Social support (a–c) will have a positive correlation with study engagement.

H2: Study engagement (a–c) will have a positive correlation with student loyalty.

H3: Social support (a–c) will have a positive correlation with student loyalty.

H4: Study engagement will act as a mediator in the connection between social support and student engagement.

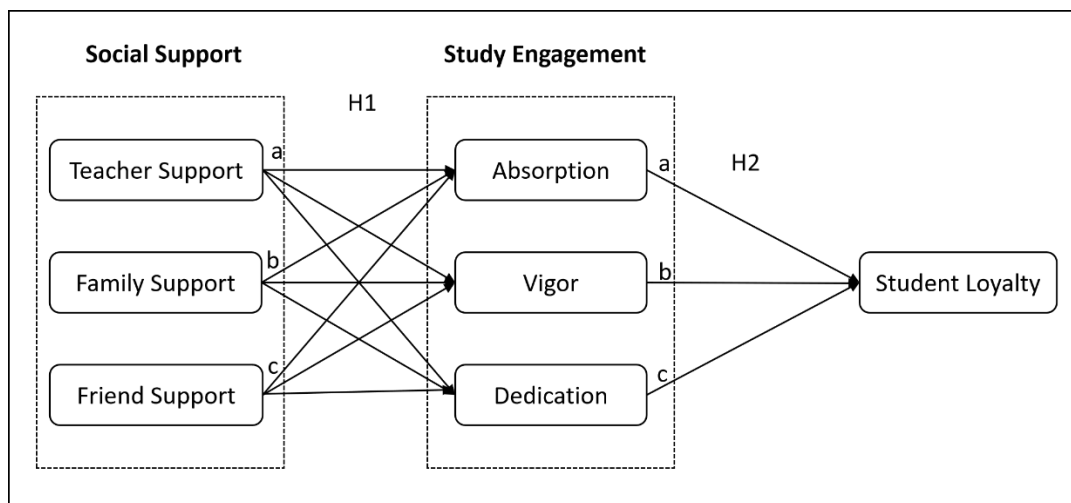


Figure 1. Conceptual framework.

Method

Participates

256 undergraduate humanities students were recruited from a science and technology university in southwest China, which has an enrolment of around 4000 humanities students. The participants took part in the online survey after being invited. Table 1 outlines the demographic information of the respondents.

Table 1 Demographic statistics (N=256)

Items	Options	frequency(N)	Percentage (%)
Gender	Men	49	19.14
	Women	207	80.86
Grade	Freshman	44	17.19
	Sophomore	75	29.30
	Junior	98	38.28
	Senior	39	15.23
Residence	Rural	183	71.48
	Urban	73	28.52
Only-child or not	Yes	68	26.56
	No	188	73.44
Total		256	100

Data collection

We used the Structural Equation Modeling Sample Size Calculator to obtain the minimum sample size for this study of 184. The participant recruitment was conducted in compliance with institution policy at the target school, and the target humanities faculties (including the Faculties of Liberal Arts, the Faculties of Foreign Languages, and the Faculties of Marxist Philosophy). Informed consent was obtained from participants through an online question before starting the questionnaire. Only those who agreed to the use

of their responses for research were included in the analyses. The anonymity of student responses was maintained, and their identities were not traceable by the institution.

The hyperlink to the online questionnaire was randomly circulated through social media platforms such as WeChat and QQ (two mainstream Chinese social media). The students had the option to participate or not. Additionally, it was emphasised to the participants that their responses should be based on their personal opinions and not judged as right or wrong. Besides, the survey duration was around ten minutes.

Materials

The scale of social support includes 12 questions that evaluate the perceived sufficiency of support from teachers, family, and friends in terms of practical assistance, emotional encouragement, openness to discuss issues, and guidance with decision-making. This scale employs a 7-point Likert scale. (1988) (Zimet et al., 1988). The Study Engagement Scale is a brief, 9-item version of the study engagement scale featuring three dimensions: vigour, dedication, and absorption (Schaufeli et al., 2006). The scale utilises a 7-point Likert response format. The Student Loyalty Scale is composed of six items that evaluate individuals' behavioural and attitudinal devotion towards their institution and courses (Hennig-Thurau et al., 2001). This is a 7-point Likert scale. These three questionnaires are available in highly validated Chinese versions, and they have been widely used in various studies.

Reliability and validity test

According to the construct reliability test, all constructs achieved a Cronbach's alpha of ≥ 0.7 , indicating their reliability in this study (Guilford, 1950), and the convergent validity was confirmed through AVE for all constructs that exceeded 0.5 (Fornell & Larcker, 1981) (Table 2).

Besides, to ascertain discriminant validity, the square root of the AVE for each construct was compared with its correlations among other latent constructs. In Table 4, the results showed that the square root of AVE exceeded their correlation, indicating acceptable discriminant validity (Fornell & Larcker, 1981).

Table 2. Construct items measurement model

Constructs	Factor Loading
Social support	
Teacher support (CA=.918, CR=0.919, AVE=0.741)	
SST1	0.786
SST2	0.878
SST3	0.909
SST4	0.865
Family support (CA=.912, CR=0.923, AVE=0.750)	
SSFA1	0.899
SSFA2	0.928
SSFA3	0.895
SSFA4	0.729
Friend support (CA=.946, CR=0.941, AVE=0.800)	
SSFR1	0.909
SSFR2	0.891
SSFR3	0.895
SSFR4	0.882
Study engagement	
Absorption (CA=.945, CR=0.944, AVE=0.850)	
SEA1	0.873
SEA2	0.937
SEA3	0.954

Vigor (CA=.939, CR=0.934, AVE=0.825)	
SEV1	0.931
SEV2	0.923
SEV3	0.870
Dedication (CA=.939, CR=0.940, AVE=0.840)	
SED1	0.903
SED2	0.921
SED3	0.925
Student loyalty (CA=.920, CR=0.911, AVE=0.633)	
SL1	0.723
SL2	0.830
SL3	0.752
SL4	0.781
SL5	0.847
SL6	0.834

Note. SST=Social Support-Teacher; SSFA=Social Support-Family; SSFR=Social Support Friend; SEA=Study Engagement-Absorption; SEV= Study Engagement-Vigor; SED= Study Engagement-Dedication; SL=Student Loyalty.

Data Analysis

Before testing the hypothesis, it is necessary to evaluate the overall model (the Fit Model) to confirm that it accurately describes all causal relationships (goodness of fit indices) and meets specific measurement criteria (Hair, 2009).

According to the goodness of fit index, the model has been established at an acceptable level of marginal fit (Hair, 2009). A summary of all variables' Goodness-of-Fit Indices is presented below

Table 3 Goodness-of-fit-index model summary

Goodness of fit index	Values results			
	Social support	Study engagement	Student loyalty	Model fit
CMIN/DF	2.767	1.996	2.406	CMIN/DF<5
RESEA	0.083	0.062	0.074	RESEA≤0.08
NFI	0.956	0.984	0.987	NFI≥0.90
CFI	0.971	0.992	0.992	CFI≥0.90
TLI	0.960	0.987	0.980	TLI≥0.90
RFI	0.938	0.974	0.967	RFI≥0.90
GFI	0.926	0.963	0.982	GFI≥0.90
AGFI	0.878	0.924	0.973	AGFI≥0.90
Information	Model fit	Model fit	Model fit	

After conducting a calculation of the goodness-of-fit index for variables pertaining to social support, study engagement, and student loyalty, it can be inferred that all variables conform suitably to the model. Therefore, structural equation modelling (SEM) and a multivariate analysis technique, are employed to test the hypotheses in the SPSS (version 26) software. Furthermore, the gathered data is analysed utilising Amos (version 24) software.

Results

The Descriptive Statistics and Construct Correlations

Table 4 presents the descriptive statistics and construct correlation results of this study. The mean for teacher support indicates that students generally feel well-supported by their teachers. Similarly, the mean for family support and friend support is also high, indicating that students generally feel supported by their family and friends. However, the slightly higher variance suggests that the level of friend support may vary among different students.

Table 4. Means, standard deviations, correlations of variables and square root of AVE

Variables	Mean	SD	1	2	3	4	5	6
Teacher support	4.50	1.47	0.86					
Family support	5.55	1.27	0.51**	0.87				
Friend support	5.73	1.18	0.43**	0.69**	0.89			
Absorption	5.19	1.20	0.51**	0.47**	0.36**	0.92		
Dedication	5.29	1.22	0.53**	0.54**	0.40**	0.82**	0.91	
Vigor	4.84	1.44	0.55**	0.47**	0.32**	0.69**	0.78**	0.80
Student loyalty	4.72	1.34	0.69**	0.42**	0.33**	0.60**	0.65**	0.72**

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

Structural Model

The structural model evaluation showed R² that is appropriate for an exploratory study. Specifically, the model accounted for 71.6% of the variance in student loyalty and 35.6%, 44.5%, and 38.8% of the variance in absorption, dedication, and vigour, respectively, for study engagement.

Teacher and family support were both statistically significantly related to all dimensions of study engagement (H1a and H1b). However, there was no statistically significant association between friend support and any dimension of study engagement (H1c).

No statistically significant correlation was found between student loyalty and the absorption and dedication dimension of study engagement (H2a & b). However, student loyalty was significantly associated with vigour (H2c). Figure 2 presents the diagrammatic representation of the path model, indicating significant path loadings with their respective significance levels.

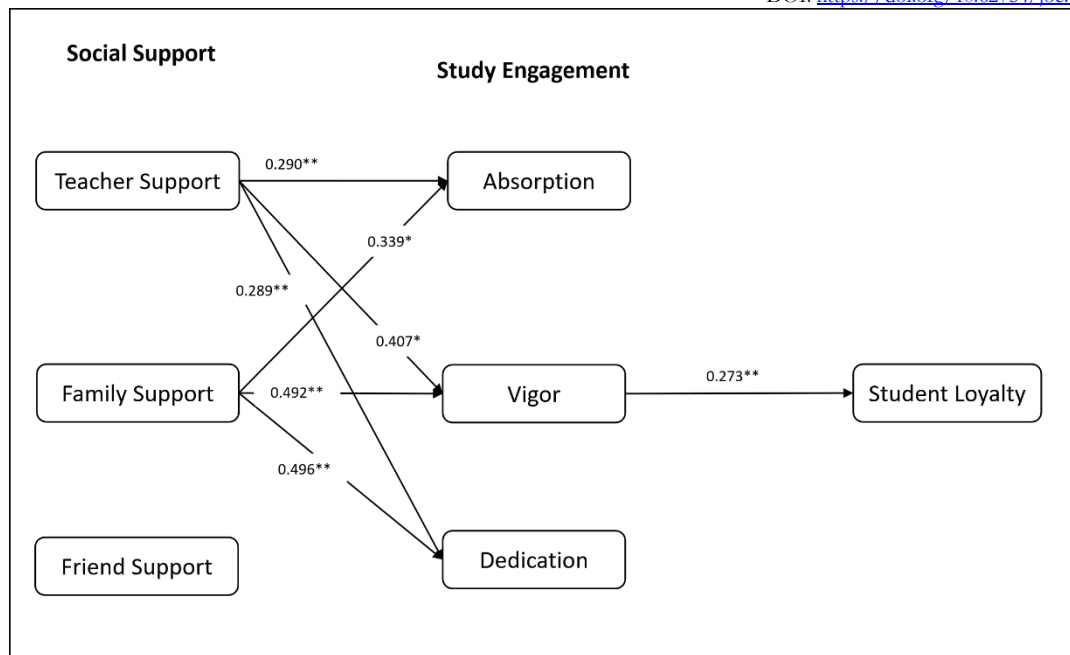


Figure 2. Path model and construct estimates

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

Mediating Effect

The direct effect of teacher support on student loyalty (H3a) was observed (.42, $p < .001$). However, no direct effect was observed for family support and friend support (see Appendix A). Therefore, mediation analysis was continued through further examining (in)direct effects.

When the mediator of study engagement was included, it revealed that teacher support had a significant indirect effect on student loyalty (see Figure 2). The relationship between teacher support and student loyalty showed significant direct and indirect effects (after incorporating the mediator) through the vigour of study engagement.

There was no direct impact of friend support on student loyalty. Furthermore, no indirect effects of friend support on student loyalty by the dimensions of study engagement were significant. When including the mediator, the direct effect between family support and student loyalty disappears. However, the indirect effect of vigour is significant (Table 5)

Table 5 Structural estimate model results (Mediator: Study engagement)

Relation	1. β	p	95%Confidence Interval	
			lower	upper
Direct Relation				
H1a: SST→SEA	0.379	0.009**	0.177	0.42
H1a: SST→SEV	0.422	0.015*	0.251	0.555
H1a: SST→SED	0.356	0.008**	0.166	0.425
H1b: SSFA→SEA	0.358	0.018*	0.062	0.596
H1b: SSFA→SEV	0.411	0.009**	0.179	0.947
H1b: SSFA→SED	0.492	0.008**	0.215	0.854
H1c: SSFR→SEA	-0.081	0.494	-0.322	0.159
H1c: SSFR→SEV	-0.181	0.167	-0.65	0.119
H1c: SSFR→SED	-0.124	0.365	-0.46	0.2

H2a:SEA→SL	0.023	0.611	-0.145	0.26
H2c:SEV→SL	0.319	0.005**	0.102	0.446
H2b:SED→SL	0.184	0.22	-0.119	0.445
H3a:SST→SL	0.51	0.012*	0.239	0.561
H3b:SSFA→SL	-0.129	0.286	-0.527	0.094
H3c:SSFR→SL	0.042	0.785	-0.175	0.257
Indirect Relation				
H4a: SST→SEA→SL	0.009	0.576	-0.045	0.073
H4a: SST→SEV→SL	0.135	0.002**	0.028	0.152
H4a: SST→SED→SL	0.066	0.127	-0.014	0.159
H4b: SSFA→SEA→SL	0.008	0.621	-0.055	0.146
H4b: SSFA→SEV→SL	0.131	0.004**	0.029	0.244
H4b: SSFA→SED→SL	0.091	0.107	-0.017	0.227
H4c: SSFR→SEA→SL	-0.002	0.531	-0.06	0.018
H4c: SSFR→SEV→SL	-0.058	0.448	-0.1	0.042
H4c: SSFR→SED→SL	-0.023	0.295	-0.15	0.021

Note. SST=Social Support-Teacher; SSFA=Social Support-Family; SSFR=Social Support Friend; SEA=Study Engagement-Absorption; SEV= Study Engagement-Vigor; SED= Study Engagement-Dedication; SL=Student Loyalty.

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

Discussion

The research investigated the impact of social support on student loyalty and associated variables within the context of humanities students studying at a science and technology university. A mediating model for student loyalty was put forward and tested to elucidate the effects of social support on student loyalty. Teacher support was found to be significantly related to three dimensions of study engagement dedication (H1a) and directly impacted student loyalty. Within this sample, it may be necessary for students to receive support from their teachers in order to maintain their study vigour, which would ultimately foster a sense of loyalty toward their institution. Therefore, teacher support, a type of social support, may occur before study vigour, which is a part of study engagement. This ultimately leads to student loyalty towards their institutions and courses. A favourable student-teacher relationship is of significant importance to tertiary education institutions as it can result in students relishing learning, displaying greater engagement, offering a more positive assessment of the institution, maintaining ties with the faculty and institution post-graduation, and championing the university (Kim & Schallert, 2014; Veldman et al., 2013)).

Thus, when students feel high-quality support from their teachers, they feel valued and thus increase their loyalty to the university. Specifically, Hennig-Thurau et al. (2001) found that the higher quality of relationship between students and the faculty members (such as teachers), the higher the student loyalty.

Statistically significant findings indicated a positive relationship between family support and all dimensions of study engagement (H1b). Consequently, students who got a higher level of familial support were more likely to engage positively in their studies. Similarly, previous research emphasises the significance of family support and study engagement (Legault et al., 2006). Therefore, fostering and sustaining positive support from family has been shown to be crucial for students' study engagement.

Thus, in higher education, it is believed that study engagement requires family support, which is essential for students' success. Specifically, it is plausible that students who receive family support are invigorated in their studies.

There was no statistically significant relationship between friend support and study engagement (H1c). It is possible that friend support does not always have a positive impact on students' studying experiences.

Previous studies have found that peer support could improve students' emotional well-being and create an environment that facilitates collaborative studying, which in turn increases engagement (Xie & Guo, 2023). However, in higher education settings, students might evaluate friend support differently from peer support. In other words, students' perceptions of friend support may be less important than teacher and family in enhancing student engagement in studying. There was no statistically significant association found between absorption and student loyalty (H2a). In this sample, it was found that the students' absorption towards their studies did not result in a statistically significant effect on their loyal attitude and behaviour. In simpler terms, even though students may be highly absorbed in their studies, it does not necessarily translate into positive feelings or intentions towards their educational institution and courses. Perhaps the variable of absorption is overstated and stretches too far when used in students' evaluations of engagement.

However, there was a positive correlation between vigour and student loyalty (H2b). Additionally, teacher and family support were found to have an indirect effect on loyalty by vigour (H4a & b). Perhaps the concept that teacher support, by influencing students' vigour, may serve as a predisposition for loyalty is equally applicable in higher education settings. Specifically, vigour, a dimension of study engagement, exhibited direct positive effects on student loyalty, as well as partially mediated relationships between teacher support and loyalty. Furthermore, building on research into social support, the presence of a student's vigour for learning may result in family support having a positive impact on student loyalty (H4b). This finding is of note in demonstrating that family support impacts student loyalty through their vigour for study engagement. The provision of support to students by their families appears to foster student loyalty towards their institution and courses in intention and behaviour.

No statistically significant association was found between dedication and student loyalty (H2c). In this study, it was found that study engagement through dedication did not exhibit significant positive impacts on student loyalty. Put simply, increased student dedication to their studies does not necessarily translate into higher levels of loyalty towards their institution and courses.

Implications, limitations and future research

The implications of this research are significant for educational practitioners and policymakers in the development of science and technology institutions. By enhancing teacher support for humanities students, administrators can positively influence student engagement and foster greater student loyalty. This highlights the importance of providing diversified support to students in order to improve their overall educational experience. In other words, enhancing students' support from their teachers may foster positive and productive relationships between educational institutions and students, ultimately promoting student loyalty, improving retention rates (O'Keeffe, 2013), reducing student dropout rates (Jia et al., 2016), enhancing academic performance (Klem & Connell, 2004), and fostering sense of belonging (Wong et al., 2019).

Although this study significantly enhances understanding of social support, study engagement as well as loyalty, it is important to highlight certain limitations that can be explored for future studies. Firstly, this research employed cross-sectional data, precluding the establishment of any causal relationships between variables within the research. Besides, quantitative research methods were employed to gain knowledge, yet these methods have potential limitations. Thus, future studies may consider the use of experimental or longitudinal studies to explore how these variables evolve over time. Additionally, this study solely sampled students from one science and technology university. Thus, it may be valuable for future research to replicate the study with the addition of students from other science and technology institutions, alongside an examination of humanities students across different grades and genders.

The study examined how the different dimensions of social support could facilitate study engagement and enhance student loyalty. The findings offer novel insights into potential influences on students' perceived social support. The study hypothesised that increased social support positively influenced study engagement, thereby enhancing student loyalty. Although the model accounted for 71.6% of the variance in student loyalty, 28.4% remained unexplained. In order to understand this variance, it is important to consider the dimensions of social support and study engagement, as they have been found to be significant

factors in influencing student loyalty. To gain further insights into additional factors influencing student loyalty, potential alternative predictors should be taken into consideration in future research. These may include assessing the teacher-student relationship quality (Hennig-Thurau et al., 2001) or the level of university support for students.

Conclusion

This study examined the perceptions of social support among humanities students studying at a science and technology university, focusing on support from teachers, family and friends. Besides the study also investigated relationships between study engagement and loyalty. Based on the findings, Vigour mediated the relationship between social support (teacher support and family support) and student loyalty.

Academic institutions should prioritise the provision of various forms of support based on different social bonds, as these have been proven to positively influence study engagement and loyalty. Particularly, educational administrators must recognise the significant role that social support plays in the development of humanities students studying at science and technology universities. To achieve this, it is essential for institutions to thoroughly examine and discuss student perceived support from their social bonds. Therefore, it is crucial to improve the support from student social bonds, and forthcoming studies should explore diverse aspects of social support.

Co-Author Contribution

The authors affirmed that there is no conflict of interest in this article. carried out the field work, prepared the literature review and overlooked the writeup of the whole article. Author 2 revised the research methodology and did the data entry. Author 3 revised the statistical analysis and interpretation of the results.

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