

First-generation distance learning students: can the perceptions of social support and sense of belonging influence academic persistence?

Asian Association
of Open
Universities
Journal

153

Received 11 October 2023
Revised 21 May 2024
9 June 2024
Accepted 6 August 2024

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Abstract

Purpose – First-generation students (FGS) experience numerous challenges during their studies because of their background attributes and lack of social capital required to navigate institutions of higher learning. The purpose of this study was to investigate the influence of perceived social support and a sense of belonging on academic persistence among FGS at a distance e-learning institution in South Africa.

Design/methodology/approach – A cross-sectional quantitative research approach was employed. The sample comprised 240 undergraduate students. While multiple linear regression analysis was used to assess the influence of perceived social support and sense of belonging on academic persistence, mediation analysis was used to test for the mediating effect of sense of belonging on the relationship between perceived social support and academic persistence.

Findings – The results revealed that while perceived family support, perceived friendship support and perceived support from others did not significantly predict academic persistence, a sense of belonging significantly predicted academic persistence. The results also demonstrated that a sense of belonging significantly mediated the relationship between perceived family support and academic persistence. Further, the sense of belonging significantly mediated the relationship between perceived support from others and academic persistence.

Research limitations/implications – The results of the study imply that distance learning institutions should strengthen student support mechanisms and institute steps to create learning environments that engender belongingness to enable students to persist academically and reach their academic goals.

Originality/value – This study outlines practical strategies that distance learning institutions could use to enhance support and bolster belongingness among students to help them complete their studies.

Keywords Academic persistence, Distance learning, First-generation students, Perceived social support, Sense of belonging

Paper type Research paper

Introduction

Distance learning is conceptualised as a structured teaching method in which correspondence between the learner and teacher is separated by time and place (McIsaac and Gunawardena, 2013). This type of learning is facilitated remotely by employing tools

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This study was funded by the National Institute for the Humanities and Social Sciences (Grant no. SDS20/1569).



Asian Association of Open
Universities Journal
Vol. 19 No. 2, 2024
pp. 153-169
Emerald Publishing Limited
e-ISSN: 2414-6994
p-ISSN: 1858-3431
DOI 10.1108/AAOUJ-10-2023-0119

such as print resources and email and could also include a blend of e-learning pedagogical approaches to facilitate teaching and learning activities. Distance learning plays an important role in the higher education landscape and offers several benefits, such as affording students who otherwise would not have access to further education and training a learning opportunity (Modise, 2020). This includes those who are employed full-time, have domestic responsibilities and reside in rural areas with no immediate access to higher learning facilities (Mtshweni, 2024), which are often located in cities. Furthermore, distance learning offers flexibility in that students can learn at their own pace and manage their time without being confined to a classroom (Vlasenko and Bozhok, 2014), thereby enabling them to focus on other priorities in their lives.

Despite the benefits associated with the distance learning model, distance learning institutions continue to experience low student success rates, high dropout rates and academic persistence challenges among students (Brubacher and Silinda, 2019; Makoe and Nsamba, 2019; Netanda *et al.*, 2019). Academic persistence, which refers to students' courage, grit and desire to remain enrolled until they attain a qualification, is a reflection of their institutional and goal commitments (Terenzini and Pascarella, 1980). Academic persistence is, therefore, the inverse of dropout.

Studies have shown that dropout rates in distance learning institutions in the United States of America (USA), United Kingdom (UK) and Brazil range from 10.9 to 40% (Herbert, 2006; Simpson, 2010; Bart, 2012; CENSO, 2014). In South Africa, dropout rates between 59 and 68% have been recorded in distance learning institutions (Subotzky, 2010; John, 2013), thus signalling academic persistence problems in students studying through distance learning.

A constellation of factors, including academic and non-academic factors, contribute to the high dropout rates in distance learning institutions. These factors are not limited to financial, psychological, personal and background factors (Netanda *et al.*, 2019; Tinto, 1975). One such background factor that was found to contribute to dropout in distance learning institutions is the students' generation status (Brubacher and Silinda, 2021). The latter is an indication or measure of parents' level of education. First-generation students (FGS) may be distinguished from continuing-generation students (CGS). While FGS are those students whose parents do not have a tertiary education or any formal qualification beyond high school (LeBouef and Dworkin, 2021), CGS are those whose parents have attained a tertiary qualification or received some form of education beyond high school. The current study focused on the former, as this has been reported to contribute to students' academic failures.

FGS experience greater and more unique challenges at university than CGS (Martinez *et al.*, 2009). First, FGS tends to lack the cultural capital of academic skills and knowledge required to navigate the hurdles of university. Second, FGS are likely to come from poorly resourced schools and are, therefore, not prepared for higher education (Van Broekhuizen *et al.*, 2016). Third, FGS tend to come from low socioeconomic status backgrounds and consequently, encounter stressors relating to academic finances (Jenkins *et al.*, 2013). Fourth, FGS may struggle to identify with the institutional community because of the different ethnical and racial cultures in the institution (Constantine and Barón, 1997; Jenkins *et al.*, 2013), thus possibly making it difficult for them to integrate into the institution. Finally, FGS tend to receive less social support from their social network (Motsabi *et al.*, 2020; Makoe and Nsamba, 2019; Netanda *et al.*, 2019). These challenges are common in FGS literature and prevalent among FGS in South Africa as a result of the country's problems of limited access to higher education, economic inequalities and historical injustices of previously disadvantaged population groups (Pienaar *et al.*, 2019).

Challenges associated with being an FGS reduce students' psychological well-being and increase their risk of dropping out (Jenkins *et al.*, 2013). Hanson (2022) revealed that FGS in the USA have a higher dropout rate than CGS at 92.2%. In the UK, FGS has been reported to

be 4% more likely to drop out than CGS (Henderson and Shure, 2022). While there are no data available on dropout rates among FGS in South Africa, research has shown that between 50 and 60% of undergraduate students drop out of university during their first year of study due to factors relating to being an FGS, thus accounting for a considerable proportion of the dropout rate (Van Zyl, 2015; Motsabi *et al.*, 2020).

Review of literature on perceived social support and sense of belonging and their association with academic persistence

The influence of perceived social support on academic persistence

FGS tend to lack social support during their studies (Jenkins *et al.*, 2013; Motsabi *et al.*, 2020; LeBouef and Dworkin, 2021). Parents without a tertiary education cannot accord their children with the support required to navigate university. Additionally, it is difficult for FGS to forge relationships with peers in the institution because of their limited social capital, which is needed to integrate into the institution (Moschetti and Hudley, 2015; Lund *et al.*, 2022), thus denying them the opportunity to garner peer support. A lack of social support predisposes FGS to drop out of distance learning institutions and, accordingly, makes it difficult for them to persist academically (Makoe and Nsamba, 2019; Simpson, 2012). This underscores the importance of social support and signals the need for students to develop perceptions of social support to succeed academically.

Perceived social support is conceptualised as the emotional and mental support from family, friends and significant others (Tezci *et al.*, 2015). It may further be explained as a feeling of encouragement from others that makes one feel loved and appreciated (Safiri *et al.*, 2021). Distance learning offers limited opportunities for students to interact and build networks of support with peers and significant others within the institution (Gillett-Swan, 2017). While some distance learning institutions may offer technology-mediated interaction, this type of support may not be available immediately when sought by students. Limited support for FGS who are studying through distance learning may further be exacerbated by the inability of their families to provide the support and encouragement required to pursue their studies (Brubacher and Silinda, 2021). Unfortunately, this contributes to a lack of academic preparedness and undermines their desire to persist academically (Grant, 2020).

Taylor *et al.* (2010) highlighted that a relationship characterised by the emotional support a student has with their family, friends and significant others builds their academic resilience. Furthermore, higher perceptions of social support reportedly increase positive coping among distance learning students and buffer against mental distress (Cho *et al.*, 2021; Mai *et al.*, 2021). Tinajero *et al.* (2020, p. 134) posited that “perceived social support is a key factor for reducing the risk of psychological distress, academic failure and student withdrawal from university”. Swecker *et al.* (2013) found that perceived social support increased FGS’ chances of persisting academically by 13%. Additionally, Motsabi *et al.* (2020) found that perceived social support contributes to academic persistence in FGS.

The current study, therefore, investigated whether perceived social support could significantly predict academic persistence among FGS at a distance e-learning institution. Distance learning students rely on a multitude of types of support to succeed academically. This support is mainly received from family, friends and significant others (Asbee and Simpson, 1998; Permatasari *et al.*, 2021). Hence, perceived social support was investigated from three sources: namely, family, friends and significant others. Significant others could include partners, colleagues, mentors, lecturers, university counsellors and admin support staff who serve as supportive structures in students’ academic journeys.

The mediating role of sense of belonging

Other than contributing to academic persistence, perceived social support has been found to influence students' sense of belonging towards the institution (Maluenda-Albornoz *et al.*, 2022). A sense of belonging refers to a feeling of mattering and identification with a group (Osterman, 2000). Academically, sense of belonging involves a feeling of being personally accepted, respected, involved and supported within the learning context (Goednow, 1993). According to Haslam *et al.* (2017), individuals with high perceived social support tend to have a sense of identity and belonging. Vargas-Madriz and Konishi (2021) revealed a statistically significant relationship between perceived social support and sense of belonging. Further, students with higher levels of perceived social support were found to have higher levels of belonging to their institution, which, in turn, was related to higher academic involvement (Vargas-Madriz and Konishi, 2021). Perceived social support has also been shown to influence academic persistence indirectly through a sense of belonging (Vargas-Madriz and Konishi, 2021; Maluenda-Albornoz *et al.*, 2022). This suggests that a sense of belonging may mediate the relationship between perceived social support and academic persistence.

Studies have emphasised that FGS need to feel supported and experience a sense of belonging towards their institution to persist academically (Salazar, 2019; Motsabi *et al.*, 2020). Similarly, perceptions of social support and a sense of belonging have been found to be essential in assisting students to persist academically (Permatasari *et al.*, 2021; Strayhorn, 2020). Accordingly, the study investigated whether a sense of belonging could significantly predict academic persistence. In addition, the study examined whether a sense of belonging could significantly mediate the relationship between perceived social support and academic persistence.

Research questions

The following questions were posed:

- (1) Do perceived social support and sense of belonging significantly predict academic persistence?
- (2) Does sense of belonging significantly mediate the relationship between perceived social support and academic persistence?

The study context – the South African higher education system

The South African higher education system is characterised by high enrolment rates of FGS (Mdepa and Tshiwula, 2012). These students come from families with little understanding of academic norms and expectations because of their limited knowledge and background in higher education (Heymann and Carolissen, 2011). In addition, most FGS in South Africa come from historically disadvantaged population groups and impoverished family backgrounds and are likely to have attended poor schools before enrolling at university and therefore are under-prepared for higher education (Mdepa and Tshiwula, 2012). Motsabi *et al.* (2020) demonstrated that FGS students are prone to struggling with social support in South African institutions of higher learning. In addition, Brubacher and Silinda (2021) and Mtshweni (2024) argued that a lack of social support and a sense of belonging are prominent among distance learning FGS in South Africa. This could contribute to academic persistence and dropout problems (Motsabi *et al.*, 2020; Mtshweni, 2024). Accordingly, the researcher sought to investigate the role of perceived social support and sense of belonging on academic persistence among FGS at a distance e-learning institution in South Africa. It is envisaged that this study would help broaden an understanding of the issues of social support and belongingness in distance e-learning institutions and contribute to reducing the high rates of dropout.

Methods

A cross-sectional quantitative research design was employed to investigate the influence of perceived social support and a sense of belonging on academic persistence. There is a paucity of research on FGS related to perceived social support, sense of belonging and academic persistence in distance higher learning institutions, particularly in the South African context. Hence, a cross-sectional research design was considered appropriate since it is regarded as a useful design for establishing preliminary evidence and planning for future advanced studies on a limited or relatively less-researched topic (Wang and Cheng, 2020).

The study was conducted with undergraduate students from a distance e-learning university in South Africa. Most of the students in the university were black, female and above the age of 25 and were therefore regarded as mature students. In South Africa, mature students refer to students who are at least 23 years of age. Convenient sampling was considered appropriate because it is inexpensive and, accordingly, was employed to acquire a sample of students. The data were collected during August (second semester) 2021.

An online questionnaire was prepared using the *Qualtrics* survey maker tool and distributed to 566 FGS via the official university email addresses allocated to students upon registration. The survey design entailed presenting instruments, one at a time, to participants. Of the students who received the survey, 240 (participants) completed the survey and constituted the sample of the study. Of these participants, $n = 174$ (72.5%) were female, while $n = 66$ (27.5%) were male. In terms of race and according to the South African racial classification system, $n = 207$ (86.3%) were black, $n = 11$ (4.6%) were coloured, $n = 4$ (1.7%) were Indian, $n = 17$ (7.1%) were white and $n = 1$ (0.4%) identified themselves as “other”. The majority of participants, $n = 146$ (60.8%), considered themselves to be from low socioeconomic status families, $n = 90$ (37.5%) from middle socioeconomic families and $n = 4$ (1.7%) from high socioeconomic families. The age of the participants ranged from 19 to 40 years ($M = 28.53$; $SD = 5.21$).

Survey instruments

Perceived social support

Perceived social support was measured using the 12-item Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet *et al.*, 1998). The instrument is used to assess students’ level of perceived social support from different sources, including family, friends and significant others. The MSPPS was employed in this study because previous research has demonstrated that it includes items that provide a good fit for university students (Brugnoli *et al.*, 2022). Some of the items contained in the instrument include “My family is willing to help me make decisions” and “I can count on my friends when things go wrong”. The items were assessed on a five-point Likert scale, ranging from (1) *Strongly disagree* to (5) *Strongly agree*. In the current study, Cronbach’s alphas for perceived family support, perceived friendship support and perceived support from others were $\alpha = 0.90$, $\alpha = 0.83$ and $\alpha = 0.88$, respectively.

Sense of belonging

Sense of belonging was measured using the 10-item Psychological Sense of School Membership (PSSM) instrument (Goednow, 1993). The instrument has been widely employed to assess students’ levels of sense of belonging in a university context and was therefore considered appropriate for this study. The PSSM contains items such as “I feel like a part of my university” and “I wish I were in a different university”. These items were rated on a five-point Likert scale, ranging from (1) *Not at all true* to (5) *Completely true*. Cronbach’s alpha for the instrument was $\alpha = 0.79$.

Academic persistence

Academic persistence was measured using a three-item institutional and goal commitment instrument (Terenzini and Pascarella, 1980). The instrument was used because it is regarded as appropriate for assessing academic persistence or decisions to drop out among higher education students (Terenzini and Pascarella, 1980). The institutional and goal commitment instrument comprises items such as “It is important for me to graduate from university” and “It is unlikely that I will register at this institution next semester”. The items are assessed on a five-point Likert scale, ranging from (1) *Strongly disagree* to (5) *Strongly agree*. In this study, the instrument was found to have a Cronbach’s alpha of $\alpha = 0.64$. This Cronbach’s alpha is relatively low compared to those of the other factors in this study. However, Daud *et al.* (2018) stated that even though Cronbach’s alphas ranging between 0.6 and 0.8 are considered to be moderate, they are acceptable. Nonetheless, exploratory factor analysis (EFA) was conducted to assess the psychometric properties of the instrument and verify the factor loadings.

Ethical considerations

This study was approved by the ethics review committee at the university (Ref:51416387_CREC_2021), and a survey was employed to solicit data from participants. The survey contained an information letter about the study as well as a consent form that was signed electronically. Prior to data collection, participants were informed of voluntary participation and assured of confidentiality and anonymity. Further, they were informed about their right to discontinue participation at any point during the survey.

Data analysis

A multiple linear regression analysis was performed to assess whether perceived social support and sense of belonging would significantly predict academic persistence. In addition, mediation analyses were performed to test whether a sense of belonging would significantly mediate the relationship between perceived social support and academic persistence. The Statistical Package for the Social Sciences (SPSS) version 28 was utilised to perform regression analysis. In addition, PROCESS macro (model 4) was employed to test for mediation (Hayes, 2013). The linearity of the relationship between the outcome and predictor variables in the regression model was assessed by using plots of residuals. The results revealed that the data were clustered along the regression line (Figure 1).

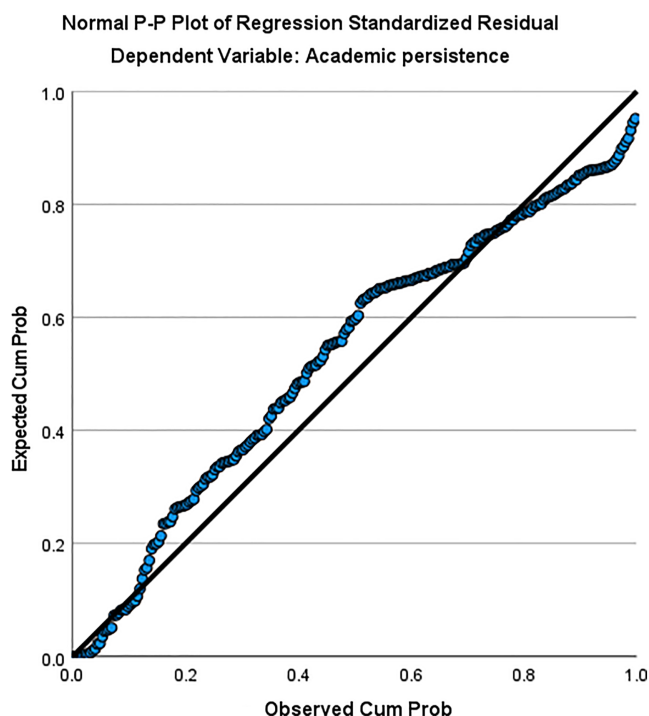
Results

Factor analysis of the academic persistence scale

EFA with the three-item academic persistence instrument was conducted using a principal component method. One factor was extracted based on the eigenvalue >1 criterion, confirming that the items in the academic persistence instrument assess a single construct. The items accounted for 59% of the variance. All factor-loading items yielded scores >0.40 and were thus considered acceptable (Matsunaga, 2010). The factor loadings after direct oblimin rotation are shown in Table 1.

Correlation analysis

Correlation analysis was conducted to test whether perceived social support and a sense of belonging correlated with academic persistence. The results showed that perceived family support, perceived friendship support, perceived support from others and a sense of belonging positively correlated with academic persistence. However, the relationship



Source(s): Author's own work

Figure 1.
Linearity of the
relationship between
academic persistence
and predictor variables

Item	1
It is important for me to graduate from university	0.69
I am confident that I made the right decision in choosing to attend university	0.84
It is likely that I will register at this institution next semester	0.76
Note(s): All loadings >0.40	
Source(s): Author's own work	

Table 1.
Exploratory factor
analysis of the
academic
persistence scale

between perceived friendship support and a sense of belonging was not statistically significant. In addition, the relationship between perceived friendship support and academic persistence as well as the relationship between perceived support from others and academic persistence, were not statistically significant (see [Table 2](#)).

Regression analysis

Multiple linear regression analysis was conducted to determine whether perceived social support and a sense of belonging predicted academic persistence. Therefore, academic persistence was regressed onto perceived family support, perceived friendship support, perceived support from others and a sense of belonging. The regression model was found to be significant, $F(4,253) = 8.124$, $p < 0.001$ and explained about 12.1% of the variance in academic persistence. The results revealed that perceived family support ($\beta = 0.056$,

$t = 0.693, p > 0.05$), perceived friendship support ($\beta = -0.054, t = -0.696, p > 0.05$) and perceived support from others ($\beta = 0.046, t = 0.528, p > 0.05$) did not significantly predict academic persistence. The results further revealed that a sense of belonging ($\beta = 0.320, t = 5.026, p < 0.001$) was the only significant predictor of academic persistence (see Table 3).

Mediation analysis

Mediation analyses were performed to test whether the sense of belonging mediated the relationship between perceived social support and academic persistence. Three models were used to test the objective.

In the first mediation model, perceived family support (X) was considered a predictor variable, sense of belonging (M) a mediating variable and academic persistence (Y) an outcome variable. The results revealed that perceived family support significantly predicted a sense of belonging ($\beta = 0.06, SE = 0.01, 95\% CI [0.02, 0.10], p < 0.05$). In turn, sense of belonging significantly predicted academic persistence ($\beta = 1.66, SE = 0.31, 95\% CI [1.03, 2.28], p < 0.05$), whereas the direct effect of perceived family support on academic persistence was statistically insignificant ($\beta = 0.08, SE = 0.09, 95\% CI [-0.10, 0.28], p > 0.05$). However, a statistically significant indirect effect was also found ($95\% CI = [0.02, 0.22]$). These results indicate that the sense of belonging fully mediated the relationship between perceived family support and academic persistence.

In the second mediation model, perceived friendship support (X) was considered a predictor variable, sense of belonging (M) a mediator variable and academic persistence (Y) an outcome variable. The results revealed that perceived friendship support could not significantly predict a sense of belonging ($\beta = 0.01, SE = 0.01, 95\% CI [-0.01, 0.02], p > 0.05$). However, the results showed that a sense of belonging significantly predicted academic persistence ($\beta = 1.72, SE = 0.30, 95\% CI [1.11, 2.33], p < 0.05$), and the direct effect of perceived friendship support on academic persistence was statistically insignificant ($\beta = 0.01, SE = 0.04, 95\% CI [-0.09, 0.09], p > 0.05$). The indirect effect was also statistically insignificant ($95\% CI = [-0.02, 0.05]$). Therefore, the evidence of mediation could not be proven.

Table 2.
Descriptive statistics
and bivariate
correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
Perceived family support	1.00	0.28	–				
Perceived friendship support	2.00	0.58	0.49**	–			
Perceived support from others	1.00	0.27	0.63**	0.57**	–		
Sense of belonging	2.00	0.08	0.22**	0.03	0.22**	–	
Academic persistence	2.00	0.44	0.13*	0.01	0.12	0.34**	–
Note(s): ** $p < 0.01$; * $p < 0.05$							
Source(s): Author's own work							

Table 3.
Regression analysis
with regard to the
effects on academic
persistence

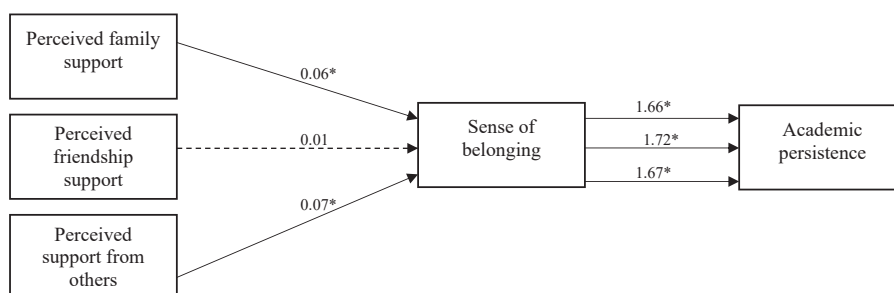
Variables	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	95% CI
Perceived family support	0.088	0.127	0.056	0.693	0.489	[–0.16, 0.33]
Perceived friendship support	–0.041	0.059	–0.054	–0.696	0.487	[–0.15, 0.07]
Perceived support from others	0.075	0.141	0.046	0.528	0.598	[–0.20, 0.35]
Sense of belonging	1.622	0.323	0.320	5.026	0.001	[0.98, 2.25]
Note(s): 95% CI=Confidence Interval						
Source(s): Author's own work						

In the third mediation model, perceived support from others (X) was considered a predictor variable, sense of belonging (M) a mediator variable and academic persistence (Y) an outcome variable. The results revealed that perceived support from others significantly predicted a sense of belonging ($\beta = 0.07$, $SE = 0.02$, 95% CI [0.03, 0.11], $p < 0.05$). In addition, a sense of belonging significantly predicted academic persistence ($\beta = 0.167$, $SE = 0.31$, 95% CI [1.04, 2.29], $p < 0.05$), and the direct effect of perceived support from others on academic persistence was statistically insignificant ($\beta = 0.07$, $SE = 0.10$, 95% CI [-0.12, 0.27], $p > 0.05$). However, the indirect effect was statistically significant (95% CI = [0.03, 0.23]). These results suggest that the sense of belonging fully mediated the relationship between perceived support from others and academic persistence. The mediation results are displayed in Table 4, while the hypothesised mediation model is displayed in Figure 2.

Mediation models	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
<i>Model 1</i>					
X → M (<i>a</i>)	0.06	0.01	3.50	0.0005	[0.02, 0.10]
M → Y (<i>b</i>)	1.66	0.31	5.25	0.0000	[1.03, 2.28]
X → Y (<i>c'</i>)	0.08	0.09	0.90	0.3644	[-0.10, 0.28]
X → M → Y (<i>c - c'</i>)	0.11	—	—	—	[0.02, 0.22]
<i>Model 2</i>					
X → M (<i>a</i>)	0.01	0.01	0.57	0.5691	[-0.01, 0.02]
M → Y (<i>b</i>)	1.72	0.30	5.58	0.0001	[1.11, 2.33]
X → Y (<i>c'</i>)	0.01	0.04	0.01	0.9997	[-0.09, 0.09]
X → M → Y (<i>c - c'</i>)	0.01	—	—	—	[-0.02, 0.05]
<i>Model 3</i>					
X → M (<i>a</i>)	0.07	0.02	3.35	0.0001	[0.03, 0.11]
M → Y (<i>b</i>)	1.67	0.31	5.27	0.0001	[1.04, 2.29]
X → Y (<i>c'</i>)	0.07	0.10	0.76	0.4425	[-0.12, 0.27]
X → M → Y (<i>c - c'</i>)	0.11	—	—	—	[0.03, 0.23]

Note(s): 95% CI=Confidence interval
Source(s): Author's own work

Table 4.
Mediation results for
effects of sense of
belonging and
perceived social
support on academic
persistence



Note(s): Solid lines represent paths with significant effects. The dashed line represents a path with a non-significant effect. * $p < 0.05$

Source(s): Author's own work

Figure 2.
Hypothesised
relationship of sense of
belonging as a
mediator between
perceptions of social
support and academic
persistence

Discussion

The results revealed that perceived family support, perceived friendship support and perceived support from others could not predict academic persistence. The results partly corroborate with the results from previous studies. For example, [Strom and Savage \(2014\)](#) and [Permatasari *et al.* \(2021\)](#) found that perceived family support, perceived friendship support and perceived support from others predicted academic persistence. On the contrary, [Mostert and Pienaar \(2020\)](#), [Shorty \(2018\)](#) and [Strom and Savage \(2014\)](#) demonstrated that perceived family support, perceived friendship support and perceived support from others could not predict academic persistence, thus concurring with the findings of this study.

Studies have revealed that distance learning students tend to rely more on family as a source of support since learning takes place mostly in the home environment ([Permatasari *et al.*, 2021](#); [Hadi, 2022](#)). According to [Dolan *et al.* \(2006\)](#), family cultivates resilience in students and plays an essential role in motivating them throughout their educational journeys, while support from friends and other members of the institution is considered to be less important because of limited interaction and less contact ([Dzakiria, 2005](#)). This may explain why perceived friendship support and support from others could not predict academic persistence in the current study. Similarly, perceived support from family could not predict academic persistence. It was anticipated that perceived family support would significantly predict academic persistence because distance learning students mostly study from home and therefore are likely to benefit from the support and encouragement from family members. It is possible that the participants in this study may not have benefited from family support since they are FGS. Literature has affirmed that FGS are disadvantaged in relation to family support during university studies as they come from families who may not comprehend the value and dynamics of tertiary education in comparison to families that have members who have engaged in tertiary education ([Jenkins *et al.*, 2013](#); [Brubacher and Silinda, 2021](#)).

Therefore, the results suggest that the distance learning students who participated in this study were disadvantaged in relation to receiving support from friends and significant others. This may have been because they were FGS and had limited social capital required to navigate the university. Further, the results suggest that lack of support may be exacerbated if distance learning students come from families whose members have not experienced tertiary education. [Tinto \(1975\)](#) contended that family attributes contribute to academic persistence and that persisting students tend to come from families with educated parents, thus emphasising the supportive role that educated parents may play in their children's education.

The results further revealed that a sense of belonging significantly predicted academic persistence. These findings concur with previous findings, which found that a sense of belonging predicted academic persistence ([Strayhorn, 2012, 2020](#)). The results suggest that students may have felt a greater sense of belonging and connection towards the institution, which could have led them to persist academically. [Strayhorn \(2012\)](#) posited that a sense of belonging matters the most to students who are unfamiliar with the institutional environment and those who hold marginalised identities, such as FGS. Thus, while the students in this study may have made strides to primarily satisfy their sense of belonging as a key determinant of their academic success, their needs for support may have been secondary. [Strayhorn \(2012\)](#) postulated that belongingness is the primary determinant of retention, and without it, students may not realise the need to remain in an environment with which they identify less and therefore are not integrated into.

[Sweet \(1986\)](#) tested Tinto's model of institutional departure at a distance learning institution. The results thereof revealed that student-faculty interactions (using telephone) increased institutional integration and persistence among students. This implies that distance learning institutions could consider strengthening student-faculty interactions by

utilising telephones and other tools of transacting with students to enhance student institutional integration and foster belongingness and, ultimately, academic persistence. Distance e-learning institutions could vigorously utilise e-learning technologies to increase student–faculty interaction as a strategy for increasing support for students and bolstering belonging in the institutional community.

Mediation was tested across three levels of perceived social support. The results revealed that a sense of belonging significantly mediated the relationship between perceived family support and academic persistence. The results further showed that a sense of belonging significantly mediated the relationship between perceived support from others and academic persistence. However, the sense of belonging could not significantly mediate the relationship between perceived friendship support and academic persistence. Therefore, the results suggest that a sense of belonging plays a central role in engendering academic persistence when support from family and significant others is considered. This implies that students who had higher perceptions of support from family and significant others had a higher sense of belonging towards their institution. The sense of belonging, in turn, contributed to their academic persistence.

The results suggest that the support students received from family and significant others (e.g. a partner or mentor), albeit minimal to directly influence persistence, may have been more important than the support received from friends. This assertion is supported by [Pinkerton and Dolan \(2007\)](#), who revealed that students are prone to seeking support from immediate family and significant others more than their friends. In addition, [Motsabi et al. \(2020\)](#) and [Roksa and Kinsley \(2019\)](#) found that the support received from family and significant others provides emotional support and psychological well-being and is important for facilitating academic persistence. Most participants in this study were mature students (average age = 28) and of working age. Research has demonstrated that mature distance learning students interact less with friends or with each other and are likely to seek support from family and significant others, such as colleagues in the workplace ([Bean and Metzner, 1985](#); [Kahu et al., 2013](#); [Lee et al., 2013](#)). Accordingly, the interpretation in this study is that due to the nature of distance e-learning, which may afford proximity to family and significant others, students were more likely to rely on family and significant others for support than on friends, which helped them cultivate belongingness towards their institution.

[Christie et al. \(2005\)](#) found that family and work commitments, coupled with the alienating culture of distance learning institutions, could play a role in minimising interaction between the student and university and result in less belonging towards the institution. Therefore, distance learning institutions could consider various networking opportunities, such as compulsory group assignments, as mechanisms for increasing student-to-student interaction. Increased interaction between students could quell feelings of isolation and increase perceptions of support and belongingness towards the institutional community. [Tinto \(1987\)](#) postulated that feelings of belongingness can impact students' ability to persist to graduation.

Implications for further research

This study demonstrates the importance of supportive relationships for FGS in distance learning institutions. Therefore, it is recommended that distance learning institutions should initiate support platforms and specialised counselling centres for FGS. On being inducted into the institution, the counselling centres should train FGS in networking skills so that they will be able to forge relationships with significant others in the institution, such as faculty members, and successfully transition into the institution. Furthermore, the counselling centres should focus on equipping students with skills for utilising supportive relationships to their advantage and effectively maintaining these relationships with various sources, including family, friends and significant others. FGS should also be allocated academic

mentors to support them in their academic journeys (Reid and Moore, 2008). Mentorship plays a crucial role in students' academic journeys because it is related to an increased sense of belonging and contributes to improved graduation rates (Graham *et al.*, 2022; McDonald *et al.*, 2022). Finally, distance learning institutions should also encourage FGS to join student support groups and organisations for disadvantaged students. This may help students to identify with the institutional community and increase their participation in their studies.

Limitations

The study used a cross-sectional survey design, which may have limited the researcher from observing longitudinally whether students were able to persist or drop out before completion. It is recommended that future research should replicate the study but employ a longitudinal design. Furthermore, the study was conducted at a single distance learning institution. Future research should consider replicating the study by using a sample of students from multiple universities to increase the generalisability and applicability of the results. The participants were sampled conveniently, which may have limited sampling representativity. Accordingly, it is recommended that future studies should consider other sampling strategies to enhance the robustness of the research findings.

Conclusion

To address issues of academic persistence among FGS, it is essential that distance learning institutions develop and implement policies of student support and inclusivity to promote belongingness and enhance perceptions of social support in the learning community. FGS' support and inclusivity could be fostered in an academic programme or course level through mandatory student orientation sessions, which could help them gain familiarity with the institutional context, make them feel supported and enhance their feelings of belonging towards the learning community. Distance learning institutions should also invest in transitional programmes to assist new FGS to become attuned to the institution by focusing on essential transitional aspects such as accessing institutional academic support, counselling centres, academic coaching and mentorship services.

This study highlighted the important role that social support and belonging can play in contributing towards academic persistence. Therefore, the findings of the study encourage distance learning institutions to make policy provisions to increase the support accorded to FGS through special institutional programmes. Furthermore, the study encourages distance learning institutions to invest in student support initiatives or mechanisms that will reduce the transactional distance between students and the university and foster increased participation between students. Moreover, the study serves as a point of reference for distance learning institutions to invest in a curriculum that promotes student inclusivity and belongingness, cognisant of students' family backgrounds and academic needs.

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