

Servant leadership traits among university lecturers as an antecedent of students' belonging: The mediating role of trust and social attachment

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Dates:

Received: 05 Nov. 2025

Accepted: 08 Apr. 2026

Published: 01 June 2026

How to cite this article:

Rahal, F.E.Z.M. (2026). Servant leadership traits among university lecturers as an antecedent of students' belonging: The mediating role of trust and social attachment. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 24(0), a3440. <https://doi.org/10.4102/sajhrm.v24i0.3440>

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Orientation: At the higher education level, students face numerous social, psychological and academic responsibilities that can detach them from communities and bond them to their learning environment. Understanding the effect of university instructors' leadership behaviours on students' sense of belonging is essential.

Research purpose: This research examined the servant leadership (SL) traits of university lecturers and their influence on students' sense of belonging. It also examined how trust and social attachment mediate this relationship.

Motivation for the study: Many universities face difficulties fostering inclusion and a sense of belonging among students, especially in diverse environments. Exploring SL as a supportive and ethical leadership style may provide insights into how educators improve student engagement and well-being.

Research approach/design and method: A total of 158 data points were collected from two universities in Northern Cyprus via a survey and analysed using the partial least squares structural equation modelling technique.

Main findings: The results support the notion that university lecturers can be a major source of enhancing the faculty environment which, in turn, are pillars for building trust and establishing a sense of attachment between students and their lecturers.

Practical/managerial implications: Developing lecturers with SL characteristics leads to a greater sense of belonging among students. Especially for universities with diverse student bodies, it can enhance students' well-being, satisfaction and academic performance. The findings provide pathways for future investigations along with practical implications for universities.

Contribution/value-add: This study demonstrates that SL dimensions are key drivers of students' sense of belonging, enhancing their perceptions, attitudes and emotions in the academic field.

Keywords: servant leadership; student belonging; higher education; trust; social attachment; small island.

Introduction

There has been growing interest among scholars regarding students' sense of belonging and engagement at the university level, along with the rise of inclusivity and psychological support environments for learning (Allen et al., 2024; Masika & Jones, 2016). Through a sense of belonging, students can exhibit academic persistence, emotional adjustment and improved overall well-being (Mtshweni, 2024; Samadieh & Rezaei, 2024). This suggests that leadership approach in academia (i.e. ethical and supportive style – servant leadership [SL]) can be considered antecedents of forming such positive experiences for students (Bier, 2021; Turner, 2022). Servant leadership has been described as a style in which care, empowerment and moral and ethical responsibilities are emphasised (Greenleaf, 1998; Van Dierendonck, 2011). This is in line with the goals and objectives of pedagogy as it fosters trust and meaningful interactions and relationships between students and their lecturers. This study focuses on the impact of lecturers' SL traits on students' sense of belonging in higher education settings and on the indirect mechanisms of trust and social attachment, as the literature lacks sufficient empirical evidence in this regard, particularly for developing states, such as Northern Cyprus. Servant leadership is operationalised in this study as a people-centric philosophy that mainly focuses on serving others (Greenleaf, 1998). In this context, SL consists of five distinctive characteristics, namely altruistic calling (AC), wisdom

(WD), persuasive mapping (PM), emotional leadership (EL) and organisational stewardship (OS), which can directly impact positive outcomes among university students (Farmanesh & Zargar, 2021; Turner, 2022; Van Dierendonck, 2011). This research argues that when lecturers possess such traits, they are morally committed to inspire and build trust with their students, leading to a higher level of belongingness, which can ultimately enhance performance and well-being. In the same vein, student belonging refers to the extent to which students feel accepted, included and involved and valued at their university (Allen et al., 2024). Having a sense of belonging is a crucial psychological element for students in higher education settings as it can shape and influence their engagement, motivation level and persistence in academic performance (Allen et al., 2024; Destin & Williams, 2020; Masika & Jones, 2016; Pedler et al., 2022). The sense of belonging comprises social and academic aspects, which render this variable a crucial element in the diverse educational context of Small Island Developing State (SIDS, i.e. Northern Cyprus) (Henderson, 2022; Rawlinson, 2024).

In addition to what was noted, the current study investigates the indirect effects of trust (in the student-lecturer relationship) and social attachment on the link between lecturers' SL and students' sense of belonging. Trust can be described as a belief towards the teacher that contains reliability, care and integrity (Farmanesh & Zargar, 2021; Zargar et al., 2019). The literature suggests that SL traits can establish trust, which, in turn, aligns their efforts to achieve positive outcomes for their followers (i.e. students in the current case) (Aboramadan et al., 2021; AlShammari et al., 2019; Dahleez & Aboramadan, 2022). As a highly important psychological element encompassing various aspects (e.g. affective, cognitive, integrative and competence related), trust can facilitate the endeavours of lecturers towards serving and improving students' learning process. Students who trust their lecturers and develop emotional, psychological and social security are more likely to connect with their community and thus have a higher sense of belonging. This is further complemented by social attachment, another indirect influential factor that addresses emotional and relational bonds between students and others (e.g. peers, lecturers and administrators). It also pertains to their willingness to engage and be involved in their faculty (Bowlby, 1982; Samadieh & Rezaei, 2024). This is rooted in Attachment Theory, which describes the need for affirmation and connection in social contexts (Wang et al., 2024). There have been studies linking the appropriateness and vitality of ethical and supportive leadership styles (e.g. SL) to students' sense of belonging and resilience (e.g. Kleiber et al., 2023; Koçak, 2021; Riley, 2022). This is while the role of trust in this context remains underexplored in educational settings (Farmanesh & Zargar, 2021; Farmanesh et al., 2020; Zargar et al., 2019). Most studies focus on Western countries with abundant resources, leaving a gap in research streams addressing SIDS, such as Northern Cyprus (Dul et al., 2024; Turner, 2022). The SIDS context entails unique socio-cultural dynamics and institutional

limitations that can differ from those in other regions (Gooch et al., 2021). The current research anchors its arguments in three theoretical frameworks, namely Social Exchange Theory (SET) (Blau, 1964), Attachment Theory (Bowlby, 1982) and Chaos Theory (Rennaker, 2006). The intersection of psychological constructs (i.e. social attachment and trust) with SL traits within these theories remains underexplored in the literature, limiting theoretical generalisation and practical policymaking in the higher education context, thereby driving the current research. By addressing the noted gaps, this study aims to contribute to the current understanding of lecturers' leadership approaches in relation to university students' psychological outcomes (i.e. belonging). Arguably, students with a stronger sense of belonging may exhibit higher performance and mental well-being (Kleiber et al., 2023; Riley, 2022; Turner, 2022). Thus, the research can contribute to the fragmented leadership in education studies and expand the application of SL into the SIDS context while integrating the previously noted theories. This can yield practical, empirical findings that can aid university administrators and lecturers in establishing and developing student-centric environments within the university, with adequate structure and culture. While prior studies have addressed the link between leadership and positive relational and performance outcomes, SL traits among university teachers and their influence on shaping students' sense of belonging have received less attention (particularly through relational mechanisms in higher education settings). This research addresses this gap by assessing belonging not only as a by-product of positive teacher behaviour but also as a socially constructed student outcome that can emerge through trust and social attachment. This offers a mechanism-based extension of SL research within the underexplored context of higher education in Northern Cyprus. This enables the current study to contribute to the extant literature by proposing a directional effect within a context-specific mechanism linking SL traits of university teachers to students' sense of belonging. The interconnections among these variables are further explained in the following sections, which present the theoretical setting, hypotheses, methodology and analytical results. Lastly, the results are concluded, implications highlighted, and limitations and recommendations for future studies are noted.

Literature review

Theoretical framework

Social Exchange Theory (Blau, 1964) is a commonly used and reliable premise that addresses interpersonal links that are developed between students and lecturers. These bonds, by nature, trigger reciprocity, especially when the lecturers' approach is respectful, trust-inducing and consistently committed to positive exchanges and fairness. Social Exchange Theory supports the idea that lecturers who possess SL characteristics (i.e. serve students' needs, be empathetic and ethical) can urge the students to respond with development of trust, engagement and psychological and emotional investments (Dami et al., 2022; Stewart, 2012;

Zhou et al., 2022). In this research, trust is operationalised as a function that bridges SL traits and students' sense of belonging, as such traits can steer students towards a greater inclination to engage with the academic community and a stronger sense of belonging. This is further complemented by embedding Attachment Theory (Bowlby, 1982), which encompasses the notion that individuals tend to shape an emotional link with significant figures in their lives (e.g. lecturers), which can influence their psychological outcomes, social behaviours and sense of security in a particular group (i.e. classroom). In the context of academia, Attachment Theory explains educators' supportive and ethical conduct and its impact on students' sense of connection, security, exploration, engagement and integration (Hays, 2008; Kutsyuruba & Stroud Stasel, 2022; Riley, 2010; Watson, 2018). Through their emotional prowess, AC and stewardship, lecturers, as servant leaders, foster relationships with their students that promote attachment. Ultimately, such traits can enhance the sense of safety, acceptance and belonging. Lastly, this research embeds the premises of Chaos Theory (Rennaker, 2006) by recognising the unpredictability of interactions among humans (student-lecturer, in this case). Under this lens, adaptive leadership behaviours (i.e. SL) can create order through relational patterns (Farmanesh & Zargar, 2021). In the current context, Chaos Theory is highly relevant as it explains the nonlinear dynamics of students' sense of belonging and development. Through decentralisation, responsiveness, empathy, listening and care and adaptability, servant leaders can foster meaningful interactions and thus develop a sense of belonging among their followers (Atiq et al., 2023; Bier, 2021; Murphy, 2020). This theoretical combination enables the current research to develop its hypotheses, which are further explained in the following passages.

Servant leadership and students' sense of belonging

Servant leadership is a positive, supportive and ethical leadership approach that emphasises meeting others' needs and serving them, rendering it especially relevant to the complex context of university students' sense of belonging (Aboramadan et al., 2021; Greenleaf, 1998; Turner, 2022). The characteristics of servant leaders are categorised as an AC (the desire to serve others, placing students' needs above personal gain through genuine care, mentorship, compassion and ethical conduct) (Turner, 2022). These leaders possess WD (intuitive insight, judgement and capability of making adequate decisions to navigate the needs of students with balance) (Van Dierendonck, 2011) and PM (the prowess of logic, vision and rational persuasiveness instead of authoritative behaviours), which can foster a sense of shared purpose and motivation in students (Shaw, 2017). Servant leaders also demonstrate EL (recognising and supporting the well-being of students to create a safe environment for expression and recovery from challenges) (Riley, 2022). Lastly, servant leaders incorporate OS (the degree to which lecturers are committed to improving their organisation and communities by fostering collaboration and acting as role

models) (Thompson, 2014). These traits can enable the lecturers to exhibit genuine support for their students, which can, in turn, deepen their sense of inclusion, safety and ultimately belonging (Van Dierendonck, 2011). The higher education context is dynamic and complex, requiring students to navigate social and academic obstacles and challenges. Characteristics of servant leaders (e.g. WD and PM) can aid students to better align themselves in academia under the principles of Chaos Theory (Farmanesh & Zargar, 2021), as it explains the influence of leaders in dynamic environments through coherence in their interactions instead of controlling behaviours (Kleiber et al., 2023; Rennaker, 2006). In particular, in Northern Cyprus, where the education sector is vital, and universities host diverse international students (Gökbulut et al., 2019; Küçükakın & Gökmenoğlu, 2023), the presence of SL traits among lecturers may be more evident. When students feel accepted, involved and valued, they can develop a sense of belonging with their university environment (Allen et al., 2024), which is the description used in this research. Belonging for students can be categorised into *academic* and *social* belonging, where the former pertains to perceived fit within the group, affirmation within the setting, being valued by faculty members, participation in classroom discussions and acknowledgement of contributions. This influences their learning outcomes, such as overall academic performance, persistence and motivation (Mtshweni, 2024), and the latter describes the emotional connectedness to other students, campus community and lecturers, which entails inclusion, friendliness and support that can influence their well-being, sense of identity and retention (Samadieh & Rezaei, 2024). Through the lens of Attachment Theory (Bowlby, 1982), psychological attachment can be fostered by SL characteristics, thereby shaping students' sense of belonging in higher education. Studies have reported that compassion and ethical leadership can trigger a sense of identity, connectedness and resilience among subordinates in academic settings (Koçak, 2021; Riley, 2022). Students' learning development and emotional well-being can be supported by the attachment that forms between students and lecturers. Organisational stewardship, as a pillar of SL, can be a tool for lecturers to implement practices wherein students are involved, recognised and valued. This sense of attachment can be strengthened by the traits of servant leaders, which can urge the students to engage in reciprocative behaviours (under the SET model) that can manifest trust, emotional investment and development of a sense of belonging (Masika & Jones, 2016; Sawan, 2020; Thomas, 2012). The current study considers all dimensions of SL, as well as academic and social dimensions of belonging. By leveraging this understanding, the current research proposes the following hypothesis:

H1: Lecturers' servant leadership characteristics positively influence university students' sense of belonging (social and academic) in Northern Cyprus.

Trust as a mediator

Trust can be defined as the degree to which a person can be depended on, relied on and remain true and correct, which

forms the basis of belief in others. Trust is a multifaceted psychological element that is a major determinant of attitudes and behaviours in the context of leader–follower relationships (Farmanesh & Zargar, 2021; Zargar et al., 2019). Referring to the premises of SET (Blau, 1964), interactions among lecturers and their students are relational, which demands mutual trust, respect and engagement to yield positive outcomes. As SL style requires lecturers to act selflessly, build trust, be consistent and coherent and be attentive, students are encouraged to respond with openness and a greater sense of belonging (Zhu et al., 2022). Therefore, the concept of trust can be a bridge for better translating the efforts of servant lecturers to students, leading to positive perceptions that open the path for a sense of belonging, attachment and community (Sun & Leithwood, 2015; Tian et al., 2025; Van Houtte & Van Maele, 2012). In this respect, the emotional environment of classrooms is enhanced to facilitate trust through perception of care, worth and value. Students in higher education face identity, autonomy and social challenges, which further highlight the role of servant lecturers in fostering trust and psychological security that entails social integration as explained under the premises of Attachment Theory (Bowlby, 1982; Shaw, 2017; Turner, 2022). By establishing trust with lecturers, students can internalise the university's commitment and values, fostering a sense of empowerment and affiliation. Thus, trust can act as a mechanism through which cognitive, affective, competence-related and integrity-based aspects are involved. While the affective aspect can develop through emotional bonds with empathetic and caring lecturers, cognitive trust can be a sense of reliability and confidence in the judgement of lecturers and their guidance. Competence relates to the perception of students towards the expertise and effective know-how of lecturers, which can determine academic outcomes (Cohen de Lara et al., 2024; Lewicka, 2022). While this has been noted in the organisational context (Farmanesh & Zargar, 2021), the current study investigates the role of trust in determining student outcomes that can benefit their learning process as well as psychological and social well-being during their university programmes. Lastly, the integrity aspect pertains to the extent to which lecturers exhibit consistency, determination and commitment to their role as ethical leaders (Tian et al., 2025; Zhu et al., 2022). Hence, the characteristics of SL (i.e. AC, WD, PM, EL and OS) are influential in determining trust cultivation in the academic context. Through EL that focuses on students' well-being, affective trust can be fostered; WD and PM, with sound decision-making and adequate communication, can yield cognitive trust and OS and ethical behaviour can contribute to perceptions of integrity. Through this linkage, lecturers can impact students' sense of belonging, thereby enhancing the university's academic community. Accordingly, the following hypothesis has been developed:

H2: Trust, as a psychological element, mediates the relationship between lecturers' servant leadership style and students' sense of belonging in the higher education context.

Social attachment as a mediator

Social attachment can be defined as a sense of connection among individuals, shaped by interactions and relationships

in various communities (Bier, 2021). Referring to the notion of Attachment Theory, it can be stated that university-level students with higher emotional support (i.e. through lecturers' SL traits) will have a higher tendency to develop social bonds in their learning environment, which can entail peers, academic staff, lecturers and the university as a community. Emotional leadership, AC and WD are among the SL characteristics that can create an environment in which students feel socially bonded (Mtshweni, 2024). Authenticity, care and a genuine SL approach are critical elements that can foster social attachment among students, leading to a stronger sense of belonging (Andrade, 2025; Skalicky et al., 2020). The reason for this form of attachment is the influence of lecturers' servant traits that go beyond transactional interactions to a valued and deep connection, facilitating easier connections with others and with the university. This ultimately can improve the overall experiences of higher education students, leading to a better performance and well-being, particularly for those living abroad in a relatively small country (e.g. Northern Cyprus) that can be limited in terms of institutional and economic resources (Hoch & Heinz, 2024; Katircioğlu, 2010; Mertkan, 2020). Servant leaders also possess the ability to assert social cohesion, which is a major predictor of sense of belonging and is linked to the notion of social attachment. As these leaders form deep emotional bonds, they can influence life satisfaction and well-being that are highly relevant to the context of belonging (Andrade, 2025; Samadieh & Rezaei, 2024). Furthermore, the implementation of inclusive practices in the classroom, as well as emphasising social capital, can yield positive emotions, leading to consistent performance in both emotional and academic domains (Pedler et al., 2022; Skalicky et al., 2020). From the perspective of Chaos Theory, servant leaders can identify patterns in their interactions and use them to improve connectedness and positive emotional bonds, such as attachment and individual and collective belonging (Delker et al., 2020; Halse, 2018; Hindley, 2019). Social attachment in the higher education context refers to the emotional and relational links developed between students and their lecturers as important persons, as well as within university communities (e.g. faculty members). Connectedness and belonging can arise from social attachment, especially through SL behaviours. In this sense, AC and EL provide genuine expressions of care for both personal and academic aspects of student's life, which can trigger closeness; WD, PM and OS represent a holistic commitment and sound judgement for the well-being and shared visions in the university environment, which leads to the perception of support and inclusivity, enabling the development of the sense of belonging (Delker et al., 2020; Hindley, 2019). Therefore, students can perceive their faculty members and lecturers not as authority figures but as mentors who are trustworthy and caring. This shapes social attachment and prevents students from isolation, which can improve their academic and social performance. Thus, it can be argued that social attachment can help explain the efforts of servant leaders to deepen student integration in the classroom and university environment while encouraging a strong sense of

belonging. This becomes more vivid in the smaller, contextual setting of Northern Cyprus as an SIDS, where interpersonal and social bonds can be of greater importance and influence (Mertkan, 2020). In light of what was noted, the current research presents the following hypothesis:

H3: Social attachment mediates the relationship between lecturers' servant leadership behaviours and university students' sense of belonging.

Research design

Data collection procedure and approach

The current research was conducted quantitatively using a deductive design, in which theoretical settings available in the literature were tested in a specific context (i.e. higher education in Northern Cyprus) (Casula et al., 2021). In doing so, the data were gathered from two universities in Northern Cyprus (Kyrenia), where the researchers established the existence of SL-type behaviours among lecturers. The information confirming the presence of SL traits was acquired from faculty deans, who suggested lecturers exhibiting such behaviours. Permission to collect the data was also obtained from the deans and other relevant managerial positions. At this stage, students who had classes with lecturers who met the selection criteria were engaged in person (within the university environment and with the collaboration of lecturers), and those who were willing to participate and available were provided with the questionnaire. Using SmartPLS GmbH, Monheim am Rhein (Germany) (Statistical power = 90%, effect size = 0.15, and $\alpha = 0.05$) and recommendations for using SmartPLS (version 4) (Hair et al., 2019), the required sample size was calculated to be 158. A total of 165 students were given the survey, of whom seven were incomplete and thus excluded from the final analyses. Each participant was provided with a written consent form; informed of the purposes of the research; given the opportunity to withdraw at any stage; anonymity and confidentiality and asked not to provide any identifiers to comply with ethical means of conduct and reduce common method bias (Podsakoff et al., 2024). A pilot test with 15 participants from a third university was conducted, in which no dimensions were reduced, and the understandability and readability of items were confirmed. This segment of the data was excluded from the final analysis.

Respondents' demographic

Of the 158 participants, 84 were male and 74 were female, which is not significantly different in terms of sample size. Age groups of participants were distributed as follows: Below 20 years old ($n = 21$), 20–25 years old ($n = 97$), 26–30 years old ($n = 31$) and above 30 years old ($n = 9$), and the majority were in the undergraduate level ($n = 124$), followed by master's students ($n = 22$) and PhD students ($n = 12$).

Measurements

The survey was designed based on the available, reliable, and commonly used measurement scales in the extant

literature. All items are designed using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). To assess SL style, the SL Survey (Barbuto & Wheeler, 2006) was used, with three questions for each of the dimensions (see section '*Servant leadership and students' sense of belonging*'). To measure students' sense of belonging (social and academic aspects), questions were derived from the work of Sebastian and Slaten (2018), with three questions pertaining to each dimension. Social attachment was measured using five questions derived from the work of Ravitz et al. (2010). Lastly, a combination of the works of Van Maele and Van Houtte (2011) and Cummings and Bromiley (1996) was used to measure trust as a unidimensional psychological element (Farmanesh & Zargar, 2021). These measurement scales are commonly used across various domains in the literature. However, the established scales do not warrant quality in new contextual settings. Hence, the measurement model was assessed for construct validity and reliability through various means (i.e. indicator reliability, internal consistency, convergent validity and discriminant validity), shown in Table 1 and Table 2, which demonstrate acceptable values and support the adequacy and appropriateness of the measurement model for subsequent structural analyses. Notably, age, gender and education level were included in the survey to obtain demographic data and to introduce control variables into the analytical model. These variables can influence the perception of leadership, trust and belonging (Gbobaniyi et al., 2023; Liu et al., 2025; Vermunt & Donche, 2017). Thus, their interaction with the analytical model is isolated (Table 4). The hypotheses and proposed model of the study are illustrated in Figure 1.

Research model

Based on the hypotheses and the theoretical framework of the study, Figure 1 illustrates the proposed causal model, which is analysed in the following sections.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Islamic University of Lebanon Ethics Committee (No. IUL-EC-25-A002).

Results and discussion

As noted above, the research model in Figure 1 is assessed in two stages (measurement model assessment and structural model assessment) through partial least squares structural equation modelling. This analytical technique was deployed using Smart-PLS software version 4 (Monheim am Rhein, Germany), as it enables the researchers to assess complex models that include latent variables, normality of distribution is not of concern, and the sample size is relatively small (Hair et al., 2017, 2019; Henseler et al., 2009). It can be observed in Table 1 that the measurement model is statistically satisfactory as the loadings, composite reliability and Rho A are between 0.7 and 0.9, remaining in the required threshold (Diamantopoulos et al., 2012; Dijkstra & Henseler, 2015; Hair et al., 2019; Jöreskog, 1971).

TABLE 1: Measurement model assessment.

Factors	Dimensions	Indicators	Outer loadings	Alpha	Rho A	CR	AVE
Trust		TR1	0.744	0.813	0.828	0.798	0.722
		TR2	0.736	-	-	-	-
		TR3	0.751	-	-	-	-
		TR4	0.767	-	-	-	-
		TR5	0.749	-	-	-	-
Social attachment		SA1	0.811	0.804	0.817	0.814	0.717
		SA2	0.803	-	-	-	-
		SA3	0.807	-	-	-	-
		SA4	0.789	-	-	-	-
		SA5	0.801	-	-	-	-
Belonging	Academic	BA1	0.821	0.816	0.844	0.821	0.739
		BA2	0.793	-	-	-	-
		BA3	0.801	-	-	-	-
	Social	BS1	0.787	0.817	0.829	0.784	0.688
		BS2	0.791	-	-	-	-
		BS3	0.790	-	-	-	-
Servant leadership	Emotional leadership	EL1	0.801	0.811	0.817	0.789	0.671
		EL2	0.791	-	-	-	-
		EL3	0.807	-	-	-	-
	Persuasive mapping	PM1	0.788	0.808	0.804	0.776	0.704
		PM2	0.786	-	-	-	-
		PM3	0.791	-	-	-	-
	Organisational stewardship	OS1	0.812	0.799	0.748	0.764	0.691
		OS2	0.811	-	-	-	-
		OS3	0.774	-	-	-	-
	Altruistic calling	AC1	0.770	0.789	0.743	0.771	0.689
		AC2	0.773	-	-	-	-
		AC3	0.781	-	-	-	-
	Wisdom	WD1	0.774	0.784	0.729	0.763	0.677
		WD2	0.769	-	-	-	-
		WD3	0.781	-	-	-	-

EL, emotional leadership; PM, persuasive mapping; OS, organisational stewardship; AC, altruistic calling; WD, wisdom; TR, trust; SA, social attachment; BS, belonging-social; BA, belonging-academic; AVE, average variance extracted; CR, composite reliability.

TABLE 2: Heterotrait-monotrait ratio.

Parameters	EL	PM	OS	AC	WD	TR	SA	BS
EL	-	-	-	-	-	-	-	-
PM	0.711	-	-	-	-	-	-	-
OS	0.552	0.642	-	-	-	-	-	-
AC	0.712	0.633	0.715	-	-	-	-	-
WD	0.612	0.649	0.641	0.672	-	-	-	-
TR	0.638	0.641	0.655	0.661	0.715	-	-	-
SA	0.713	0.643	0.619	0.618	0.622	0.721	-	-
BS	0.647	0.611	0.589	0.623	0.618	0.633	0.688	-
BA	0.579	0.546	0.610	0.597	0.659	0.671	0.630	0.712

EL, emotional leadership; PM, persuasive mapping; OS, organisational stewardship; AC, altruistic calling; WD, wisdom; TR, trust; SA, social attachment; BS, belonging-social; BA, belonging-academic.

Note: Observations from Table 1 and Table 2 suggest that the measurements and parameters included in the model are reliable and valid for further analyses. It is also important to note that both SL and belonging are operationalised as reflective variables and are using variance inflation factor (VIF) to assess multicollinearity. As can be seen in Table 3, the VIF values are well within the acceptable threshold (below 3), implying no concerns regarding multicollinearity (Henseler et al., 2009).

In addition to these satisfactory values of reliability and validity in Table 1, Table 2 shows the calculated values for Heterotrait-Monotrait that are also within the necessary thresholds (below 0.85) (Henseler et al., 2017), stating a good level of convergent validity (also shown by Average Variance Extracted presented in Table 1) (Hair et al., 2017).

While the Table 2 and Table 3 show that the measurement model is statistically robust, the structural model is assessed in Table 4, which presents the results of hypothesis testing. In this sense, it can be observed that the model is a good fit as

the values for normal fit index and standardised root mean square residual are within acceptable thresholds, at 0.919 and 0.020, respectively. This is further supported by the predictive power (*R*-square) and predictive relevance (*Q*-square) for the three constructs, with arrows towards them (Figure 1) (Hair et al., 2019). Similarly, the root mean squared error and mean absolute error are within the acceptable thresholds for measuring the average deviation between predicted and actual values, reflecting the model's prediction accuracy (Purwanto & Sudargini, 2021). The root mean square error of approximation is also below 0.05, indicating an appropriate global model fit.

The results in Table 4 show that study's hypotheses are supported. In this respect, the first hypothesis ($\beta = 0.331$, $t = 4.220$) supports the notion that when lecturers employ SL traits, students at the university level are more likely to develop a sense of belonging. The strength of this coefficient is not chance driven and is in consensus with the existing body of literature (e.g. Allen et al., 2024; Mtshweni, 2024; Samadieh & Rezaei, 2024). Instructors can engage in stewardship and role model behaviour to cultivate humility and identity. Within a small island context, institutions are limited by economic, structural and resources, which negatively affect the dynamics of engagement and sustained performance (Gökbulut et al., 2019; Küçükakın & Gökmenoğlu, 2023). This is evident in the case of higher education in Northern Cyprus, as reflected in the current results. The results are theoretically consistent as SET mechanisms address respect, reliability and the promotion of stewardship behaviour among servant leaders, thereby establishing a stronger sense of attachment. Given the value placed on group work in universities, this attachment can be a positive tool to enhance the learning environment despite the previously noted constraints. The effect value implies an incremental positive outcome when lecturers integrate servant behaviour to yield impactful belonging among students. Arguably, well-being, motivation and academic performance persistence can be ultimate outcomes of such strategic initiatives.

Moreover, the mediating role of trust was found to be statistically significant ($\beta = 0.327$, $t = 2.963$), which implies that not only servant lecturers can build trust by effectively using the characteristics of this leadership style, but they can also better translate their endeavours to students who develop trust. This can further benefit the students by improving their sense of belonging. As SL characteristics operate through students' judgements and their trust,

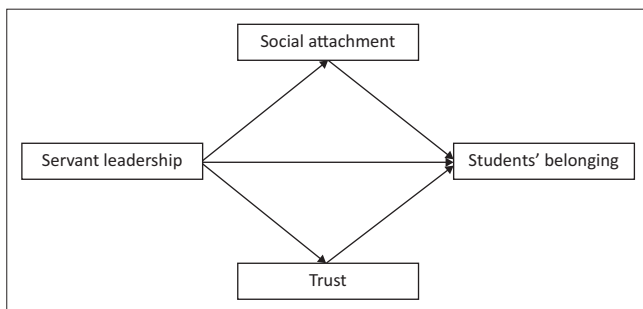


FIGURE 1: Research model.

TABLE 3: Reflective–formative constructs.

Construct	Items	Convergent validity	Weights	VIF	t-statistics
Servant leadership	Wisdom	-	0.360	1.910	3.055
	Emotional leadership	-	0.354	1.752	3.012
	Persuasive mapping	0.715	0.337	1.766	3.091
	Altruistic calling	-	0.339	1.772	3.019
	Organisational stewardship	-	0.344	1.733	3.071
Belonging	Academic	0.713	0.338	1.770	3.113
	Social	-	0.349	1.747	3.218

VIF, variance inflation factor.

integrity, competence and sense of safety, they foster acceptance, which manifests as belonging. This dynamic is a relational exchange that, through trust, translates into engagement and a sense of identity and belonging (Andrade, 2025; Tian et al., 2025; Turner, 2022). When resources are constrained, uncertainty can lead to stress and vigilance among students. This notion further highlights the importance of trust as a psychological function that can foster legitimacy, support and a sense of community for students. This shows the mediating role of trust in the relationship between SL and students' sense of belonging. Practices that encompass transparency, feedback and fair treatment can establish trust, which can translate lecturers' efforts into meaningful results through proximal and relational pathways, reducing pressure.

Similarly, the mediating mechanism of social attachment was shown in Table 4 ($\beta = 0.327$, $t = 2.963$), supporting the third hypothesis of the research. While the findings show consensus with the scholarly works in literature (e.g. Andrade, 2025; Cohen de Lara et al., 2024; Tian et al., 2025; Turner, 2022), this research contributes to the stream of studies addressing SL and its application in higher education setting. In this context, it can be stated that these mediating variables (trust and social attachment) can be pivotal in enabling lecturers' SL to yield positive outcomes (i.e. belonging), which can ultimately contribute to the well-being and academic performance of university students. This renders such lecturers as important influential figures for students, who can motivate and engage them in the university environment while serving as role models for their learning process. The path is supported by the fact that SL boosts

TABLE 4: Structural model assessment.

Effects	Relations	β	t-statistics	f^2	Decision
Direct					
H1	SL $\rightarrow$ SB	0.331	4.220**	0.105	Supported
Mediation					
H2	SL $\rightarrow$ TR $\rightarrow$ SB	0.327	2.963*	0.113	Supported
H3	SL $\rightarrow$ SA $\rightarrow$ SB	0.322	2.872*	0.117	Supported
Control variables					
-	Gender $\rightarrow$ SB	0.114	2.112*	-	-
-	Age $\rightarrow$ SB	0.103	2.121*	-	-
-	Education $\rightarrow$ SB	0.121	2.119*	-	-

Note: $R^2_{TR} = 0.35$ / $Q^2_{TR} = 0.14$ / $RMSE = 0.661$ / $MAE = 0.511$; $R^2_{SA} = 0.37$ / $Q^2_{SA} = 0.18$ / $RMSE = 0.665$ / $MAE = 0.521$; $R^2_{SB} = 0.49$ / $Q^2_{SB} = 0.35$ / $RMSE = 0.662$ / $MAE = 0.543$; SRMR: 0.020; NFI: 0.919; RMSEA = 0.046.

SL, servant leadership; TR, trust in leader; SA, social attachment; SB, students' belonging; MAE, mean absolute error; RMSE, root mean squared error; SRMR, standardised root mean square residual; NFI, normal fit index; RMSEA, root mean square error of approximation.

*, $p < 0.05$; **, $p < 0.01$.

affective bonds, which encourage closeness to others (e.g. classmates, lecturers and the academic environment) (Pedler et al., 2022; Samadieh & Rezaei, 2024). An inclusive, safe and open learning environment fosters mutual recognition and shared values that promote a sense of belonging. Leadership positions enable lecturers to improve classroom quality, regardless of infrastructural limitations, as it provides extracurricular pathways for students. This result shows the functional role of social attachment, including the downstream effects of SL, in the university context. The current research provides empirical evidence affirming the delicate balance that SL traits can maintain in the higher education setting by triggering a sense of belonging among students. By leveraging trust and social attachment as bridging elements, lecturers who employ an SL style can use psychological and relational dynamics to deliver their efforts to students in meaningful and valued ways, thereby guiding students during their learning programmes. The current results clearly show that students' sense of belonging can be strongly influenced by appropriate approaches from lecturers both inside and outside the classroom, strengthening the bond between students and their academic community. The dimensions of SL are highly relevant and applicable in the academic context, especially for improving students' perceptions, attitudes and emotions, further highlighting the contributions of this study. Furthermore, the results suggest a novel regional insight for Northern Cyprus as a SIDS, where academic infrastructure and social dynamics differ from organisational settings. This implies that SL can be responsive in the smaller cultural settings with high demands for success and achievement. Thus, this research addresses the scarcity of empirical findings on smaller economic states and their academic sectors.

The current findings propose a servant lecturer development framework for universities to improve teaching practices. This framework suggests an effective approach to developing servant teachers, which initiates with cultivating personal orientations (e.g. humility, stewardship, empathy, ethical conduct and a focus on students). These can translate into tangible relational practices that entail fairness of treatment, listening and accessible communication, constructive feedback and provision of support and a positive classroom for active engagement. Such practices are likely to establish trust in the lecturer and strengthen students' social attachment to the academic and/or university environment, which in turn opens the pathway for an improved sense of belonging. At the university level, such frameworks imply a critical need to develop servant teachers through training, mentoring and teaching exercises that incorporate relational and developmental aspects along with conventional teaching outcomes.

Conclusion

The findings of the current study can be summarised as a context-specific understanding of the mechanisms through which SL characteristics can foster a sense of belonging

among university students. As servant leaders can evoke attachment, motivation, feelings of inclusion, a sense of being valued and trustworthiness, they possess the necessary tools to enhance positive emotions among their followers. In the context of academia, lecturers who deliberately engage in SL behaviours can tap into the chaotic nature of their interactions with students, establish trust, respect and genuine care to create bonds and attachments and expect their relational interactions to be responded to by students, manifesting belonging, engagement and better performance and well-being. The multifaceted leadership style can link socio-emotional aspects to practical outcomes that benefit students. In diverse educational settings with international students, such traits can turn lecturers into role models who have a significant influence students' satisfaction, motivation and academic prowess. This can have a lasting effect on students' well-being throughout their higher education. This study is grounded in a post-positivist philosophy and a theory-testing epistemology in an empirical manner, which assumes that the link among SL characteristics, trust, social attachment and belonging can be studied through tangible indicators and statistical modelling. Notably, this approach also recognises that the findings are context specific and remain open to refinement in future studies. The key takeaways for readers are that SL traits among university lecturers are beyond desirable qualities as they function as solid relational resources, which can aid students in feeling valued, connected and included in the academic setting. The results suggest that servant behaviours exhibited by lecturers can foster belonging, both directly and indirectly, by fostering trust and social attachment. In higher education settings, this becomes more important, as belonging is cultivated through lecturers' behaviours rather than merely formalised support structures. The study proposes the servant lecturer development framework at the university level, which can improve the sense of belonging by developing servant values among lecturers, yielding relational and mentoring benefits and an improved academic environment for students. The study contributes to the literature by demonstrating that SL in higher education is not merely linked to positive student perception but is specifically linked to their sense of belonging through relational pathways of trust and social attachment.

Theoretical implications

The current research employed the premises of SET (Blau, 1964), Attachment Theory (Bowlby, 1982) and Chaos Theory (Rennaker, 2006). In doing so, this study advances the discourse by combining these theories to validate SL dimensions and its influence on trust, social attachment and belonging among university students. Through this embeddedness, the mechanisms with which leadership can drive progress and improvements in academic environments are highlighted. Social Exchange Theory can explain how such leadership traits can provoke students to reciprocate by engaging in classes and establishing social and emotional bonds within the academic environment of their university. Reciprocity can be amplified by establishing trust and sense

of attachment, which servant leaders can achieve by serving the needs of students, supporting them personally and professionally and providing sound advice. The current research also contributes to the theoretical understanding of student engagement and belonging by incorporating socio-emotional aspect in this context, addressing a gap in the existing literature on SL. Chaos and Attachment Theories in this context show that unique attributes of SL traits among lecturers can yield psychological and institutional outcomes that are highly important for the educational system, particularly for small developing states such as Northern Cyprus. Navigating the chaotic nature of academia can be facilitated by SL traits, leading to an enhanced pathway for students to develop positive emotions towards their lecturers, the university and ultimately their lives. The combined premises of SET, Chaos and Attachment Theories provide a perspective through which lecturers in universities of Northern Cyprus (and other SIDS) can create an academic environment that enables students to thrive by incorporating SL traits and becoming *servant* lecturers. Arguably, lecturers are well suited to be influential role models who motivate, include, tend to and care for students beyond the traditional confines of classroom management. This supports the applicability of Chaos Theory, through which lecturers can align SL traits with their students to establish and develop trust and attachment. This bridges the premises of Attachment Theory, where lecturers can further facilitate positive emotions by appropriately guiding students and provision of support. Ultimately, the SET framework explains the necessity of responding to this supportive and caring behaviour by fostering engagement, involvement and a sense of belonging.

Practical implications

Following the theoretical implications noted, the current study provides several paths for university managers (e.g. deans) to implement in a faculty or university wide. Student empowerment programmes can be initiated through lecturers and administrative staff in faculties where motivational, aspirational and trendy topics are discussed and presented to students to develop their sense of belonging. Such programmes can be established by the university's human resource management department under an adequate framework. Similarly, counselling programmes and initiatives can be introduced in the faculties to provide much-needed mental support to students, particularly for international students who are far from their home countries. Having this session available to students at no or low cost can significantly strengthen their attachment to the university and positive emotions towards it, thereby improving their quality of life and well-being. In addition, healthcare centres can be contracted or established (depending on the budget) to provide students with secure plans that can further foster their sense of belonging and trigger their reciprocity. Furthermore, social and communication skills, as well as technology or software workshops, can train students in ways, enabling them to adjust their learning processes better. In a similar vein,

coping mechanisms, burnout, stress and anxiety and psychological workshops can commence with lecturers to provide students with information and knowledge to better navigate their lives at this crucial stage. Cultural, entertainment, festival, and other social community-building initiatives can also foster a deeper sense of belonging as university members, enabling students to form various social groups, particularly helping the international community to find support and a sense of identity. Emotional and academic adjustment programmes, such as those noted, can serve as significant foundations for students' academic prowess, aspirations and emotional and social bonds. Hence, the human resource departments of universities can implement practices to develop and/or recruit lecturers with SL traits to enhance students' overall well-being

Limitations and recommendations

Although the current research contributes to both the theoretical and practical domains of SL in academia and to improving students' sense of belonging, various aspects remain unexplored due to limitations hindering the current work. In this respect, the generalisability of results for quantitative studies with small sample sizes and conducted in a cross-sectional manner is limited. Such limitations can be avoided by increasing the sample size and acquiring longitudinal data, which can show variations in students' sense of belonging before and after certain practices are undertaken. Moreover, the current research was limited by the non-availability of abundant literature specifically on SIDS and Northern Cyprus. Future studies can address these contexts to increase the empirical evidence on SL, SET, Chaos, and Attachment Theories within the academic context of small cultures and economies. While two mediators were included in the current model, other variables can be examined in this context (e.g. organisational climate, satisfaction, motivation and psychological safety). In addition, future studies can embed other theories such as Self-Determination Theory, Leader-Member Exchange Theory, and Ability-Motivation-Opportunity Model. Including variables such as cultural dimensions, whether from the lecturers' or students' perspective, can also contribute to the current understanding, as such factors were not focused on in this research. Obtaining qualitative data through interviews can also contribute to the depth of current analyses and results.

Acknowledgements

Competing interests

The author declares that no financial or personal relationships inappropriately influenced the writing of this article.

CRedit authorship contribution

Fatme El Zahraa M. Rahal: Conceptualisation, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Validation,

Visualisation, Writing – original draft, Writing – review & editing. The author confirms that this work is entirely their own, has reviewed the article, approved the final version for submission and publication and takes full responsibility for the integrity of its findings.

Funding information

The author received no financial support for the research, authorship and/or publication of this article.

Data availability

The data that support the findings of this study are available on request from the corresponding author, Fatme El Zahraa M. Rahal. The data are not publicly available due to confidentiality reasons and possible identifiers that can compromise participants' privacy.

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