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The Interplay Between Social Entrepreneurial Knowledge, Prosocial Motivation, Perceived Access to Finance and Social Entrepreneurial Intention

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ABSTRACT



Building on insights from human capital and self-determination theories, this study examines the chain mediating effect of prosocial motivation and perceived access to finance in the linkage between social entrepreneurial knowledge and social entrepreneurial intention. Using survey data from 330 university students from Nigeria, the findings show that social entrepreneurial knowledge is positively linked with social entrepreneurial intention, and that prosocial motivation mediates this relationship. Perceived access to finance also positively intervened in the link between social entrepreneurial knowledge and social entrepreneurial intention. Finally, prosocial motivation and perceived access to finance had a significant serial mediating effect on the influence of social entrepreneurial knowledge on social entrepreneurial intention of university students. The study concludes with academic and practical implications for educators and policymakers in under-researched Sub-Saharan African contexts like Nigeria.

KEYWORDS

Access to finance; Nigeria; prosocial motivation; social entrepreneurial intention; social entrepreneurial knowledge

Introduction

Since the COVID-19 pandemic, there has been an increasing interest in the concept of social entrepreneurship by academics, practitioners, and policymakers as one of the main platforms for socio-economic recovery (Choi et al. 2024; Weaver 2023). Additionally, due to the inability of public institutions to tackle wicked social problems, individuals have begun looking at social entrepreneurship as a potential means of helping to address pressing social needs including taking advantage of opportunities

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in the social environment (McMullen and Bergman 2017; Tiwari, Bhat, and Tikoria 2022). Social entrepreneurship refers to the creation and launch of an entrepreneurial business that is built on a social-purpose business model to meet social needs (Urban and Kujinga 2017). Thus, understanding university students' intentions to engage in social entrepreneurship is an important domain within the social entrepreneurship field (Hossain, Arefin, and Yukongdi 2024; Igwe et al. 2020).

Prior studies have improved current understanding on some antecedents of social entrepreneurial intention such as religiosity, social support, self-efficacy, intrinsic motivation, and emotional intelligence (e.g. Ip 2024a; McIntyre et al. 2023; Tiwari, Bhat, and Tikoria 2017), however, there is a scarcity of research regarding how social entrepreneurial knowledge impacts on social entrepreneurial intention (Tan, Le, and Xuan 2020). This is odd because knowledge of social entrepreneurial activities is essential to developing a favourable disposition towards social entrepreneurship (Farani, Karimi, and Motaghd 2017). In this study, social entrepreneurial knowledge refers to the capacity of students to possess the requisite know-how and know-what understanding of social entrepreneurship (cf. Roxas 2014; Roxas, Cayoca-Panizales, and de Jesus 2009). Hence, it equips students with a notional and logical comprehension of the social entrepreneurial process, thereby reducing their fear of the unknown when engaging in social entrepreneurship (Alkhalaf et al. 2022). However, there is a lack of theoretical clarity on the mechanisms through which social entrepreneurial knowledge can affect the social entrepreneurial intention of university students.

Accordingly, this study aims to address this research gap by proposing prosocial motivation and perceived access to finance as potential intervening mechanisms that could explicate how social entrepreneurial knowledge is associated with social entrepreneurial intention. Prosocial motivation captures the inclination of individuals to expend effort in selfless initiatives that would help or benefit others (Grant 2008). Highly motivated prosocial individuals are important to driving social entrepreneurial outcomes that address social and environmental problems (Bacq and Alt 2018; Yu, Ye, and Ma 2021). Conversely, perceived access to finance reflects the ease at which individuals can secure financial resources for their entrepreneurial activities (Nanyondo et al. 2014). This is crucial given that the availability of finance is a key resource for social entrepreneurial programs (Achi 2024; Svtowa et al. 2022). Nonetheless, scholarly inquiry into how these two mechanisms—prosocial motivation and perceived access to finance—can connect the path from social entrepreneurial knowledge to social entrepreneurial intention of university students has been scanty. Additionally, extant research suggests that the association between social entrepreneurial knowledge and social entrepreneurial intention may be non-linear, and rather can be explained through intervening mechanisms (cf. Alkhalaf et al. 2022). Besides, prior studies advocate the need to conduct and extend research relating to social entrepreneurial intention among university students to developing economy contexts beyond Western and Asian settings since context is crucial to the nature of social problems and practice of social entrepreneurship (Duong et al. 2024; Ukil 2022). Therefore, this study proposes a sequential multiple mediation framework where the relationship between social entrepreneurial knowledge and social entrepreneurial intention is serially mediated by prosocial motivation and perceived access to finance.

From the foregoing, this study integrates the human capital and self-determination theories to explain the underlying mechanism by which social entrepreneurial knowledge impacts social entrepreneurial intention. Human capital theory (Becker 1964) highlights the relevance of an individual's knowledge and competencies in performing tasks effectively, while self-determination theory (Deci and Ryan 2000) emphasises the motives behind the behaviour of individuals. Therefore, the integration of these theories leads the study to argue that students' social entrepreneurial knowledge and pro-social motivation are central to enhancing their perception of access to finance as well as forming social entrepreneurial intention. Thus, the study attempts to address the following two research questions:

- i. *How does social entrepreneurial knowledge impact on social entrepreneurial intention?*
- ii. *Does prosocial motivation and perceived access to finance mediate the social entrepreneurial knowledge and social entrepreneurial intention relationship?*

To answer these key questions, the study gathered evidence from 330 university students in Nigeria: an under-researched Sub-Saharan African country. In Nigeria, the social entrepreneurship sector is yet to be fully exploited. Extant research indicates that approximately only 3% of ventures in the country operates as social enterprises (Osabohien et al. 2023). Despite calls for formal recognition of the sector, yet there is inadequate regulatory support for social entrepreneurship by government agencies in Nigeria (Nakpodia et al. 2024). Consequentially, extant research has called for empirical studies that can guide practitioners and policymakers in gaining insights on factors that can spur young Nigerians to become social entrepreneurs in the future (van der Westhuizen and Adelakun 2023). This can support the government in developing interventions that can help address the complex social challenges in the Nigerian environment (Adedeji and Olanipekun 2022).

Taken together, this paper makes three important contributions to the social entrepreneurship literature alongside its practical implications. First, this study adds to current understanding on the relevant antecedents that influences social entrepreneurial intention of university students (Choi et al. 2024; Yu, Ye, and Ma 2021). In so doing, this study empirically outlines social entrepreneurial knowledge as one of the key antecedents for developing the future generation of social entrepreneurs, thereby contributing theoretically and practically to extant literature (Hossain, Arefin, and Yukongdi 2024). Further, the study advances extant research by examining the *black box* between social entrepreneurial knowledge and social entrepreneurial intention; thereby highlighting the mediating roles of prosocial motivation and perceived access to finance. This helps to theoretically clarify the complex and sequential process of how social entrepreneurial intention is formed by university students (Cardella et al. 2024; Igwe et al. 2020). Third, the study adds novel theoretical insights to social entrepreneurship theory (Urban and Kujinga 2017) by integrating insights from the human capital and self-determination theories to explicate the chain mediation links between social entrepreneurial knowledge and social entrepreneurial intention. Lastly, findings from the study would assist educators and policymakers in gaining actionable

insights relating to social entrepreneurial intention which can guide their decision-making regarding policy interventions for enhancing social entrepreneurial initiatives of Nigerian university students.

Theory and hypotheses

Human capital and self-determination theories in social entrepreneurship

This study draws on human capital and self-determination theories to achieve the research purpose. Human capital theory proposes that individuals with a higher level of knowledge and competencies will perform better when they partake in productive work (Becker 1964; Ployhart and Moliterno 2011). In other words, the human capital theory underscores the importance of knowledge for pursuing personal goals (Ployhart and Moliterno 2011) such as engaging in social entrepreneurship (cf. Westhead and Solesvik 2016). Accordingly, the theory conveys that social entrepreneurial knowledge is crucial to forming of social entrepreneurship intent and action. Prior research indicates that such knowledge can be gained through 'schooling, on-the-job training, and other types of experience' (Unger et al. 2011, 343). Drawing from extant literature (Hatak and Zhou 2021; Roxas 2014), social entrepreneurial knowledge as a specific form of the human capital can assist students in navigating the uncertainty associated with engaging in social entrepreneurship. Thus, students who possess more social entrepreneurial knowledge have a better chance to form the intent for social entrepreneurship than those who do not (cf. Alkhalaf et al. 2022).

Moreover, the self-determination theory (Deci and Ryan 1985) seeks to explicate the motives behind human behaviour. The theory foregrounds that an individual's motives for engaging in certain behaviours is stimulated by their autonomy, competence, and relatedness needs (Deci and Ryan 2000). Proponents of the theory argue that individuals are motivated to pursue goals because they want to perceive their actions as being voluntary (autonomy), believe they have to capacity to help others (competence), or develop deep connections with people in their community (relatedness) (Deci and Ryan 2000; Peetz and Milyavskaya 2021). Thus, recent research has used self-determination theory to account for students' formation of social entrepreneurship intention (Yamini, Soloveva, and Peng 2022). For instance, McIntyre et al. (2023) demonstrated that religiosity as an introjected internalised form of self-determination is important to promoting social entrepreneurial intention in university students.

Further, self-determination theory provides rich insights for explaining prosocial motivation, which represents the inclination to engage in the efforts that will benefit others or enhance society's well-being (Grant 2008; Kibler et al. 2019). Accordingly, students with elevated levels of autonomy or believe in other benefitting from their efforts are likely to partake in prosocial behaviours (cf. Dovidio et al. 2017). Additionally, university students considering undertaking social entrepreneurial activities are influenced by their meaningful connections and sense of belonging to social contexts, thereby developing empathy, and working hard towards resolving social problems within their community (Bacq and Alt 2018).

Building on this line of reasoning, this study combines logics from the human capital (i.e. competence perspective) and self-determination (i.e. psychological aspect) theories to develop a conceptual framework that explains how prosocial motivation and perceived access to finance mediate the linkage between social entrepreneurial knowledge and social entrepreneurial intention of university students. The integration of the human capital and self-determination theories in this study bridges the knowledge and psychological aspects of students by highlighting the importance of how students' social entrepreneurial knowledge and competence when linked with their prosocial motives can better shed light on how university students develop the intention for social entrepreneurial initiatives.

Social entrepreneurial intention

Social entrepreneurial intention represents the intention of individuals to build and establish entrepreneurial start-ups that are mainly focused on developing solutions to social and environmental challenges (Tan, Le, and Xuan 2020; Yu, Ye, and Ma 2021). Expressly, social entrepreneurial intention aims at capturing the extent of commitment that shapes the actions of students towards forming, nurturing, and executing their social entrepreneurial ideas for the good of the society (Hockerts 2017; Igwe et al. 2020).

Social entrepreneurial intention of individuals is formed from their continuous relations with their environmental context (van der Westhuizen and Adelakun 2023). Therefore, university students have varied rationale for engaging in social entrepreneurship which may be because of their compassion, prior experiences, innovative behaviour, moral obligation as well as the desire to be a socially responsible citizen (Tan, Le, and Xuan 2020). Accordingly, university students seeking to create social entrepreneurial ventures engage in proactive behaviours that encourage them to seek knowledge and come up with ideas that are worth pursuing (Choi et al. 2024; Tiwari, Bhat, and Tikoria 2017). Inevitably, they develop intent for designing social venture business models, making them to become potential social entrepreneurs (Yamini, Soloveva, and Peng 2022).

Moreover, prior research has examined how diverse individual and institutional factors can facilitate social entrepreneurial intention (Fox, Muldoon, and Davis 2023; Igwe et al. 2020). This includes studies demonstrating how religiosity (McIntyre et al. 2023), intrinsic motivation (Yamini, Soloveva, and Peng 2022) prior experience and self-efficacy (Cardella et al. 2024; Hockerts 2017) affect social entrepreneurial intention. Nevertheless, to the relative knowledge of the authors, the understanding of how social entrepreneurial knowledge may impact social entrepreneurial intention continues to lack theoretical precision in the extant literature. Thus, this study focuses on explaining the mechanism behind this relationship as called for in extant research (Tan, Le, and Xuan 2020). Thus, this study focuses on explaining the mechanism behind this relationship as called for in extant research (cf. Tan, Le, and Xuan 2020). The next section is hypotheses development.

Social entrepreneurial knowledge and social entrepreneurial intention

From a human capital theory perspective, knowledge is a vital resource for every social entrepreneurial initiative (Farani, Karimi, and Motaghd 2017; Roxas, Cayoca-Panizales, and de Jesus 2009). Social entrepreneurial knowledge provides students with the requisite conceptual understanding for recognising social problems and acting on social opportunities (cf. Yasir, Majid, and Yasir 2017). Extant literature indicates that social entrepreneurial knowledge embodies the exposure and education of students that can facilitate their capacity and intention to establish a social entrepreneurial venture (Alkhalaf et al. 2022). Thus, by possessing entrepreneurial knowledge, students gather the required information that can aid in mitigating cognitive barriers often faced when seeking to develop social entrepreneurial initiatives (Roxas 2014).

Consequently, this study anticipates that social entrepreneurial knowledge will have a positive association with social entrepreneurial intention for several reasons. First, social entrepreneurial knowledge ensures that students possess the 'know-how' of organising and coordinating their social entrepreneurial activities (Politis and Gabrielsson 2015). As such, potential social entrepreneurs (i.e. university students) can have insights about the necessary resources for starting up their social enterprise activities. Moreover, by gaining entrepreneurial knowledge, students can recognise the challenges and rewards associated with engaging in social entrepreneurship (Yasir, Majid, and Yasir 2017). Previous research highlights that social entrepreneurial knowledge can assist students to amass the right skills and perception of their capacity to engage in social entrepreneurial activities (cf. Roxas 2014). Hence, they can increase their self-belief and confidence of succeeding in their entrepreneurial endeavours which might shape their intent of forming a social enterprise.

Further, the possession of social entrepreneurial knowledge can help students to produce novel ideas that can ensure maximisation of an entrepreneurial opportunity within the environment (cf. Politis and Gabrielsson 2015; Roxas, Cayoca-Panizales, and de Jesus 2009). Thus, students could become effective in spotting opportunities and leveraging on such information to possibly start-up their own social entrepreneurial venture (Clercq and Arenius 2006; Roxas, Cayoca-Panizales, and de Jesus 2009). Relatedly, previous research suggests that students prior experience with social problems or working in social organisations can support them in building up the confidence and competence for engaging in social entrepreneurial activities (Hockerts 2017; Ukil 2022). For instance, Ip (2024a) reported that prior experience/knowledge of social problems can drive students' self-efficacy which in turn enhances social entrepreneurial intention. Nevertheless, empirical research is scarce on the explicit role of social entrepreneurial knowledge of university students in the social entrepreneurship domain. This provides another basis for this study to contend that social entrepreneurial knowledge of students may be a precursor towards forming intent for social entrepreneurship.

Besides, extant studies in the general entrepreneurship domain suggests that students possessing high levels of entrepreneurial knowledge are more likely to form positive intentions towards starting an entrepreneurial initiative (Farani, Karimi, and Motaghd 2017; Roxas 2014). Based on the discussions above, this study argues that

when students have high levels of social entrepreneurial knowledge, it will increase their likelihood of forming social entrepreneurial intention. Hence, it is formulated that:

H1: Social entrepreneurial knowledge is positively associated with social entrepreneurial intention.

Mediating role of prosocial motivation

Prosocial motivation refers to the desire of individuals to commit effort to activities that benefit or help others in the society (Grant 2008). From a self-determination view (Peetz and Milyavskaya 2021), it embodies how individuals voluntarily show concern for protecting and promoting the well-being of others in the community (Kibler et al. 2019). Extant literature suggests that the prosocial motivation of students can manifest in the social entrepreneurship context in different ways, including showing concern for community development, taking an interest in solving social problems and establishing social enterprises (Bacq and Alt 2018; Yu, Ye, and Ma 2021). Hence, prosocial motivation is important because of the little economic gains in social entrepreneurship as well as creating room for potential entrepreneurs to focus on and value the general welfare of their society (McMullen and Bergman 2017).

Further, this study anticipates that social entrepreneurial knowledge will predict prosocial motivation. First, when students are well-informed about the imperativeness of social entrepreneurship and its associated risks, they become more capable of managing its challenges (Roxas 2014). This can enhance their chances of initiating prosocial programs since they possess the prerequisite understanding for navigating uncertainty. Also, by gaining social entrepreneurial knowledge, students develop values about being socially responsible for the needs of others. This provides students with an ethical orientation, thereby making them to develop a prosocial behaviour and potentially search for ways that they can help address social problems in the community (cf. Tiwari, Bhat, and Tikoria 2022). Based on this, it is expected that social entrepreneurial knowledge and prosocial motivation of students would be positively associated.

Additionally, individuals high in prosocial motivation are selfless and place a high value on ameliorating the social problems faced by their community members (Kibler et al. 2019). Accordingly, students with greater levels of prosocial motivation are likely to be more wilful and conscious about their social entrepreneurial intent (Tiwari, Bhat, and Tikoria 2022). Moreover, prosocial motivation ensures individuals are more concerned with the interest of others, which makes them have empathy and focus greatly on how they can engage in social entrepreneurship to serve potential beneficiaries (Bacq and Alt 2018). However, when students are low in prosocial motivation, they become self-oriented and pay attention to personal gains with a decreased focus on social entrepreneurial intent. For example, extant research indicates that students with greater levels of prosocial motivation show a high level of intention for social entrepreneurship (Yamini, Soloveva, and Peng 2022). Yu, Ye, and Ma (2021) sampled graduate-level students and revealed that prosocial motivation is a positive predictor of social entrepreneurial intention.

Combining the above arguments, this study contends that while students may have knowledge of the social entrepreneurial process, this may not automatically translate into intent for social entrepreneurship. Rather, prosocial motivation could be an intervening mechanism that converts social entrepreneurial knowledge into enhanced social entrepreneurial intentions for students. Accordingly, this study predicts that:

H2: Prosocial motivation mediates the pathway between social entrepreneurial knowledge and social entrepreneurial intention.

Mediating role of perceived access to finance

Perceived access to finance refers to the ease and flexibility of getting financial resources (Nanyondo et al. 2014). It is an individual's subjective perception of securing and using finance for their entrepreneurial activities (Luc et al. 2018). Therefore, access to finance can provide students with the necessary boost for initialising and developing the ideas for their social entrepreneurship. Contrastingly, the inability to access finance hampers the innovative activities and social entrepreneurial potentials of students (Svotwa et al. 2022). This makes it difficult for students to attain their future goal of engaging in social entrepreneurship. Hence, access to finance is a critical aspect of the social entrepreneurship journey (Lee, Sameen, and Cowling 2015).

By possessing social entrepreneurial knowledge, students can gather the required information about the ways of obtaining essential resources, such as financial capital for solving social problems as well as setting up a social enterprise (Roxas 2014). Thus, social entrepreneurial knowledge ensures students have the conceptual understanding of the importance of finance to their social entrepreneurial intent. Impliedly, this study argues that social entrepreneurial knowledge can potentially impact on perceived access to finance.

Further, greater access to finance can contribute to a strong intent for students to become social entrepreneurs. For example, Svotwa et al. (2022) showed that perceived access to finance is associated with entrepreneurial ability of youths. Luc et al. (2018) study reported that perceived access to finance influences students' attitudes towards behaviour that can lead to social entrepreneurial intention. Similarly, based on the review of literature, this study recognises the conceptual similarity between the perceived access to finance construct and Hockerts (2017) notion of perceived social support (i.e. the potential and actual resources provided to individual by others towards engaging in social entrepreneurial initiatives). Recent studies have highlighted the significant influence of social support on social entrepreneurial intentions (e.g. Fox, Muldoon, and Davis 2023; Rambe and Ndofirepi 2019; Tran et al. 2023). Importantly, such support can be crucial for students in securing financial resources for engage in social entrepreneurial activities (Ip 2024a).

In line with this reasoning, this study contends that social entrepreneurial knowledge assists students in developing the know-how of seeking and getting access to financial resources, giving room for them to believe more in their abilities. In turn, their perceived access to finance can build up their intent to engage in social entrepreneurship to address social challenges. In this sense, perceived access to finance functions as an

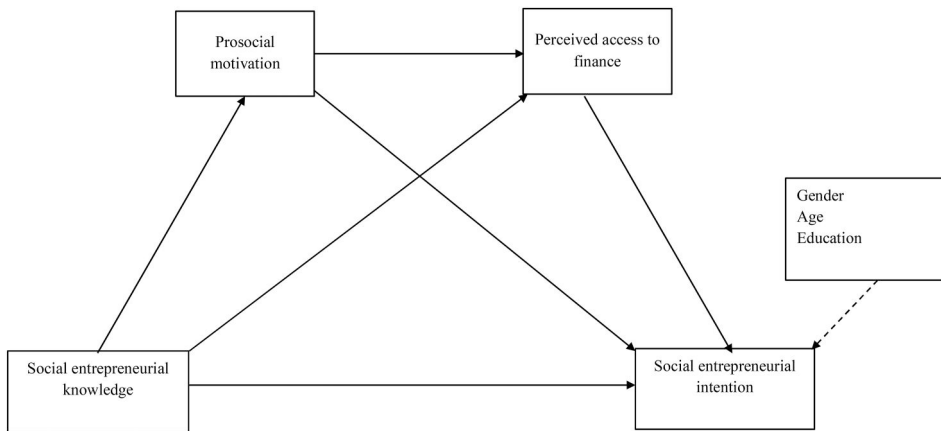


Figure 1. Conceptual framework.

intervening mechanism for converting students' knowledge about social entrepreneurship into social entrepreneurial intention. Hence, it is hypothesised that:

H3: Perceived access to finance mediates the pathway between social entrepreneurial knowledge and social entrepreneurial intention.

Serial mediating effect of prosocial motivation and perceived access to finance

As discussed in the preceding hypotheses H2 and H3, prosocial motivation and perceived access to finance are both mechanisms that could be associated with the effect of social entrepreneurial knowledge on the social entrepreneurial intention of university students. Previous research suggests that highly prosocial individuals can gain the trust of their community members, and this can reinforce the relational ties of individuals (cf. Hu and Liden 2015; Porter et al. 2023). Such ties could lead to introductions to potential mentors and/or investors, thereby enhancing students' perceived access to financial resources for social entrepreneurial activities (cf. Ip 2024a). Accordingly, it is safe to assume that prosocial motivation and perceived access to finance could be associated together and then can impact social entrepreneurial intention. Besides, there is lack of theoretical clarity in the extant literature (e.g. Ip 2024b; Ukil 2022) on the chain mediating effect of prosocial motivation and perceived access to finance on social entrepreneurial intention. Therefore, in the context of this study and building on the logic of human capital and self-determination theories, this study argues that social entrepreneurial knowledge engenders a situation where university students can become prosocially motivated to address prevalent social problems in the society, and this can provide opportunities to access diverse sources of financial resources, which ultimately can spur the forming of intention for social entrepreneurial initiatives.

Based on the argument above and the preceding mediation hypotheses (H2 and H3), the study contends that prosocial motivation and perceived access to finance are chain mediators that serially intervene in the linkage between social entrepreneurship knowledge and social entrepreneurial intention. Consequently, this study hypothesises that:

H4: The pathway from social entrepreneurial knowledge to social entrepreneurial intention is serially mediated by prosocial motivation and perceived access to finance.

Figure 1 displays the conceptual framework of the study.

Methods

Research setting

University students in Nigeria served as the research setting for the study for two reasons. First, Nigeria is the most populous and largest economy in Sub-Saharan Africa (World Bank 2024). Social entrepreneurship in Nigeria is gaining momentum, fuelled by the country's growing young population and increasing social awareness of pressing systemic challenges (van der Westhuizen and Adedokun 2023). Nigeria has the highest number of social enterprises in Africa, estimated at 1.3 million social enterprises (World Economic Forum 2024) in various sectors including health, agriculture, and technology, and contributing to approximately 1.45 million jobs that is projected to rise to 1.88 million in 2030 (Siemens Stiftung 2020).

Moreover, with over 60% of Nigeria's population under the age of 25 (Greene 2023), the rise of social entrepreneurship in Nigeria is strongly propelled by young people leveraging their educational and technological skills to create ventures that address social issues (Pybus 2022). However, most Nigerians continue to experience experiencing complex social and environmental problems such as inadequate infrastructure, increasing poverty, unemployment, and environmental pollution without sufficient socially innovative practices for tackling them (Achi 2020; World Bank 2024). Implicitly, this provides an opportunity for the practice of social entrepreneurship in Nigeria, as public welfare institutions have been unable to address the major socio-economic problems of the country (cf. van der Westhuizen and Adedokun 2023).

Thus, this stresses the crucial role that the current Nigerian university students can play in ameliorating the social and environmental challenges of the citizenry. Therefore, this study examines the research framework in an under-researched Sub-Saharan African setting (i.e. Nigeria), which is timely as there is a paucity of research focusing on social entrepreneurial intentions in such context (Igwe et al. 2020).

Data collection

This study followed a survey methodology and collected data from university students studying business and management in the southern region of Nigeria. Prior research indicates that these students are at the point where they make their career decisions and are appropriate for studies focusing on social entrepreneurial intention (Hossain, Arefin, and Yukongdi 2024; To et al. 2020). Thus, the study tried to gather data from students who may have the intent of becoming social entrepreneurs (Choi et al. 2024).

The survey was administered to university students using a self-reported questionnaire within a three month period from January to March 2024. The students were informed that participation in the survey was anonymous and voluntary, and their informed consent was sought before completing the survey. A convenience sampling

Table 1. Sample characteristics.

	Frequency (percentage)
Gender	
Female	156 (47.3%)
Male	174 (52.7%)
Age	
< 25 years	318 (96.4%)
26-35 years	6 (1.8%)
> 35 years	6 (1.8%)
Education	
Diploma/others	133 (40.3%)
Bachelors	186 (56.4%)
Masters	11 (3.3%)

Note: N = 330.

technique, often used in social entrepreneurial intention research was adopted in recruiting participants (Cardella et al. 2024). The use of convenience sampling technique was because it is efficient, least time-intensive and inexpensive to implement (Bornstein, Jager, and Putnick 2013). However, since this sampling technique is often critiqued for its generalisability limitation, efforts were made to attain a substantial response rate to mitigate this issue (Onjewu et al. 2022). Nevertheless, while the sampled participants are uniformly homogenous since they are all students and have limited experiences of initiating social entrepreneurial ventures (Duong et al. 2024), it might likely not be fully representative of the study's population because the participants were recruited due to their availability rather than in a random manner (Scholtz 2021). In total, the final sample comprised 330 university students. As presented in Table 1, 47.3% were female while 52.7% were male.

Measures

The measures used were sourced and adapted from previously validated multi-item scales. The measures were evaluated using a six-point Likert-rating (1 = strongly disagree to 6 = strongly agree). See Appendix A for measurement details.

Social entrepreneurial knowledge:

To assess social entrepreneurial knowledge, this study adapted six items from extant research (Roxas 2014; Roxas, Cayoca-Panizales, and de Jesus 2009). A sample statement is '*I have sufficient knowledge to organise a social enterprise*'.

Prosocial motivation:

The study measured prosocial motivation with four items adapted from past research (Grant 2008). A sample item included '*I want to have a positive social impact on others*'.

Perceived access to finance:

Perceived access to finance was measured with three items modified from existing studies (Achi 2024; Pervan, Al-Ansaari, and Xu 2015). A sample item is '*Access to funds will encourage me to tackle social problems*'.

Social entrepreneurial intention:

The study used five items adapted from Liñán and Chen (2009) to measure social entrepreneurial intention. A sample statement is 'My goal is to become a social entrepreneur'.

Control variables:

Following prior research advice (Fox, Muldoon, and Davis 2023; Weerakoon 2023), the study also controlled for individual-level covariates including gender, age, and education that could affect social entrepreneurial intention. The study controlled for gender (0 = female; 1 = male) and age as extant literature suggests that males and older individuals may have a greater intention for social entrepreneurship (Handrito, Slabbinck, and Vanderstraeten 2024; Urban and Kujinga 2017). Also, prior research indicates that educational background could shape the social entrepreneurial intentions of students (Yamini, Soloveva, and Peng 2022). Thus, this study controlled for education of the research participants.

Analytical procedure

A covariance-based structural equation modelling (CB-SEM) via AMOS 29 was used for data analysis. In comparison to variance-based SEM (i.e. PLS-SEM), the use of CB-SEM generates global goodness-of-fit (GOF) indices to demonstrate how well the data fits the research model (Hair et al. 2022). Additionally, CB-SEM has been applied in previous research on social entrepreneurial intention (Choi et al. 2024; McIntyre et al. 2023). The analysis was conducted in two stages: (1) measurement model evaluation, and (2) structural model assessment.

Measurement model evaluation

A confirmatory factor analysis (CFA) was performed using maximum likelihood estimation to evaluate the measurement model. The CFA showed an acceptable fit: $\chi^2_{[129]} = 371.595$, $\chi^2/df = 2.881$; CFI = 0.952; TLI = 0.943; RMSEA = 0.076. Further, the calculated composite reliability and average variance extracted (AVE) for the measures exceeded 0.70 and 0.50 cut-offs respectively. Thus, demonstrating internal consistency and convergent validity (see Table 2). Also, the square root value of the AVEs were higher than the pair of correlations among the variables, thereby providing support for discriminant validity (Bagozzi and Yi 2012). Table 3 contains the descriptive statistics and discriminant validity estimates.

Also, the study took various steps to mitigate common method bias (CMB). First, the survey was completed by suitable respondents who understood and fit the study's purpose. Also, the survey wording was precise, and the respondents were assured of anonymity (Podsakoff et al. 2024). Additionally, a Harman-single factor test was estimated with the first factor accounting for less than 50% of the total variance. Moreover, a method-only CFA was performed by loading all survey items onto a single-latent factor and the results demonstrated a poor fit ($\chi^2 = 2345.981$; $df = 135$; CFI = 0.560; TLI = 0.502; RMSEA = 0.223), suggesting that CMB is not a threat. Further, a

Table 2. Loadings and reliability.

	Loadings	Cronbach's Alpha	Composite reliability	Average variance extracted (AVE)
Social entrepreneurial knowledge		0.921	0.922	0.666
SEK1	0.767			
SEK2	0.739			
SEK3	0.866			
SEK4	0.781			
SEK5	0.848			
SEK6	0.884			
Prosocial motivation		0.910	0.911	0.718
PSM1	0.826			
PSM2	0.869			
PSM3	0.852			
PSM4	0.841			
Perceived access to finance		0.888	0.892	0.734
PAF1	0.780			
PAF2	0.876			
PAF3	0.908			
Social entrepreneurial intention		0.948	0.949	0.789
SEI1	0.846			
SEI2	0.910			
SEI3	0.933			
SEI4	0.907			
SEI5	0.841			

Table 3. Intercorrelations and discriminant validity.

	Mean	SD	1	2	3	4	5	6	7
1. Social entrepreneurial knowledge	3.798	1.323	0.816						
2. Prosocial motivation	5.216	0.988	0.360***	0.847					
3. Perceived access to finance	4.904	1.096	0.341***	0.559***	0.857				
4. Social entrepreneurial intention	4.798	1.229	0.468***	0.602***	0.486***	0.888			
5. Gender	0.530	0.500	-0.163**	-0.151**	-0.015	-0.212***	-		
6. Age	1.050	0.297	-0.023	-0.035	0.010	0.017	0.154**	-	
7. Education	1.630	0.548	-0.004	0.086	0.040	0.099	0.070	0.106	-

Note: *p < 0.05; **p < 0.01; ***p < 0.001. Squared root of AVEs is shown along the diagonal. SD = standard deviation.

collinearity test was conducted and the estimated variance inflation factors (VIFs) values among the variables were between 1.026 to 1.572, which is below the cut-off of 3 (Hair et al. 2022).

Structural model assessment

To test the hypotheses, the study estimated a structural model (see Figure 2) by (a) using a full-information CB-SEM to calculate the structural path coefficients, and (b) calculating the indirect effects using 95% percentile bootstrapping analysis (5,000 sub-samples). The estimated structural model indicated a good fit: $\chi^2_{[177]} = 424.323$, $\chi^2/df = 2.397$; CFI = 0.951; TLI = 0.942; RMSEA = 0.065. Table 4 shows the results.

The SEM results reveal that the relationship between social entrepreneurial knowledge and social entrepreneurial intention is positively significant (B = 0.242, SE = 0.048, p = 0.000), which supports H1.

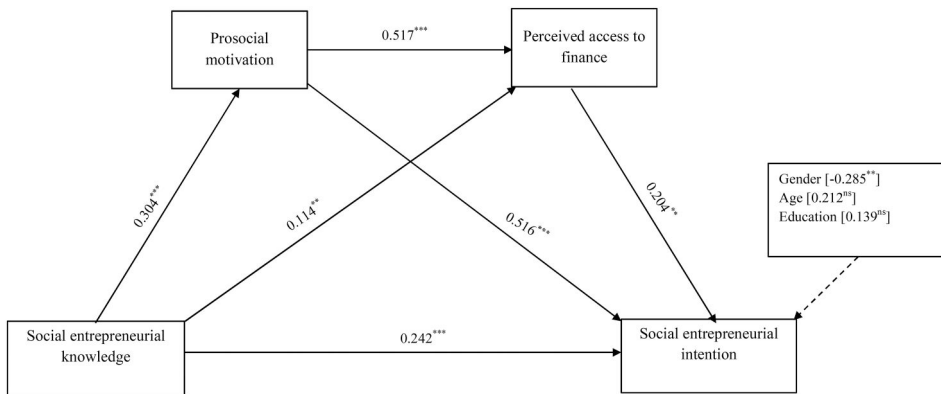


Figure 2. Structural model. *Note:* Unstandardised coefficients are reported. ** $p < 0.01$; *** $p < 0.001$.

Table 4. SEM results.

Paths	B	SE	p-value
Social entrepreneurial knowledge → Prosocial motivation	0.304	0.048	0.000
Social entrepreneurial knowledge → Perceived access to finance	0.114	0.042	0.006
Prosocial motivation → Perceived access to finance	0.517	0.060	0.000
Social entrepreneurial knowledge → Social entrepreneurial intention	0.242	0.048	0.000
Prosocial motivation → Social entrepreneurial intention	0.516	0.074	0.000
Perceived access to finance → Social entrepreneurial intention	0.204	0.073	0.005
Gender → Social entrepreneurial intention	-0.285	0.097	0.003
Age → Social entrepreneurial intention	0.212	0.160	0.186
Education → Social entrepreneurial intention	0.139	0.086	0.106

Note: B=Unstandardised coefficient; SE=standard error; R^2 for prosocial motivation = 0.148; R^2 for perceived access to finance = 0.379; R^2 for social entrepreneurial intention = 0.516.

H2 argued that the pathway between social entrepreneurial knowledge and social entrepreneurial intention would be mediated by prosocial motivation. The results show that social entrepreneurial knowledge and prosocial motivation are positively related ($B = 0.304$, $SE = 0.048$, $p = 0.000$). Also, the link between prosocial motivation and social entrepreneurial intention was significant ($B = 0.516$, $SE = 0.074$, $p = 0.000$). These results indicate a partial mediation, supporting H2. Additionally, an indirect effect test from social entrepreneurial knowledge → prosocial motivation → social entrepreneurial intention was positively significant ($B = 0.157$, 95% CI = [0.085, 0.242]), with CI not crossing zero. This further supports H2.

H3 predicted that perceived access to finance would mediate the pathway between social entrepreneurial knowledge and social entrepreneurial intention. Results demonstrate that social entrepreneurial knowledge and perceived access to finance is positively related ($B = 0.114$, $SE = 0.042$, $p = 0.006$). Also, the relationship between perceived access to finance and social entrepreneurial intention was significant ($B = 0.204$, $SE = 0.073$, $p = 0.005$). This suggests a partial mediation, which supports H3. Further, an indirect effect test from social entrepreneurial knowledge → perceived access to finance → social entrepreneurial intention was positively significant ($B = 0.023$, [CI = 0.001, 0.059]). This confirms H3.

Finally, H4 argued that the pathway between social entrepreneurial knowledge and social entrepreneurial intention would be serially mediated by prosocial motivation and perceived access to finance. A sequential indirect effect test demonstrated that

Table 5. Indirect effects.

Paths	B	SE	Lower	Upper	p-value
Social entrepreneurial knowledge → Prosocial motivation → Social entrepreneurial intention	0.157	0.040	0.085	0.242	0.000
Social entrepreneurial knowledge → Perceived access to finance → Social entrepreneurial intention	0.023	0.015	0.001	0.059	0.031
Social entrepreneurial knowledge → Prosocial motivation → Perceived access to finance → Social entrepreneurial intention	0.032	0.017	0.004	0.071	0.025

the path from social entrepreneurial knowledge → prosocial motivation → perceived access to finance → social entrepreneurial intention was positively significant ($B = 0.032$, $CI = 0.004, 0.071$), thereby supporting H4 (see Table 5 for indirect effects results).

Discussion and implications

This study was aimed at examining how social entrepreneurial knowledge influences the social entrepreneurial intention of Nigerian university students. Additionally, the study investigated the mediating effects of prosocial motivation and perceived access to finance in the relationship between social entrepreneurial knowledge and social entrepreneurial intention. The findings demonstrated that social entrepreneurial knowledge and social entrepreneurial intention are positively linked, and this relationship is serially mediated by prosocial motivation and perceived access to finance respectively. The results of the hypotheses testing are discussed as follows.

To begin with, the results showed that social entrepreneurial knowledge is positively associated with social entrepreneurial intention. This finding highlights the importance of knowledge resources in the social entrepreneurship process (Roxas 2014; Yasir, Majid, and Yasir 2017), thereby aligning with suggestion from extant research that social entrepreneurial initiatives are a ‘portfolio of knowledge problems’ (cf. Townsend et al. 2018). Additionally, the result demonstrates that students who possess the necessary knowledge of social entrepreneurship have a strong likelihood of forming the intent for social entrepreneurial ventures (Farani, Karimi, and Motaghed 2017). Relatively, this coheres with past research contention that knowledge of dealing with social problems can support students in developing robust social entrepreneurial intention (Ip 2024b; Ukil 2022). In so doing, this study finding on the positive effect of social entrepreneurial knowledge improves and extends Roxas (2014) measure of entrepreneurial knowledge to the social entrepreneurship domain.

Second, the findings revealed that prosocial motivation indirectly impacted the link between social entrepreneurial knowledge and social entrepreneurial intention. This implies that when students have high levels of social entrepreneurial knowledge, this will translate into greater prosocial motivation, which in turn would impact on their social entrepreneurial intention. This is consistent with prior research contention that prosocial motivation is relevant to the formation of social entrepreneurial intention (Tiwari, Bhat, and Tikoria 2022; Yu, Ye, and Ma 2021). Further, the results uncovered

that perceived access to finance mediates the link between social entrepreneurial knowledge on social entrepreneurial intention. Importantly, this finding is in contrast with prior research report that perceived access to finance may not influence social entrepreneurial intention (Luc et al. 2018). Accordingly, this finding empirically documents the relevance of perceived access to finance as a vital mechanism that transfers the positive influence of social entrepreneurial knowledge unto social entrepreneurial intention. From an empirical standpoint, this finding assists in improving the current understanding of the social entrepreneurial process of students (Handrito, Slabbinck, and Vanderstraeten 2024; Hockerts 2017).

Moreover, from the observed parallel indirect effects, an inspection of the results substantiates that prosocial motivation has a stronger indirect impact than perceived access to finance on the linkage between social entrepreneurial knowledge and social entrepreneurial intention of Nigerian university students. A possible explanation for prosocial motivation as a stronger explanatory intermediary is because it is an inward psychological-related factor that demonstrate students' feelings of concern for their community and being valued by others (Bacq and Alt 2018; Tiwari, Bhat, and Tikoria 2022). Extant research indicates that this form of motivation directly spurs social entrepreneurial intentions since it is an internal driver that aligns well with the personal values of individuals (McMullen and Bergman 2017). By contrast, perceived access to finance is an 'others-directed' element that students can acquire from knowing others or having a good reputation (cf. Fox, Muldoon, and Davis 2023; Ukil 2022). As such, it is imagined as a supportive external environment factor that can help provide funding and minimise financial barriers for students interested in social entrepreneurship endeavours (Ip 2024a; Luc et al. 2018). Therefore, as a self-directed factor, this might have made the indirect impact of prosocial motivation more effectual than perceived access to finance in the relationship between social entrepreneurial knowledge and social entrepreneurial intention.

Lastly, the result of the sequential mediation model showed a positive indirect link from social entrepreneurial knowledge to social entrepreneurial intention when channelled through prosocial motivation and perceived access to finance. This finding suggests that prosocial motivation and perceived access to finance are more than parallel mediators as they are also serially linked in grasping how social entrepreneurial knowledge impacts on social entrepreneurial intention of students. This goes beyond extant research that has usually examined a single mediation model of social entrepreneurial intention (Tiwari, Bhat, and Tikoria 2022; Yamini, Soloveva, and Peng 2022). Consequently, this study provides a more intricate framework for explicating social entrepreneurial intention, thereby following the suggestion of extant literature (e.g. Hayes 2022) on the evaluation and relevance of serial multiple mediational models for understanding complex research phenomena. Thus, this present study to the relative knowledge of the authors is the first to argue for and show empirical evidence for the chain mediation pathway from social entrepreneurial knowledge to social entrepreneurial intention.

Academic implications

This study contributes to current knowledge in three ways. First, this study contributes to the social entrepreneurship literature by extending the current understanding on

the influence of social entrepreneurial knowledge in promoting the social entrepreneurial intentions of students. Prior research indicates a dearth of studies on social entrepreneurial knowledge (cf. Tan, Le, and Xuan 2020). Hence, this study extends previous studies relating to antecedents of social entrepreneurial intention (e.g. Igwe et al. 2020; Ip 2024b; McIntyre et al. 2023) and human capital perspective (Ployhart and Moliterno 2011; Roxas 2014) by demonstrating the role of social entrepreneurial knowledge in stimulating social entrepreneurial intention.

Second, the study advances self-determination theory (Deci and Ryan 2000) and adds to the social entrepreneurship literature (Choi et al. 2024; Fox, Muldoon, and Davis 2023) by highlighting the mediating effect of prosocial motivation on the relationship between social entrepreneurial knowledge and social entrepreneurial intention. Therefore, the study demonstrates that social entrepreneurial knowledge is a key factor in improving the prosocial motivation behaviours of university students interested in social entrepreneurship. Accordingly, the study provides novel theoretical insights and adds to the growing studies of prosocial motivation in the social entrepreneurship contexts (Bacq and Alt 2018; Yamini, Soloveva, and Peng 2022). Moreover, this study extends extant research by highlighting the relevance of perceived access to finance in the linkage between social entrepreneurial knowledge and social entrepreneurial intention. Thus, this study contributes to the debate on the relevance of perceived access to finance and clarifies its importance in the link between social entrepreneurial knowledge and the formation of social entrepreneurship intent in university students (cf. Luc et al. 2018; Svtowa et al. 2022). Also, by incorporating perceived access to finance – which is a somewhat form of perceived social support (Ip 2024a) – into the research framework, this study further extends the self-determination theory literature (Deci and Ryan 2000) by highlighting that others-directed element such as perceived access to finance can become unconsciously internalised by students, thereby contributing to the forming of intent for social entrepreneurship.

Additionally, this study adds to the social entrepreneurship literature (Cardella et al. 2024; Choi et al. 2024) by demonstrating the serial pathway from social entrepreneurial knowledge to social entrepreneurial intention. Specifically, to the best of the researchers' knowledge, this is the first study that integrates both human capital and self-determination perspectives to theorise and evaluate a serial mediation model from social entrepreneurial knowledge → prosocial motivation → perceived access to finance → social entrepreneurial intention. Accordingly, this serial mediation finding deepens insight into the '*black box*' of the explanatory pathway from social entrepreneurial knowledge to social entrepreneurial intention of university students. Hence, this study offers a nuanced understanding of the chain mediating mechanisms (i.e. prosocial motivation and perceived access to finance) that explain how social entrepreneurial knowledge can impact social entrepreneurial intention of university students. More importantly, by demonstrating the chain mediation effects of prosocial motivation and perceived access to finance, this study extends the current literature by bridging the streams of research relating to human capital theory, self-determination theory and social entrepreneurial intention. Thus, this study provides a fresh theoretical perspective in the social entrepreneurship domain (Ranville

and Barros 2022) for explicating how university students form social entrepreneurial intention.

Overall, this study contributes to social entrepreneurial knowledge and wider social entrepreneurship literature by conceptualising the mechanism and outcomes of social entrepreneurial knowledge (cf. Alkhalaf et al. 2022; Roxas 2014), thereby providing novel insights for future researchers interested in understanding the nomological network of constructs related to social entrepreneurial knowledge.

Practical implications

This study also offers implications for social entrepreneurship practitioners including social entrepreneurs, market regulators, investors and policymakers. First, university students who intend to be social entrepreneurs can leverage insights from this research to develop and participate in more targeted educational initiatives, thereby enhancing their knowledge base and increasing their likelihood of success in launching and sustaining social ventures. They can further benefit from a more holistic approach to venture creation, recognising that success in their business endeavours depends not just on knowledge, but also on sustaining the right motivation and securing financial resources. This comprehensive understanding can help them better navigate the challenges of engaging in social entrepreneurship.

Second, the results of the study indicate that social entrepreneurship educators and practitioners need to develop mentorship activities that can help university students gain experiences and assimilate vital knowledge necessary for engaging in social entrepreneurship activities. Moreover, the findings the study imply that prosocial motivation and access to finance can encourage students to partake in the practice of social entrepreneurship. Accordingly, educators and practitioners need to design a practical process that can support university students to build up their ethical prosocial behaviours and develop more concern for their community.

Third, relevant practitioners and educators need to work together to ensure students can receive trainings and obtain information on how they can source for finance. This can improve university students' perception of ways of accessing finance, which can result in a strong intent for social entrepreneurship initiatives. More specifically, investors can leverage the findings of this research by focusing their financial resources on start-ups led by individuals with high social entrepreneurial knowledge and strong prosocial motivation. Hence, they can further offer mentorship programs to these individuals alongside funding, thereby increasing the likelihood of successful social ventures.

Fourth, by understanding the importance of social entrepreneurial knowledge and financial access in fostering social entrepreneurship, market regulators can design effective policies that promote educational initiatives and financial accessibility for aspiring social entrepreneurs. They can further support programs that promote social entrepreneurial education in universities and create financial frameworks that make it easier for young entrepreneurs to access funding. This initiative could lead to a more

vibrant social entrepreneurial ecosystem, thereby contributing to economic development and addressing social issues in Nigeria.

Lastly, for policymakers, the study suggests the need for specialised interventions and training programs by the government that are aimed at building a social entrepreneurship curriculum and refining the social entrepreneurial knowledge for university students in Nigeria. This has the potential to enhance students' entrepreneurial competence and drive the social entrepreneurial sector towards boosting youth employment and solving social challenges in the nation.

Limitations and future research

Like most research, this study has methodological and contextual limitations that should be acknowledged, but also offer directions for further research. First, this study adopted a cross-sectional survey design and self-reported data. This means that only association between the variables is implied, and not causality. Besides, cross-sectional data only offers a static view of results relating to the hypothesised relationships (Onjewu et al. 2022) and self-reported data may introduce response bias. To overcome this limitation, future research should consider using objective data (e.g. students' grades on social entrepreneurship modules) and longitudinal survey design to explore causality and the evolving changes in the hypothesised relationships between the variables.

Second, although a high participation rate was attained for the study, the use of convenience sampling raises concerns relating to accurate representativeness and generalisability of the findings to the population of university students in Nigeria. This is due to the inherent selection bias (i.e. lack of randomness) in convenience sampling. Consequently, future studies should utilise a probability-based sampling technique to ensure random selection of research participation to mitigate sampling error and improve external validity.

Third, the context of the study is university students in Nigeria, this may pose a challenge to the generalisability of its results. Future investigations may conduct a comparative study of the factors influencing social entrepreneurial intention in university students in emerging versus developed economies. Also, given the difference in cultural orientation between Nigeria and other non-Sub Saharan African countries, future research may consider a cross-cultural study by examining the question of how feminine versus masculine orientations differences of university students in Nigeria and another African country (e.g. Morocco) could shape the influence of social entrepreneurial knowledge on social entrepreneurial intention. Relatedly, the sampling of university students limits the applicability of the findings to non-student groups. Future research might investigate non potential research questions relating to the mechanisms responsible for the linkage between social entrepreneurial knowledge and formation of social entrepreneurial intention among young working adults.

Further, there is room for future research to examine other variables such as proactive personality and experiential learning that could moderate the mediating relationships. For instance, prior research indicates that proactive personality support individuals in taking initiatives to solve problems (Neneh 2019), this may shape how

university students form social entrepreneurial intention. A future research question could focus on examining the contingent role of proactive personality on the indirect effects of prosocial motivation and perceived access on social entrepreneurial intention. Finally, prior research suggest that economic uncertainties and bankruptcy can affect the viability of social enterprise sector (Jace, Koumanakos, and Tzagkanos 2020). This potentially calls into question whether the possibility of bankruptcy in social enterprises especially in resource-constraints environments like Nigeria can influence students' social entrepreneurial intention. Future research might want to examine in what manner social entrepreneurial knowledge may shape how students can navigate the possibility of bankruptcy of their proposed social venture.

Conclusion

Prior research indicates that social entrepreneurship is a panacea for reviving communities and addressing exacerbating social problems following the COVID-19 pandemic (Weaver 2023). Nevertheless, scholars have highlighted the need for more empirical studies on the formation of social entrepreneurial intention (Fox, Muldoon, and Davis 2023; Tan, Le, and Xuan 2020). This study applied insights from the human capital and self-determination theories to examine the relationship between social entrepreneurial knowledge and social entrepreneurial intention of university students in Nigeria and considered prosocial motivation and perceived access to finance as two mediators that could intervene in this relationship. The study adds news insights to theory and practice of social entrepreneurship by demonstrating that prosocial motivation and perceived access to finance intervenes in the association between social entrepreneurial knowledge and social entrepreneurial intention of university students.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix A

Table A1. Measures

Social entrepreneurial knowledge

1. I have sufficient knowledge of the legal requirements to start a social enterprise.
2. I know how to find the resources to set up a social enterprise.
3. I have sufficient knowledge to organise a social enterprise.
4. I have sufficient knowledge in marketing a social product.
5. I have sufficient knowledge in commercialising a social product idea.

Prosocial motivation

1. I want to help others through my work.
2. I care about others benefitting through my work.
3. I want to have a positive social impact on others.
4. It is important for me to do good for others through my work.

Perceived access to finance

1. Access to funds will encourage me to tackle social problems.
2. Presence of funders will encourage me to raise funds to solve social problems.

Social entrepreneurial intention

1. My goal is to become a social entrepreneur.
 2. I will make every effort to start and run my own social enterprise.
 3. I am determined to create a social enterprise in the future.
 4. I have seriously thought about starting a social enterprise.
 5. I have the intention to start a social enterprise someday.
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