

Driving Factors of Medical Students' Engagement in Rural Revitalization: Insights from the Youth Red Dream Journey

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ABSTRACT

This study investigates whether social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation influence medical students' engagement in rural revitalization projects, specifically within the framework of the "Youth Red Dream Journey" initiative. Rural revitalization is a core aspect of China's national development strategy, aiming to mitigate healthcare disparities in underserved regions, where medical students are positioned to play a pivotal role. Using data collected through a structured survey and analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM), this research assesses the predictive strength of these four psychological and contextual factors. The findings reveal that all four variables exert significant positive effects on project engagement, with entrepreneurial self-efficacy demonstrating the strongest impact. These results underscore the need to integrate entrepreneurship, civic values, and social network cultivation into medical education. This study offers actionable insights for educators and policymakers seeking to encourage rural healthcare participation and ensure the sustainable success of revitalization initiatives.

Keywords: *Youth Red Dream Journey, Social responsibility, Social capital, Entrepreneurial self-efficacy, Achievement motivation, Project engagement*

1. INTRODUCTION

Rural revitalization has become a central policy focus for many countries, particularly those facing significant disparities between urban and rural regions in healthcare, education, and infrastructure. In China, the Rural Revitalization Strategy is a key element of the national development plan, aiming to bridge the urban-rural divide by improving critical services and ensuring sustainable development in underdeveloped areas (Zeng et al., 2021). Healthcare is a crucial component of this strategy, as rural populations often suffer from limited access to medical resources, resulting in poorer health outcomes compared to their urban counterparts (Yan & Tu, 2023). These healthcare disparities underscore the urgent need for more healthcare professionals in rural areas, and medical students can play a critical role in addressing this shortage through rural healthcare initiatives.

Medical students gain invaluable hands-on experience when working in rural healthcare settings, as these environments challenge them to think critically, solve problems creatively, and build relationships with local communities (Hu et al., 2023). Their involvement not only alleviates the shortage of healthcare professionals but also contributes to their personal and professional growth. Such participation enhances students' commitment to social responsibility and deepens their understanding of public service, both of which are key to shaping future healthcare leaders (Fan et al., 2022).

The Youth Red Dream Journey, launched in 2017 alongside the 3rd China International College Students' "Internet+" Innovation and Entrepreneurship Competition, plays an essential role in this process. It connects student-led innovation projects with the development needs of China's revolutionary areas, directly supporting rural revitalization. The program encourages students, particularly medical students, to apply their professional knowledge in solving real-world challenges faced by rural communities (Li, 2024). By integrating innovation, entrepreneurship, and community service, the Youth Red Dream Journey offers medical students opportunities to address the healthcare needs of underserved rural areas. This experience cultivates their leadership skills and supports their professional development (Yuan et al., 2023; Zhang, 2021).

However, despite the growing recognition of medical students' contributions to rural healthcare through initiatives like the Youth Red Dream Journey, there remains a significant research gap in understanding the specific factors that influence student engagement in these projects. While concepts such as social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation have been widely studied in business and educational contexts, their impact on medical students' participation in rural healthcare remains largely unexplored (Saunders et al., 2022; Yue & Rivera, 2022). This lack of understanding poses challenges for developing effective programs that can not only attract but also sustain medical student involvement in rural revitalization efforts.

For instance, while social responsibility is known to motivate students in community service programs, it is unclear how this factor specifically affects medical students working in resource-constrained rural areas. Similarly, while social capital plays a critical role in enabling collaboration and access to resources, its role in facilitating student engagement in rural healthcare settings has not been sufficiently examined (Tang et al., 2022). The same applies to entrepreneurial self-efficacy, which drives students to engage in innovative tasks in business settings but has not been thoroughly tested in rural healthcare contexts where innovation is vital for overcoming resource limitations. Finally, while achievement motivation has been shown to drive goal-oriented behavior in academic environments, its specific impact on medical students' commitment to long-term rural healthcare projects remains under-researched (You et al., 2022).

Addressing these gaps is critical for developing tailored strategies that enhance medical students' engagement in rural revitalization. By understanding how these factors influence student behavior, we can design more effective educational programs and interventions that encourage sustained participation in rural healthcare, ultimately contributing to the success of China's Rural Revitalization Strategy.

Therefore, this study aims to investigate how social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation influence medical students' engagement in rural healthcare projects, specifically through the Youth Red Dream Journey initiative. By addressing this research gap, the study seeks to provide actionable insights that can inform the development of educational programs and policy recommendations aimed at increasing and sustaining student participation in rural healthcare. Through a better understanding of these motivating factors, this research will contribute both to the academic literature and to the practical implementation of rural revitalization efforts.

2. LITERATURE REVIEW

2.1 Engagement in Rural Revitalization Projects

Student engagement in rural healthcare projects plays a pivotal role in cultivating the skills and professional attitudes required to address the substantial healthcare disparities experienced by underserved populations. In healthcare education, engagement refers to the extent of students' active involvement, participation, and commitment in healthcare-related initiatives. Empirical studies have demonstrated that participation in community-based healthcare programs enhances students' professional development, with participants gaining a deeper understanding of public health issues, as well as improved communication and clinical skills (Thaivalappil et al., 2021). Such engagement has been shown to be particularly beneficial in rural settings, where students are required to work with limited resources and in diverse socio-cultural environments, which challenges them to develop both resilience and problem-solving skills (Brommelsiek et al., 2022). These findings underscore the significance of experiential learning in developing competencies that extend beyond traditional classroom instruction.

Programs like the "Youth Red Dream Journey" are designed to maximize student engagement by placing them directly in the field, allowing them to confront real-world healthcare challenges in rural communities. Medical students who engage in this program are tasked with addressing healthcare infrastructure deficiencies, improving access to medical resources, and developing low-cost, innovative solutions for local populations (Yuan et al., 2023; Zhang, 2021).

Unlike traditional medical curricula that emphasize theoretical knowledge, the "Youth Red Dream Journey" prioritizes practical, entrepreneurial, and innovative competencies that are crucial for tackling the unique challenges of rural healthcare. Haddad et al. (2022) underscore that students involved in such initiatives frequently exhibit high levels of innovation, developing tailored health interventions that are both feasible and scalable. This aligns with findings by Hernández et al. (2023), who argue that engagement in community projects fosters a stronger sense of social

responsibility and community belonging, which in turn motivates students to take ownership of their contributions and develop long-term solutions.

Furthermore, engaging medical students in rural healthcare projects has been shown to significantly impact their career choices. Dahal et al. (2023) found that participation in rural service-learning significantly increases the likelihood of students pursuing careers in underserved or rural areas. This career inclination is partly driven by the meaningful professional and personal connections students form with the communities they serve, as well as the fulfillment they experience from directly contributing to improving healthcare access in these regions. This is consistent with the findings of Rogers (2021), who noted that students engaged in rural healthcare initiatives reported higher job satisfaction and a greater likelihood of remaining in public health careers long after graduation. These studies indicate that early exposure to rural healthcare, coupled with the opportunity to engage meaningfully with community health challenges, cultivates a deep commitment to public service in students, which is critical for addressing the shortage of healthcare professionals in these areas.

Moreover, engagement is not just about participation, it is also about fostering innovation and problem-solving within the healthcare field. Sarnkhaowkhom et al. (2022) emphasize that students who actively engage in rural healthcare projects develop crucial entrepreneurial and leadership skills. They note that such students are more adept at identifying gaps in healthcare delivery and creating innovative, low-cost solutions. This finding is particularly relevant to the "Youth Red Dream Journey," where students are encouraged to innovate within the constraints of rural healthcare systems. The ability to innovate under pressure, as Li (2024) suggest, is not just a benefit to the students but also a significant contribution to the communities they serve, as many of these healthcare solutions are sustainable and can be scaled up for broader implementation.

However, much of the existing research on student engagement focuses on urban settings or general community service, leaving rural healthcare engagement relatively underexplored (Hu et al., 2022). The challenges of engaging students in rural healthcare are distinct, requiring not only a higher level of adaptability but also a nuanced understanding of the socio-economic and cultural dynamics of rural communities. As Wicaksono et al. (2021) point out, rural healthcare projects often require students to navigate complex ethical and resource-related issues, which adds an additional layer of learning not typically present in urban healthcare experiences. This makes rural engagement particularly valuable for fostering well-rounded healthcare professionals who are equipped to address both medical and systemic challenges.

2.2 Social Responsibility and Engagement

Social responsibility is defined as an ethical construct wherein individuals and organizations are obligated to act for the greater good of society. In the context of education, particularly medical education, social responsibility involves a commitment to using one's knowledge, skills, and resources to address societal needs, particularly in underserved or vulnerable populations (Demirören & Atılgan, 2023). For medical students, social responsibility often manifests through community service, public health initiatives, and participation in projects aimed at reducing health disparities. This sense of obligation is especially important in rural healthcare, where access to quality medical services is often limited, and healthcare professionals are in short supply.

Several studies have explored the relationship between social responsibility and student engagement in community-oriented projects. For instance, Coelho and Menezes (2021) found that students with a strong sense of social responsibility were more likely to participate in community service programs, particularly those that aligned with their professional skills. Their study showed that Students who internalize a moral obligation to serve society tend to exhibit deeper engagement in initiatives aimed at addressing structural inequalities, such as healthcare disparities in rural areas. This is consistent with findings from Hallowell et al. (2024), who noted that medical students who participated in service-learning projects designed to address public health challenges exhibited higher levels of engagement, driven by a desire to fulfill their ethical responsibilities as future healthcare providers.

In the field of medical education, social responsibility is often seen as a key motivator for student involvement in rural healthcare projects. Rural healthcare settings frequently face significant challenges, including inadequate infrastructure, poor access to medical supplies, and a shortage of healthcare professionals. Students who possess a strong sense of social responsibility are likely to view these challenges not just as professional obstacles, but as opportunities to make meaningful contributions to the communities they serve (Gumede et al., 2021). For example, students involved in rural healthcare projects under the "Youth Red Dream Journey" have reported that their engagement was driven by a desire to improve the health outcomes of marginalized populations, reflecting their commitment to social responsibility (Altschuleret & Mann, 2023). This motivation can lead to greater levels of engagement, as students feel personally invested in the success of the project and the well-being of the community.

However, despite the apparent link between social responsibility and student engagement in rural development projects, the existing literature has not fully explored how this relationship plays out specifically within the rural healthcare setting. Most studies tend to focus on general community service or urban healthcare settings, where the challenges and resources available are markedly different. While urban projects often emphasize technical skills and innovation, rural healthcare projects require students to tackle more systemic issues, such as poverty, limited infrastructure, and cultural barriers to healthcare access (Afzal, 2021). This difference suggests that social responsibility may drive engagement in rural settings in unique ways, as students are required to develop not only clinical skills but also a deep understanding of the socio-economic factors that influence health outcomes.

For instance, research by Hu et al. (2022) highlights that in rural healthcare projects, students often feel a heightened sense of responsibility due to the visible and immediate impact their work has on the local population. Unlike in urban settings, where students might be one part of a larger healthcare team, rural projects often place students in positions of greater responsibility. These roles require them to take on leadership tasks and make critical decisions that directly affect patient care. This direct impact can significantly enhance their engagement because the stakes of their involvement are higher, and both the personal and professional rewards are more immediate.

2.3 Social Capital and Engagement

Social capital encompasses the networks and relationships that facilitate individuals' access to resources, information, and social support. It encompasses three primary subcomponents: structural social capital, which relates to the overall network connections and the way people are linked; relational social capital, which focuses on the trust, norms, and obligations embedded in those relationships; and cognitive social capital, which involves shared understandings, goals, and beliefs within a community or group (Putnam, 2000). These dimensions work together to facilitate cooperation, communication, and the effective exchange of resources, all of which are crucial in complex, collaborative settings such as rural healthcare projects.

Numerous studies have explored the role of social capital in fostering student participation in educational and community projects. For example, research by Ljungblad and Berhanu (2020) found that students with strong relational social capital were more likely to engage deeply in group activities and collaborative projects. Strong ties with peers and mentors provide not only emotional reassurance but also tangible resources, thereby enhancing students' engagement and reinforcing their sense of community. Similarly, a study by Firpo et al. (2021) demonstrated that structural social capital, referring to the ability to access a broad network of contacts, was positively correlated with students' engagement in community health initiatives. This access to diverse resources and expertise enriched their project experiences and fostered greater participation.

In the healthcare field, social capital has been shown to be a significant driver of engagement, particularly when students are involved in community-based healthcare projects. Research indicates that students who possess strong relational social capital, such as trusting relationships with peers, faculty, and community members, are more likely to feel supported and motivated to participate actively in healthcare initiatives (Koyanagi et al., 2021). This is particularly relevant in rural settings where healthcare projects often require collaboration with local communities, and relational capital can help build the trust and cooperation needed to implement effective interventions. Cognitive social capital, which involves shared beliefs and values, has also been found to foster engagement in healthcare projects by aligning students' motivations with the goals of the communities they serve (Ngoc Ton et al., 2023). Students who share a common vision with their community partners are more likely to remain committed to the success of rural healthcare initiatives because they feel personally connected to the outcomes.

Despite the substantial body of literature on social capital in educational and urban healthcare contexts, relatively few studies have focused on how it impacts medical students' engagement in rural revitalization projects. Rural healthcare settings present unique challenges, including geographical isolation, resource limitations, and cultural differences, which require students to draw heavily on their social networks for support and collaboration. However, much of the existing research on social capital has been conducted in urban or institutional settings, where resources and networks are more readily available, and the focus tends to be on structural capital rather than the relational and cognitive aspects that may play a more critical role in rural environments (Zhou et al., 2021).

In rural revitalization projects, the strength of relational and cognitive social capital is particularly important, as medical students often need to build close, trusting relationships with local healthcare providers and community members to implement their initiatives successfully. Without established trust and shared goals, it can be challenging for student-led healthcare initiatives to gain traction or achieve meaningful outcomes in rural communities (Zhou et al., 2021). This suggests that the influence of social capital on student engagement in rural healthcare projects may differ significantly from its impact in other settings, where access to networks and resources is more structured and formalized.

For medical students involved in rural revitalization efforts, leveraging social capital is not just a matter of accessing resources, but also about creating a sense of community and shared responsibility with the local population. As noted by Botha et al. (2022), students who can build strong relational ties with rural communities are more likely to engage fully with their healthcare projects because these relationships foster a deeper understanding of the community's needs and enhance students' motivation to make a meaningful impact. This underscores the importance of examining how social capital, particularly its relational and cognitive dimensions, shapes student engagement in rural healthcare contexts.

2.4 Entrepreneurial Self-Efficacy and Engagement

Entrepreneurial self-efficacy is defined as an individual's confidence in their capacity to execute entrepreneurial tasks effectively. In educational contexts, ESE has been consistently linked to proactive behaviors, innovative thinking, and sustained engagement in complex initiatives. Students who possess high levels of entrepreneurial self-efficacy are more likely to take initiative, overcome challenges, and persist in achieving their goals, especially in settings that require creative problem-solving and leadership (Bandura, 1997).

Several studies have explored the connection between entrepreneurial self-efficacy and student engagement in projects, particularly in business education. For example, a study by Lee (2021) found that students with higher levels of entrepreneurial self-efficacy were more likely to participate in entrepreneurial ventures and innovation-driven projects.

These students demonstrated a stronger sense of ownership over their work and a greater capacity to navigate the complexities of entrepreneurial activities, such as identifying opportunities, managing risks, and mobilizing resources. The findings of this study suggest that entrepreneurial self-efficacy empowers students to approach challenges with confidence, fostering higher levels of engagement in both academic and extracurricular projects.

In the healthcare field, however, research on entrepreneurial self-efficacy has been relatively limited. Most of the existing literature focuses on business students or those in entrepreneurship programs, leaving a gap in understanding how entrepreneurial self-efficacy operates in healthcare education. Medical students, particularly those involved in rural revitalization projects, often encounter situations that require innovative thinking, leadership, and resourcefulness. These qualities are closely tied to entrepreneurial self-efficacy. For example, students may need to develop low-cost healthcare solutions, design new community health interventions, or introduce technologies that improve healthcare delivery in underserved rural areas. Each of these activities requires the kind of confidence in entrepreneurial abilities that entrepreneurial self-efficacy supports, making it a critical factor in the success of such projects (Bi & Collins, 2022).

One of the key ways entrepreneurial self-efficacy influences engagement in rural healthcare projects is through its impact on innovation. Medical students with high entrepreneurial self-efficacy are more likely to propose and implement creative solutions to the unique challenges faced in rural healthcare. For instance, students might develop mobile health applications, design outreach programs to educate rural communities about preventive healthcare, or create more efficient systems for distributing medical supplies. Research by Leuwol et al. (2023) shows that students who believe in their entrepreneurial capabilities are more likely to take ownership of these types of projects, actively seeking out opportunities to lead and innovate. This proactive approach not only enhances their personal engagement with the project but also contributes to the sustainability and impact of the healthcare interventions they create.

While business studies have extensively examined the relationship between entrepreneurial self-efficacy and project participation, this concept has been under-researched in healthcare education. Medical students, particularly those working on rural healthcare initiatives, face challenges that are similar to those encountered in entrepreneurial environments. These challenges include resource constraints, the need for innovative solutions, and leadership demands. However, there is a lack of empirical studies that explore how entrepreneurial self-efficacy influences the level of engagement and innovation among medical students in healthcare contexts. This gap highlights the need for more research into how entrepreneurial self-efficacy can be fostered in medical education, particularly as healthcare systems increasingly demand creative and entrepreneurial approaches to solving public health problems in rural areas.

2.5 Achievement Motivation and Engagement

Achievement motivation refers to an individual's desire to achieve excellence and accomplish tasks that reflect their personal or professional goals. This type of motivation is closely linked to goal-setting, persistence, and a commitment to overcoming challenges in order to reach desired outcomes (Brandstätter & Bernecker, 2022). In the context of education, achievement motivation drives students to strive for academic success, set clear goals, and work diligently toward completing tasks. For medical students, especially those involved in rural healthcare projects, achievement motivation is a critical factor in maintaining engagement and ensuring that they remain committed to their responsibilities despite the challenges posed by resource-limited settings.

In both academic and community-oriented activities, students with high achievement motivation tend to exhibit greater initiative and a higher degree of involvement. Numerous studies have linked high achievement motivation to academic success and active participation in extracurricular projects. For instance, research by Wiyono and Wu (2022) demonstrated that students with high levels of achievement motivation were more likely to take on leadership roles in academic projects, seek out challenging opportunities, and persist in difficult tasks. These students are typically driven by a desire for personal growth and a sense of accomplishment, which motivates them to excel in both academic and extracurricular settings.

In the context of extracurricular and community-based healthcare initiatives, achievement motivation has also been shown to play a key role in determining the level of student engagement. A study by Açıksoz et al. (2022) found that students with strong achievement motivation were more likely to actively participate in healthcare outreach programs, particularly those that required innovative thinking and problem-solving. These students viewed involvement in such projects as an opportunity to apply their knowledge in real-world settings, thus aligning their personal drive for achievement with the goals of the project. Achievement-motivated students are often more willing to take on additional responsibilities, seek out solutions to complex problems, and remain focused on their objectives, making them valuable contributors to rural healthcare initiatives (Roy, 2022).

Rural healthcare projects present unique challenges, such as limited access to medical resources, cultural barriers, and the need for innovative solutions to meet the healthcare needs of underserved populations. Medical students with high levels of achievement motivation are more likely to engage in such projects because these challenges align with their desire to achieve meaningful outcomes and to contribute to impactful initiatives. For example, motivated students may view rural healthcare projects as an opportunity to develop new healthcare models, create public health education programs, or implement cost-effective medical interventions that address the specific needs of rural communities (Yahata et al., 2021). Their drive to succeed not only pushes them to engage more deeply but also enhances the overall effectiveness and sustainability of the projects they are involved in.

However, despite the established connection between achievement motivation and student engagement in academic and community settings, there is a gap in the literature regarding the specific role of achievement motivation in the context

of medical education and rural revitalization efforts. While studies have explored the importance of achievement motivation in academic success, few have examined how this type of motivation influences medical students' willingness to participate in rural healthcare projects. This gap is significant, as rural healthcare initiatives often require sustained effort, resilience, and a strong internal drive to overcome the numerous obstacles present in these settings. More research is needed to understand how achievement motivation affects the long-term engagement of medical students in rural healthcare and how it contributes to the success of rural revitalization efforts.

2.6 Critical Summary and Hypothesis Development

The literature consistently underscores the importance of student engagement in rural healthcare initiatives, especially in programs like the Youth Red Dream Journey that blend community service, innovation, and entrepreneurial thinking (Yuan et al., 2023; Zhang, 2021). Engagement in these projects plays a pivotal role in addressing healthcare disparities in rural areas, while also fostering students' personal and professional growth (Hu et al., 2022). However, despite the recognized value of engagement, there remains a significant gap in understanding the specific motivational factors that drive medical students to actively participate in rural healthcare projects. This is a crucial gap to address, particularly given the persistent challenge of attracting healthcare professionals to underserved rural regions.

While various motivational drivers have been explored in other fields, including social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation, their application to medical students' engagement in rural revitalization remains underexplored. For example, although social responsibility has been associated with student participation in civic activities and community service, its influence in the healthcare sector, particularly in rural settings, remains under-documented (Chen, 2022; Fan et al., 2022). Similarly, social capital has been highlighted as essential for facilitating collaborative healthcare projects, but its specific role in enhancing engagement in rural communities has not been thoroughly investigated, despite its recognized importance in fostering networks and relationships (Singh & Moody, 2022).

Moreover, although entrepreneurial self-efficacy, the confidence to innovate and lead entrepreneurial tasks, has been well studied in business contexts (Shen et al., 2021), its impact on medical students' ability to drive innovation in rural healthcare environments remains largely unexamined. The same applies to achievement motivation, a key driver of success in both academic and professional domains, which has been insufficiently explored in the context of rural healthcare projects where long-term engagement is critical for sustainable impact (You et al., 2022).

This study aims to bridge these gaps by critically examining how social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation influence medical students' engagement in rural healthcare initiatives, particularly within the framework of the Youth Red Dream Journey. By investigating the interplay of these factors, this research provides timely insights into enhancing student involvement in rural healthcare projects, ultimately contributing to the success of rural revitalization efforts. Understanding these motivational drivers is essential for designing programs that not only attract more students but also ensure their sustained impact in underserved rural areas. Building on the identified gaps in the literature, the following hypotheses are proposed to examine the relationships between these factors and medical students' engagement in rural healthcare projects:

H1: *Social responsibility has a positive impact on project engagement.*

H2: *Social capital has a positive impact on project engagement.*

H3: *Entrepreneurial self-efficacy has a positive impact on project engagement.*

H4: *Achievement motivation has a positive impact on project engagement.*

Through these hypotheses, this study seeks to offer a comprehensive understanding of the motivational factors that drive medical students to engage in rural healthcare projects, contributing both to the academic discourse and to practical strategies for rural revitalization. Figure 1 presents a visual representation of these relationships, illustrating how the four independent variables are expected to impact project engagement.

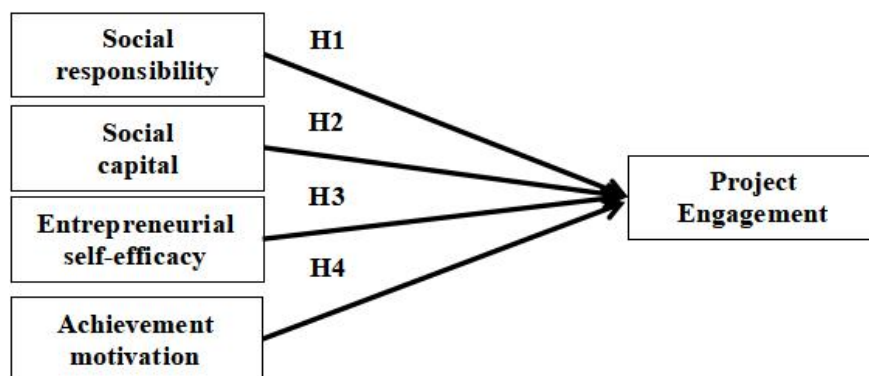


Figure 1. Conceptual Framework of Factors Influencing Project Engagement
(Source: Self-developed)

3. METHODOLOGY

3.1 Research Design

This study adopts a quantitative cross-sectional research design aimed at examining the relationships between four independent variables: social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation, and the dependent variable, engagement, among medical students participating in rural revitalization projects. Data were collected through a structured survey instrument administered to students across different academic years. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to test the hypothesized relationships and to explore how these factors influence students' engagement. The choice of PLS-SEM was justified by its ability to handle complex, multi-variable relationships and its suitability for exploratory research in cases of smaller sample sizes (Kono & Sato, 2023), making it an appropriate method for this study. This design facilitated a comprehensive analysis of the factors motivating student engagement in the "Youth Red Dream Journey" initiative.

3.2 Research Measurements

In this study, all scales employed a 5-point Likert format where respondents rated their agreement with statements from 1 (strongly disagree) to 5 (strongly agree). This ensured consistency across the different constructs measured, including social responsibility, social capital, entrepreneurial self-efficacy, achievement motivation, and engagement. Each of these scales was adapted from well-established instruments in prior research. To ensure suitability for use with Chinese undergraduate medical students, a rigorous translation process following cross-cultural adaptation guidelines was conducted. This involved several steps: first, a forward translation into Chinese by a bilingual expert; second, an independent back-translation into the original language; third, a comparison of the back-translation with the original to resolve any inconsistencies; and finally, a review by a panel of experts to finalize the translated version. Following this, a pilot test was conducted with a small group of participants to ensure the scales were comprehensible and appropriate. The Personal Social Responsibility Scale, specifically the Philanthropic Responsibility subscale, developed by Davis et al. (2021), was used in this study to measure students' sense of social responsibility. This subscale includes 5 items designed to assess the degree to which students feel responsible for contributing to society, such as "I support social and cultural activities with money or time." The original study reported a strong reliability for this subscale, with a Cronbach's alpha of 0.88.

The Social Capital Scale, developed by Khazami and Lakner (2021), was utilized in this study to measure students' social capital. This 10-item scale assesses the importance of various social factors and connections in students' lives, with items such as "For you, confidence in family and friends for strong support in a crisis is very important." The scale is composed of three subdimensions: Structural Capital, Relational Capital, and Cognitive Capital, each representing distinct aspects of social capital. The reliability of each subdimension was found to be strong, with Cronbach's alpha values of 0.847 for Structural Capital, 0.851 for Relational Capital, and 0.902 for Cognitive Capital. In the original study, the overall scale demonstrated excellent reliability, with a Cronbach's alpha of 0.945.

To assess entrepreneurial self-efficacy, this study utilized the Entrepreneurial Self-Efficacy Scale, as adapted by Liu et al. (2019). This 4-item scale measures students' confidence in their entrepreneurial skills and abilities. One example item is "I am able to apply innovative ideas to inspire entrepreneurial partners." In the original study, this scale demonstrated strong reliability, with a Cronbach's alpha of 0.858.

Achievement motivation was measured using the Achievement Motivation Scale, as adapted by Alamri (2023). This scale consists of 6 items designed to evaluate students' drive to achieve academic and personal goals. One sample item is "I always ask the lecturer about problems that I don't understand yet." The original study reported a high reliability for this scale, with a Cronbach's alpha of 0.924.

Finally, academic engagement was measured using the Academic Engagement Scale, adapted from Puiu et al. (2024). This scale consists of 8 items designed to assess the level of students' involvement in academic and extracurricular activities. A sample item is "I engage in many extracurricular activities organized by my faculty/university." The scale demonstrated adequate reliability in its original study, with a Cronbach's alpha of 0.732.

3.3 Sampling and Participants

A purposive sampling method was used to select undergraduate medical students from Youjiang Medical University for Nationalities in China. This group was chosen due to their involvement in innovation and entrepreneurship education, as well as their potential participation in rural healthcare projects, making them ideal candidates for this study. The students were recruited with the assistance of the university's Innovation and Entrepreneurship Student Association, and data were collected via an electronic questionnaire distributed through the platform Wenjuanxing, with support from WeChat and email to maximize reach. The survey was open for two weeks, from July to August 2024.

The target sample included students from all five academic years, representing a diverse cross-section of the student body in terms of gender, age, year of study, GPA, family background, and prior involvement in rural healthcare and the Youth Red Dream Journey activities. In total, 350 students were invited to participate through digital platforms, and 320 responded, yielding a participation rate of 91.4%. After excluding 20 invalid responses, 300 valid questionnaires were used for analysis, resulting in a final valid response rate of 85.7%.

3.4 Data Analysis

The data were analyzed using SmartPLS 4.0 through a two-step approach involving measurement and structural model evaluation. Reliability and validity were assessed using standard PLS-SEM metrics, while path analysis, bootstrapping, and R^2 were used to evaluate the structural relationships.

4. RESULTS

4.1 Descriptive Statistics

The demographic characteristics of the sample are summarized in Table 1. A total of 300 undergraduate medical students participated in the study, comprising 48.33% male ($n = 145$) and 51.67% female ($n = 155$) students. Most participants were aged between 20 and 21 years (52.67%, $n = 158$), followed by those aged 18–19 (24.67%, $n = 74$) and 22–23 (22.67%, $n = 68$).

With regard to academic year, the largest proportion were 3rd-year students (32.67%, $n = 98$), followed by 2nd-year (23.33%, $n = 70$), 1st-year (20.33%, $n = 61$), 4th-year (15.33%, $n = 46$), and 5th-year students (8.33%, $n = 25$). In terms of academic performance, 47.33% ($n = 142$) reported a GPA between 3.0 and 4.0, while 36.00% ($n = 108$) had a GPA between 4.0 and 4.5. A smaller portion had a GPA below 3.0 (10.33%, $n = 31$), and only 6.33% ($n = 19$) had a GPA above 4.5.

As for family background, 60.67% ($n = 182$) of the students came from rural areas, while 39.33% ($n = 118$) were from urban areas. A majority (65.67%, $n = 197$) had previous experience in rural healthcare, compared to 34.33% ($n = 103$) who had none. Notably, 76% ($n = 228$) reported participation in the Youth Red Dream Journey initiative or its associated competitions, whereas 24% ($n = 72$) had not been involved.

Table 1. Demographic Characteristics of the Sample (N = 300)

Category	Frequency (n)	Percentage (%)
Gender		
Male	145	48.33
Female	155	51.67
Age		
18-19	74	24.67
20-21	158	52.67
22-23	68	22.67
Year of Study		
1st Year	61	20.33
2nd Year	70	23.33
3rd Year	98	32.67
4th Year	46	15.33
5th Year	25	8.33
GPA		
Below 3.0	31	10.33
3.0 - 4.0	142	47.33
4.0 - 4.5	108	36.00
Above 4.5	19	6.33
Family Background		
Urban	118	39.33
Rural	182	60.67
Previous Rural Healthcare Experience		
Yes	197	65.67
No	103	34.33
Participation in Youth Red Dream Journey Activities & Competition		
Yes	228	76
No	72	24

4.2 Measurement Model Evaluation

To ensure the robustness of the measurement model, reliability, convergent validity, and discriminant validity were assessed following established PLS-SEM guidelines. Internal consistency was evaluated using Cronbach's alpha and composite reliability (CR), while convergent validity was examined via factor loadings and average variance extracted (AVE). Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio.

4.2.1 Reliability Analysis and Convergent Validity

As shown in Table 2, all constructs demonstrate acceptable internal consistency. The Cronbach's alpha values for all constructs exceed the widely accepted threshold of 0.70, as recommended by DeVellis and Thorpe (2021). For example, the Cronbach's alpha value for Social Responsibility is 0.822, while Entrepreneurial Self-Efficacy reports a value of 0.783, both of which indicate satisfactory reliability. In addition, the constructs related to Social Capital, including Structural Capital ($\alpha = 0.759$), Relational Capital ($\alpha = 0.804$), and Cognitive Capital ($\alpha = 0.809$), also meet the reliability criterion. Achievement Motivation and Project Engagement show even stronger internal consistency, with Cronbach's alpha values of 0.845 and 0.860, respectively.

The CR values for all constructs are above 0.70, as suggested by Sarstedt et al. (2021), confirming the reliability of the measurement model. These values range from 0.798 to 0.889, indicating consistent responses across items. For instance, the CR value for Project Engagement is 0.889.

Convergent validity was assessed using the AVE for each construct. According to Henseler et al. (2009), an AVE value greater than 0.50 indicates that the construct explains more than half of the variance in its indicators. In this study, all constructs achieved AVE values above this threshold, with results ranging from 0.528 to 0.629. This confirms that the constructs exhibit adequate convergent validity.

Most factor loadings exceed the recommended value of 0.70, with several items loading above 0.80. A few loadings fall between 0.60 and 0.70 but remain within acceptable bounds. Overall, the results for factor loadings, Cronbach's alpha, composite reliability, and AVE provide strong evidence that the measurement model is both reliable and valid for subsequent analysis.

Table 2. Reliability and Convergent Validity of Constructs

Construct	Item	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE
Social Responsibility	SR1	0.623	0.822	0.858	0.605
	SR2	0.768			
	SR3	0.801			
	SR4	0.743			
	SR5	0.701			
Structural Capital	SC1	0.638	0.759	0.798	0.528
	SC2	0.743			
	SC3	0.729			
Relational Capital	RC1	0.66	0.804	0.848	0.573
	RC2	0.794			
	RC3	0.732			
	RC4	0.727			
Cognitive Capital	CC1	0.654	0.809	0.856	0.616
	CC2	0.812			
	CC3	0.788			
Entrepreneurial Self-Efficacy	ESE1	0.702	0.783	0.832	0.537
	ESE2	0.783			
	ESE3	0.744			
	ESE4	0.621			
Achievement Motivation	AM1	0.708	0.845	0.879	0.562
	AM2	0.751			
	AM3	0.782			
	AM4	0.696			
	AM5	0.701			
	AM6	0.672			
Project Engagement	AE1	0.689	0.860	0.889	0.629
	AE2	0.734			
	AE3	0.745			
	AE4	0.792			

	AE5	0.748			
	AE6	0.703			
	AE7	0.677			
	AE8	0.744			

4.2.2 Discriminant Validity Analysis

Discriminant validity was assessed using the Fornell–Larcker criterion, which requires that the square root of the AVE for each construct should be greater than its correlations with all other constructs (Henseler et al., 2015). As presented in Table 3, all constructs met this requirement. For example, the square root of the AVE for Social Responsibility is 0.778, which exceeds its correlations with Structural Capital (0.487) and Cognitive Capital (0.518). Similarly, Project Engagement has a square root AVE of 0.793, which is greater than its correlations with Achievement Motivation (0.561) and other constructs. These results confirm adequate discriminant validity, indicating that all constructs are empirically distinct.

Table 3. Discriminant Validity Assessment Using Fornell-Larcker Criterion

Construct	SR	SC	RC	CC	ESE	AM	PE
SR	0.778						
SC	0.487	0.727					
RC	0.462	0.611	0.757				
CC	0.518	0.574	0.584	0.785			
ESE	0.449	0.506	0.503	0.548	0.733		
AM	0.468	0.532	0.51	0.563	0.522	0.75	
PE	0.492	0.521	0.539	0.576	0.541	0.561	0.793

Note: SR = Social Responsibility; SC = Structural Capital; RC = Relational Capital; CC = Cognitive Capital; ESE = Entrepreneurial Self-Efficacy; AM = Achievement Motivation; PE = Project Engagement. Values on the diagonal represent the square root of the average variance extracted (AVE); off-diagonal values indicate the inter-construct correlations.

To provide a more stringent assessment of discriminant validity, the HTMT was also evaluated (Table 4). HTMT is widely regarded as a more sensitive approach for detecting discriminant validity issues, particularly when constructs are conceptually related or highly correlated (Henseler et al., 2015). A commonly accepted threshold is 0.85; values below this cut-off indicate adequate discriminant validity.

In this study, all HTMT values among the constructs, including the sub-dimensions of social capital (i.e., structural, relational, and cognitive capital), were below the 0.85 threshold. For example, the HTMT between Social Responsibility and Structural Capital was 0.65, and the highest value was 0.78 between Structural Capital and Relational Capital. These findings suggest that the constructs are empirically distinct and that the measurement model satisfies the criterion for discriminant validity.

Furthermore, by employing both the Fornell–Larcker criterion and the HTMT method, this study offers robust and converging evidence for discriminant validity. The Fornell–Larcker approach confirms that each construct shares more variance with its own indicators than with other constructs, while HTMT provides a stricter evaluation by analyzing the ratio of between-construct and within-construct correlations. Together, these complementary methods confirm the adequacy of the measurement model in distinguishing among latent constructs.

Table 4. Discriminant Validity Assessment Using Heterotrait-Monotrait Ratio (HTMT) Criterion

Constructs	SR	SC	RC	CC	ESE	AM	PE
SR							
SC	0.647						
RC	0.615	0.782					
CC	0.636	0.763	0.768				
ESE	0.578	0.698	0.677	0.692			
AM	0.604	0.721	0.704	0.713	0.674		
PE	0.629	0.738	0.709	0.726	0.682	0.688	

Note: SR = Social Responsibility; SC = Structural Capital; RC = Relational Capital; CC = Cognitive Capital; ESE = Entrepreneurial Self-Efficacy; AM = Achievement Motivation; PE = Project Engagement.

4.3 Structural Model Assessment

4.3.1 Multicollinearity Assessment

As shown in Table 5, all variance inflation factor (VIF) values are below the recommended threshold of 5, indicating that multicollinearity is not a concern in the model (Hair et al., 2011). Specifically, the VIF values for Social Responsibility (1.855), Social Capital (2.013), Entrepreneurial Self-Efficacy (1.764), and Achievement Motivation (1.925) suggest that the predictors are sufficiently independent. This supports the stability of parameter estimates and confirms that the regression paths can be interpreted without bias from multicollinearity.

Table 5. Multicollinearity Assessment Using Variance Inflation Factors (VIF)

Path Relationships	VIF
Social Responsibility -> Engagement	1.855
Social Capital -> Engagement	2.013
Entrepreneurial Self-Efficacy -> Engagement	1.764
Achievement Motivation -> Engagement	1.925

4.3.2 Model Fit Indices

The model fit indices presented in Table 6 demonstrate an acceptable fit for both the saturated and approximate models. The Standardized Root Mean Square Residual (SRMR) value of 0.052 is well below the recommended cutoff of 0.08, indicating a good fit between the model and the observed data (Henseler et al., 2015). Additionally, the RMS_theta value of 0.108 is within the acceptable limit of 0.12, further confirming the adequacy of the model fit (Hair et al., 2020). These results support the validity of the structural model and justify subsequent analysis of path relationships.

Table 6. Model Fit Indices for Saturated and Approximate Model

Fit Measure	Saturated Model Fit	Approximate Model Fit	Threshold
SRMR	0.052	0.058	< 0.08
RMS_theta	0.108	-	< 0.12

4.3.3 Hypothesis Testing

As shown in Table 7, the results of the structural model indicate that all four independent variables: social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation positively and significantly influence project engagement. According to Hair et al. (2019), path coefficients are typically considered significant when they exceed 0.2, which is evident in all the relationships reported in this study. The coefficients for Entrepreneurial Self-Efficacy ($\beta = 0.310$, $SE = 0.027$, $T = 11.481$, $p < 0.001$), Achievement Motivation ($\beta = 0.275$, $SE = 0.032$, $T = 8.594$, $p < 0.001$), Social Responsibility ($\beta = 0.231$, $SE = 0.030$, $T = 7.7$, $p < 0.001$), and Social Capital ($\beta = 0.217$, $SE = 0.029$, $T = 7.31$, $p < 0.001$) meet this threshold, indicating strong relationships between these variables and Project Engagement.

Additionally, effect sizes (f^2) indicate the practical significance of each predictor, with values above 0.02 considered small but meaningful, 0.15 considered medium, and 0.35 considered large (Cohen, 2013). In this study, the effect sizes of Entrepreneurial Self-Efficacy ($f^2 = 0.150$), Achievement Motivation ($f^2 = 0.110$), Social Responsibility ($f^2 = 0.068$), and Social Capital ($f^2 = 0.074$) are above the small effect threshold, supporting their practical relevance in explaining engagement.

Finally, the R^2 value of 0.452 meets the moderate standard for model explanatory power as suggested by Henseler et al. (2009), confirming that the independent variables explain a substantial portion of the variance in Project Engagement.

Table 7. Path Coefficients and Significance Testing Results

Path Relationships	β	SE	T	P	LLCL	ULCL	Effect Size	Rating	R square
SR -> PE	0.231	0.030	7.700	0	0.18	0.282	0.068	S	0.452
SC -> PE	0.217	0.029	7.310	0	0.169	0.265	0.074	S	
ESE -> PE	0.310	0.027	11.481	0	0.265	0.355	0.150	S	
AM -> PE	0.275	0.032	8.594	0	0.211	0.339	0.110	S	

Note: SR=Social Responsibility, SC=Social Capital, ESE=Entrepreneurial Self-Efficacy, AM=Achievement Motivation, PE=Project Engagement.

4.3.4 Evaluation of Predictive Relevance (Q^2) for the Model

As shown in Table 8, The Q^2 value for Project Engagement is 0.220, which indicates a moderate level of predictive relevance. According to Hair et al. (2019), a Q^2 value greater than 0 suggests that the model has predictive relevance, and in this case, the model demonstrates a meaningful ability to predict the engagement of students in the project based on the independent variables of Social Responsibility, Social Capital, Entrepreneurial Self-Efficacy, and Achievement Motivation. With a Q^2 value between 0.15 and 0.35, the model shows moderate predictive relevance, implying that the

relationships between the independent variables and Project Engagement contribute effectively to the explanatory power of the model.

Table 8. Predictive Relevance (Q^2) for Project Engagement Construct

Construct	Q^2 (Predictive Relevance)
Project Engagement	0.220

4.3.5 Summary of Hypothesis Testing Results

The hypothesis testing results, summarized in Table 9, confirm that all proposed relationships between the independent variables and project engagement are supported.

Table 9. Summary of Hypothesis Testing Results

Hypothesis	Decision
H1: Social responsibility has a positive impact on project engagement.	Support
H2: Social capital has a positive impact on project engagement.	Support
H3: Entrepreneurial self-efficacy has a positive impact on project engagement.	Support
H4: Achievement motivation has a positive impact on project engagement.	Support

5. DISCUSSION

The findings of this study confirm that social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation are significant factors driving medical students' engagement in rural revitalization projects. Each of these variables played a crucial role, with unique contributions to student participation in the "Youth Red Dream Journey" initiative.

5.1 Social Responsibility and Engagement

The findings of this study underscore that social responsibility is a critical driver of engagement, particularly in healthcare projects situated in underserved rural areas. This aligns with prior research indicating that a strong sense of ethical obligation significantly increases participation in community service and healthcare initiatives (Coelho & Menezes, 2021; Hallowell et al., 2024). In rural settings, where healthcare disparities are severe and the effects of interventions are immediately visible, students' sense of moral duty tends to be more pronounced. These disparities include limited access to medical infrastructure and the prevalence of preventable diseases, which compel students to act based on an ethical commitment to address these issues (Rogers, 2021).

This heightened sense of responsibility, as Piasecki and Dranseika (2020) argue, stems from an ethical obligation to address pressing healthcare needs, particularly in environments where institutional support is minimal, and healthcare resources are scarce. Medical students, when confronted with the realities of rural healthcare challenges, experience an ethical awakening that propels them to take action, often driven by a personal sense of duty to alleviate suffering and improve healthcare access. The immediacy of their impact in rural areas, where the effects of even small interventions are visibly profound, further intensifies this moral responsibility, fostering sustained engagement in healthcare projects.

Additionally, rural settings introduce specific ethical dilemmas that are less frequently encountered in urban environments. McCarty et al. (2023) highlight that rural healthcare providers often face difficult choices, such as managing limited resources and navigating the treatment of vulnerable populations, including the elderly and chronically ill. For medical students, these experiences not only sharpen their ethical sensibilities but also reinforce their commitment to rural healthcare. Engaging in these challenging situations fosters a deeper understanding of the moral complexities in underserved communities, making their contributions both necessary and ethically compelling.

Moreover, the ethical motivations behind rural healthcare engagement are often magnified by students' awareness of the healthcare disparities they are addressing. As Raj et al. (2020) discuss, a sense of altruism and trust in the healthcare system drives individuals to engage more deeply in healthcare projects, particularly in areas with pronounced disparities. In rural settings, this sense of moral obligation is enhanced by the direct and visible impact of student-led interventions, such as community health education or preventive care programs. These initiatives not only address immediate healthcare needs but also contribute to long-term health improvements in these communities, further solidifying students' ethical commitment.

The distinction between rural and urban healthcare engagement lies in the structure and impact of these systems. Rural healthcare, often less bureaucratic and more immediate, allows students to witness the tangible results of their work, which reinforces their professional and ethical commitment to these communities (Wicaksono et al., 2021). As Seiler (2018) suggests, healthcare professionals and students who engage in underserved areas often perceive their work as a direct contribution to the public good, which strengthens their long-term professional dedication to addressing health disparities. This sense of moral fulfillment not only sustains student involvement in rural projects but also fosters a lasting commitment to serving marginalized populations throughout their careers.

By integrating these ethical considerations, it becomes clear that medical students' engagement in rural healthcare projects is not merely voluntary or experiential but rooted in a deeper sense of social responsibility. Their involvement is driven by both an ethical imperative to address healthcare inequities and a professional commitment to improving the well-being of underserved populations. This dual motivation strengthens their resolve and ensures continued engagement in rural revitalization efforts.

5.2 Social Capital and Engagement

Social capital, comprising structural, relational, and cognitive dimensions, plays a significant role in shaping student engagement in rural healthcare projects. This study found that students with strong structural social capital, reflected in their access to broad social networks and resources, were more likely to effectively collaborate with healthcare professionals, local leaders, and other stakeholders. The ability to draw on these networks facilitates the mobilization of resources such as medical supplies, technical expertise, and logistical support, which are critical in resource-scarce environments like rural areas. This finding aligns with previous research that highlights the importance of structural social capital in enhancing collaboration and resource access, making students' participation in these projects more impactful (Firpo et al., 2021).

Relational social capital, characterized by trusting relationships with peers, mentors, and community members, also emerged as a critical factor in promoting active engagement. In rural healthcare, where trust is often the foundation of successful interventions, students who establish strong, trusting relationships with local stakeholders such as community leaders or healthcare workers are better positioned to foster cooperation. These relationships create an environment conducive to collaboration, ensuring that healthcare initiatives are aligned with local needs and are more likely to be accepted by the community. The ability to build and maintain these relationships is crucial for ensuring the sustainability and long-term success of healthcare projects (Ljungblad & Berhanu, 2020).

Furthermore, cognitive social capital, which involves shared beliefs, values, and aligned goals between students and the communities they serve, significantly deepens student commitment to these projects. When students perceive that their objectives and values are aligned with those of the community, they develop a stronger personal connection to the success of the project. For instance, students who share the community's vision of improving healthcare access are more likely to engage deeply in initiatives such as health education campaigns or preventive care programs. This cognitive alignment fosters a sense of ownership and responsibility toward the project, making students more likely to remain engaged for the long term. This study highlights the crucial role of cognitive alignment in rural settings, where shared understanding between students and community members is often key to the success of healthcare interventions (Ngoc Ton et al., 2023).

5.3 Entrepreneurial Self-Efficacy and Engagement

Entrepreneurial self-efficacy emerged as the strongest predictor of engagement in rural healthcare projects, distinguishing itself from other factors like social responsibility, social capital, and achievement motivation. The reason for this lies in the unique mechanism through which entrepreneurial self-efficacy influences behavior. Entrepreneurial self-efficacy reflects an individual's confidence in their ability to innovate, solve problems, and take leadership roles in uncertain and resource-constrained environments (Bi & Collins, 2021; Lee, 2021). In the context of rural healthcare, where challenges such as limited medical resources, geographical isolation, and cultural barriers are prevalent, the ability to think entrepreneurially and act confidently becomes indispensable.

Research has shown that individuals with high entrepreneurial self-efficacy are more likely to engage in behaviors that are proactive, creative, and solution-oriented (Luo et al., 2022). This explains why, in rural healthcare settings where traditional and rigid approaches may not work, students with strong entrepreneurial self-efficacy are more willing to develop innovative solutions such as mobile health clinics or community-driven healthcare initiatives (Miao, 2020). This contrasts with other factors like social responsibility, which may drive engagement based on ethical or moral motivations but does not necessarily equip students with the practical tools to lead and innovate effectively in challenging environments.

Moreover, entrepreneurial self-efficacy promotes an iterative learning process, where students become more adept at solving problems through experimentation and adjustment. This aligns with Bandura's theory of self-efficacy, which suggests that individuals with high self-efficacy tend to approach difficult tasks as challenges to be mastered rather than threats to be avoided (Bandura, 1997). In rural healthcare, this mindset is crucial. Students with high entrepreneurial self-efficacy are not deterred by the significant obstacles they face, such as resource shortages or logistical difficulties. Instead, they are motivated to persist, experiment, and adapt their strategies to ensure the success of their healthcare projects (Luo et al., 2022). This persistence is less pronounced in students driven primarily by social capital or social responsibility, as their engagement may rely more on external support and less on their own confidence in problem-solving.

Additionally, the literature highlights that entrepreneurial self-efficacy also fosters leadership qualities, which are critical in rural healthcare settings. According to Bi and Collins (2021), entrepreneurial self-efficacy encourages students to take ownership of projects, lead teams, and make strategic decisions. These qualities are particularly important in resource-limited environments where strong leadership is needed to coordinate efforts, allocate scarce resources, and motivate others. Unlike social capital, which enhances collaboration, or achievement motivation, which drives personal success, entrepreneurial self-efficacy uniquely equips students with the leadership skills needed to

initiate complex healthcare interventions. These capabilities are crucial in rural contexts where resource coordination and team motivation are essential.

The influence of entrepreneurial self-efficacy on sustainability is another reason it surpasses other predictors. Students with high entrepreneurial self-efficacy are more likely to implement sustainable healthcare solutions. This is because their confidence in innovation allows them to think long-term, ensuring that their healthcare projects are not only effective in the short term but also scalable and sustainable in the long run (Miao, 2020). In contrast, while social capital and achievement motivation can support engagement, they may not directly contribute to the long-term viability of healthcare initiatives.

Entrepreneurial self-efficacy stands out as the strongest predictor of engagement due to its influence on problem-solving, leadership, persistence, and the creation of sustainable solutions. This underscores the need for medical education programs to prioritize the development of entrepreneurial self-efficacy, especially in preparing students for the complex and resource-scarce environments of rural healthcare (Yashiro et al., 2021).

5.4 Achievement Motivation and Engagement

Achievement motivation was consistently found to be a critical predictor of student engagement, especially in rural healthcare projects. Achievement motivation, as previously established, refers to an individual's intrinsic desire to achieve excellence and accomplish specific goals, driving persistence and effort even in challenging circumstances (Wiyono & Wu, 2022; Yahata et al., 2021). This concept has been widely studied in educational psychology, particularly in academic and professional contexts, but its role becomes uniquely important in environments like rural healthcare where barriers to success are more prominent and visible.

Achievement motivation in rural healthcare emerges as a vital trait because of the specific challenges students face in these environments. These include a lack of resources, geographical isolation, and cultural barriers. In contrast to urban settings, where access to advanced medical equipment and infrastructure is more readily available, rural areas often lack even basic healthcare necessities, requiring students to be resourceful and persistent in overcoming these limitations (Uysal et al., 2021).

Students with high levels of achievement motivation view these challenges not as insurmountable obstacles but as opportunities to innovate, grow, and make a significant impact. Their drive for excellence pushes them to develop creative solutions, such as low-cost healthcare interventions, mobile health services, or community health education programs, which are often necessary to address the specific healthcare needs of rural populations. In fact, studies show that individuals with strong achievement motivation are more likely to take proactive steps toward personal and professional development when faced with adversity, using obstacles as a motivation to work harder and more efficiently (Açıksöz et al., 2022).

This aligns with findings from educational and motivational psychology, which highlight that achievement-oriented individuals are often characterized by a high degree of goal-setting behavior. These students are likely to set challenging, yet achievable, goals for themselves, leading them to seek leadership roles in healthcare projects and take ownership of tasks that require sustained effort (Alamri, 2023). In rural healthcare projects, where consistent and long-term engagement is essential to making meaningful progress, students with high achievement motivation are more likely to persist, even in the face of significant obstacles, such as lack of infrastructure or local resistance to new healthcare methods.

Furthermore, achievement motivation does not only lead to improved project outcomes but also to the personal development of students. Their resilience, developed through facing these unique challenges, contributes to their long-term commitment to public health, especially in underserved areas. For instance, such students are more likely to continue working in rural healthcare or public health roles after their studies because they have already developed the necessary perseverance and commitment (Yahata et al., 2021). This commitment is vital for sustaining healthcare initiatives in rural areas, which require continuity and long-term support to be effective.

Additionally, achievement motivation can interact with other factors, such as entrepreneurial self-efficacy and social capital, to enhance engagement. Highly motivated students are often those who, in addition to setting high goals, possess the confidence to innovate and lead in uncertain environments. For example, a student motivated to achieve excellence in healthcare delivery might also be the one who takes the initiative to collaborate with local leaders or healthcare workers, creating sustainable solutions that align with the community's values and needs (Luo et al., 2022). This synergy between personal ambition and community collaboration underscores the complex interplay of motivational factors that drive success in rural healthcare projects.

Overall, this study confirms the importance of ethical commitment, social networks, entrepreneurial confidence, and personal ambition in driving medical students' engagement in rural healthcare projects. These factors not only motivate students to participate in rural revitalization efforts but also provide a strong foundation for developing sustainable and impactful healthcare solutions in underserved communities. By understanding the unique dynamics of rural healthcare, this study contributes to a broader understanding of how to engage and motivate medical students to address critical public health challenges effectively.

6. IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study provides both theoretical contributions and practical recommendations, while also acknowledging certain limitations and suggesting avenues for future research. The findings confirm that social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation are crucial drivers of medical students' engagement in rural revitalization projects. These insights contribute to a deeper understanding of how these factors influence student involvement in healthcare initiatives.

6.1 Theoretical Implications

This study expands existing models of student engagement by incorporating motivational and social factors into the context of rural healthcare. Previous research has predominantly focused on urban healthcare or general educational settings, with less attention paid to rural environments (Fan et al., 2022). This study highlights the role of relational and cognitive social capital in rural healthcare projects, demonstrating that shared goals and trust between students and rural communities are critical for increasing engagement. These forms of social capital go beyond simply facilitating collaboration; they enhance the alignment between student motivations and community needs, which is essential for the success of healthcare interventions in underserved areas (Ngoc Ton et al., 2023).

Relational social capital, characterized by trust and close relationships, is particularly significant in rural settings, where students rely on strong bonds with local healthcare providers and community leaders to gain acceptance for their interventions. This dynamic extends existing theories of student engagement by emphasizing the importance of trust and shared understanding in resource-limited environments. Meanwhile, cognitive social capital ensures that students' objectives align with the values and beliefs of the communities they serve, fostering a sense of shared purpose. This theoretical expansion emphasizes that student engagement in rural healthcare is not just driven by individual motivations, but also by how well students and communities are able to build mutual trust and shared goals (Firpo et al., 2021).

Moreover, this study extends the application of entrepreneurial self-efficacy beyond its traditional business context. Previous research has largely examined entrepreneurial self-efficacy in entrepreneurial and innovation settings (Damayanti, 2023), but this study demonstrates its relevance in medical education, particularly in rural healthcare projects. In resource-limited rural settings, students with high entrepreneurial self-efficacy are more likely to lead innovative healthcare solutions, such as mobile health clinics or community-driven health education programs. The ability to creatively solve problems under resource constraints underscores entrepreneurial self-efficacy's critical role in overcoming public health challenges in underserved areas.

This finding significantly broadens the theoretical framework of entrepreneurial self-efficacy, suggesting that entrepreneurial confidence is crucial not only for business success but also for solving public health issues in low-resource environments. The entrepreneurial mindset fosters resilience and innovation, equipping students to address the unique healthcare needs of rural populations (Bi & Collins, 2022).

Additionally, this study contributes to the multidimensional understanding of student engagement by integrating multiple motivational drivers, including social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation. These factors do not operate in isolation; rather, they interact dynamically to influence student engagement. For example, social responsibility may provide the ethical foundation for engagement, while entrepreneurial self-efficacy equips students with the practical skills needed to implement innovative solutions. Similarly, achievement motivation amplifies students' persistence and drive, enabling them to navigate the challenges of rural healthcare while drawing on the relational and cognitive capital embedded within the communities they serve (Yahata et al., 2021).

This multidimensional model offers a more comprehensive theoretical framework for understanding student engagement in rural revitalization efforts. It extends existing models by emphasizing how the intersection of personal, ethical, and social factors can foster deeper, more sustained engagement in complex, resource-limited healthcare environments.

6.2 Practical Implications

The findings of this study carry significant implications for how medical education, particularly in rural revitalization projects, should evolve to foster greater student engagement. For higher education institutions, the results suggest that integrating social responsibility and entrepreneurial self-efficacy into medical education can profoundly influence students' engagement levels. The implication is that ethics-based learning should not only be taught in theoretical contexts but integrated into practical experiences where students can directly engage with community health challenges. This reflects the growing importance of equipping students with both the ethical mindset and leadership skills necessary for addressing the complexities of rural healthcare settings (Demirören & Atılğan, 2023). The development of entrepreneurial self-efficacy, in particular, implies a shift in medical education toward fostering creativity and innovation. By allowing students to tackle resource constraints through problem-based learning and hands-on projects, they develop the confidence to lead healthcare interventions that have a lasting impact in rural environments.

In terms of social capital, the implications suggest that students who cultivate relational ties with local communities are more likely to sustain their engagement. This reflects the need for medical education programs to emphasize collaboration and trust-building in rural settings. The implication here is that higher education institutions should not only teach medical skills but also create opportunities for students to form meaningful connections with rural healthcare workers and community members. Such relationships are critical for fostering a sense of shared responsibility and long-term commitment, as rural healthcare requires sustained efforts and trust between healthcare providers and the communities they serve (Botha et al., 2022).

For policymakers, the findings imply that strategies promoting the development of social capital should be prioritized to enhance the effectiveness of rural healthcare initiatives. While social responsibility and entrepreneurial self-efficacy are important, the ability to build and maintain trust within the community is vital for long-term success. Policies that support community-based service-learning programs and create frameworks that foster collaboration between students and rural healthcare workers are crucial. These policies can bridge the gap between students' academic training and the real-world challenges they will face in underserved regions (Ljungblad & Berhanu, 2020).

Additionally, the findings imply that there is a need to rethink how higher education prepares students for rural healthcare. Institutions may need to reevaluate their approaches to medical education by incorporating more field-based experiences that allow students to confront the ethical and practical dilemmas unique to rural settings. This would not only enhance student engagement but also address the broader systemic issues that contribute to healthcare disparities in rural areas. Programs like the "Youth Red Dream Journey" provide a framework for this, indicating the importance of such initiatives in bridging academic learning with practical application in real-world healthcare challenges.

Moreover, the study implies that the development of entrepreneurial skills is critical in ensuring the sustainability of healthcare interventions in rural areas. Medical students with strong entrepreneurial self-efficacy are more likely to implement innovative solutions that are adaptable to the constraints of rural healthcare, suggesting that higher education should emphasize entrepreneurial thinking as a core component of medical training. This has implications for curriculum development, where students need to be equipped not just with clinical knowledge but also with the ability to lead, innovate, and manage healthcare projects effectively in resource-limited environments (Bi & Collins, 2022).

6.3 Limitations and Suggestions for Future Research

One major limitation of this study is that it was conducted at a single university, which limits the generalizability of the findings to other educational settings. The unique institutional characteristics and support systems at this university may influence the factors driving student engagement in rural revitalization projects, which could differ across other universities and regions (Prabhu, 2020). Additionally, this study did not compare different student groups, such as those in various academic years or with differing levels of prior rural healthcare experience, which could provide more nuanced insights into how these subgroups engage with rural healthcare projects. The absence of such comparative analysis limits the understanding of potential differences in engagement across diverse populations (Emerson, 2021). Another limitation is the lack of mediating or moderating variables, such as institutional support or prior experience, which could provide a more dynamic view of how factors like social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation influence engagement. Future research should explore these relationships to offer a deeper, more complex understanding of student engagement (Weston, Hayward, & Laursen, 2021). Moreover, the study treated project engagement as a single, unified construct, overlooking the distinctions between behavioral, cognitive, and emotional engagement. While behavioral engagement is observable, cognitive and emotional engagement are more implicit and require more in-depth exploration. By treating engagement as a holistic concept, the study may miss important nuances in how students interact with rural projects. Furthermore, the exclusive reliance on quantitative methods limits the ability to explore the underlying psychological and cognitive mechanisms driving student engagement. A mixed methods approach, incorporating qualitative data such as interviews or focus groups, could provide richer insights into the internal processes influencing engagement and offer a more comprehensive understanding of the factors at play. Thus, while this study contributes valuable findings, future research should address these limitations by expanding the scope of institutions studied, incorporating comparative group analysis, exploring mediating and moderating factors, and adopting mixed methods to examine engagement more deeply.

7. CONCLUSIONS

This study demonstrated that social responsibility, social capital, entrepreneurial self-efficacy, and achievement motivation significantly influence medical students' engagement in rural revitalization projects. Each factor plays a vital role in motivating students to participate actively, with social responsibility and social capital fostering ethical commitment and community collaboration, while entrepreneurial self-efficacy and achievement motivation encourage innovation and persistence. These findings fill important gaps in the existing literature by highlighting the unique dynamics in rural healthcare settings, offering valuable insights for designing educational programs and policies that enhance student involvement in underserved areas. Future research should further investigate these factors in diverse cultural contexts to better support rural healthcare initiatives.

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REFERENCES

- [1] Açığsöz, S., Şendir, M., Kızıl, H., & Coşkun, E. Y. (2022). Evaluation of individual innovative characteristics and problem-solving skills of students. *Journal of Academic Research in Nursing*.
- [2] Afzal, F., Raychaudhuri, P. S., Afzal, M. A., & Ahmad, A. A. (2021). Challenges faced by bpl population in availing public healthcare—analysing government initiatives, technology and cultural barriers in Aligarh district, UP. *South Asian Journal of Social Sciences and Humanities*, 2(5), 1-19.
- [3] Alamri, M. M. (2023). A model of e-learning through achievement motivation and academic achievement among university students in Saudi Arabia. *Sustainability*, 15(3), 2264.
- [4] Altschuler, R., & Mann, A. K. (2023). The development of accessible and sustainable transgender health education for rural-serving medical providers in Appalachia. *Rural and Remote Health*, 23(2), 1-6.
- [5] Bandura, A., & Wessels, S. (1997). Self-efficacy (pp. 4-6). Cambridge: Cambridge University Press.
- [6] Bi, Q. C., & Collins, J. (2022). Proactivity, mindsets and the development of students' entrepreneurial self-efficacy: behavioural skills as the catalyst. *Journal of the Royal Society of New Zealand*, 52(5), 526-538.
- [7] Botha, R., Joubert, A., Morgan, H., & Wilmot, M. (2022). Relational experiences of community members participating in a rural health initiative with interprofessional students. *African Journal of Health Professions Education*, 14(2), 49-54.
- [8] Brandstätter, V., & Bernecker, K. (2022). Persistence and disengagement in personal goal pursuit. *Annual Review of Psychology*, 73(1), 271-299.
- [9] Brommelsiek, M., & Peterson, J. A. (2022). Self-care for advanced practice nursing students in rural primary care. *Journal of Nursing Education*, 61(4), 187-191.
- [10] Chen, Y. D. (2022). Using Social Prescribing to Practice Social Responsibility: A Case Study in the Taipei Medical University System. *Hu Li Za Zhi*, 69(3), 25-30.
- [11] Coelho, M., & Menezes, I. (2021). University social responsibility, service learning, and students' personal, professional, and civic education. *Frontiers in psychology*, 12, 617300.
- [12] Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. routledge.
- [13] Dahal, A., Kardonsky, K., Cunningham, M., Evans, D. V., & Keys, T. (2023). The Effect of Rural Underserved Opportunities Program Participation on Medical Graduates' Decision to Work in Rural Areas. *Academic Medicine*, 98(11), 1288-1293.
- [14] Damayanti, S. (2023). The influence of need for achievement and self efficacy on student entrepreneurship intention. *International Journal of Research and Review*, 10(1), 513-519.
- [15] Davis, S. L., Rives, L. M., & Ruiz-de-Maya, S. (2021). Personal social responsibility: Scale development and validation. *Corporate Social Responsibility and Environmental Management*, 28(2), 763-775.
- [16] Demirören, M., & Atılgan, B. (2023). Impacts of service learning-based social responsibility training on medical students. *Advances in physiology education*, 47(2), 166-174.
- [17] DeVellis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and applications*. Sage publications.
- [18] Emerson, R. W. (2021). Convenience sampling revisited: Embracing its limitations through thoughtful study design. *Journal of Visual Impairment & Blindness*, 115(1), 76-77.
- [19] Fan, V., Guo, M., Hou, J., Talagi, D., Ke, Y., & Wang, W. (2022). Factors associated with selection of practice in primary care and rural health among medical and nursing students in China. *Australian Journal of Primary Health*, 28(6), 556-563.
- [20] Firpo, D. R. T. Đ., Zhang, S., Olfman, L., Sirisaengtaksin, K., & Roberts, J. T. (2021). Building Social Capital in Higher Education With Online Opportunistic Social Matching. *International Journal of Social Media and Online Communities (IJSMOC)*, 13(1), 1-18.
- [21] Gumede, D. M., Taylor, M., & Kvalsvig, J. D. (2021). Engaging future healthcare professionals for rural health services in South Africa: students, graduates and managers perceptions. *BMC health services*

research, 21, 1-15.

- [22] Haddad, R., Badke D'Andrea, C., Ricchio, A., Evanoff, B., Morrato, E. H., Parks, J., ... & Nicol, G. E. (2022). Using Innovation-Corps (I-Corps™) methods to adapt a mobile health (mhealth) obesity treatment for community mental health settings. *Frontiers in Digital Health*, 4, 835002.
- [23] Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- [24] Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24.
- [25] Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of business research*, 109, 101-110.
- [26] Hallowell, R., Saluja, S., Lewis, L., Novak, D. A., Valentine, W., Batch, E., ... & Ben-Ari, R. (2024). Advocacy for Health Justice: An Innovative Pilot Course for MD and Master of Public Policy Students. *Teaching and Learning in Medicine*, 36(2), 198-210.
- [27] Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial management & data systems*, 116(1), 2-20.
- [28] Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135.
- [29] Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing* (pp. 277-319). Emerald Group Publishing Limited.
- [30] Hernández, S. E., Orozco, P. G., & Yellamelli, N. (2023). Faculty-driven student engagement in community-engaged projects: An undergraduate perspective. *Journal of Community Engagement and Scholarship*, 15(2).
- [31] Hu, C. Y., Nisbet, G., & Chang, Y. C. (2022). Responding to change in a medical student rural community service: Insights from activity theory. *Medical education*, 56(11), 1086-1095.
- [32] Hu, D., Zhang, B., Huang, M., Liu, M., Xia, X., Zuo, Y., & Liu, X. (2023). Evaluation of a medical education policy with compulsory rural service in China. *Frontiers in Public Health*, 11, 1042898.
- [33] Khazami, N., & Lakner, Z. (2021). Influence of social capital, social motivation and functional competencies of entrepreneurs on agritourism business: rural lodges. *Sustainability*, 13(15), 8641.
- [34] Kono, S., & Sato, M. (2023). The potentials of partial least squares structural equation modeling (PLS-SEM) in leisure research. *Journal of Leisure Research*, 54(3), 309-329.
- [35] Koyanagi, Y., Aung, M. N., Yuasa, M., Sekine, M., & Takao, O. (2021). The relation between social capital and academic motivation of students: A study of health professional education in Japan. *European Journal of Investigation in Health, Psychology and Education*, 11(1), 129-141.
- [36] Lee, J. H. (2021). Structural analysis of university students' entrepreneurship, entrepreneurial self-efficacy, and entrepreneurial intention. *The Journal of the Korea Contents Association*, 21(5), 695-706.
- [37] Leuwol, F., Irawan, B., Doho, Y., Fauzan, T., & Mardikawati, B. (2023). Building and Developing Student Entrepreneurial Intentions Through Self-Efficacy and Entrepreneurship Education in Higher Education. *Edumaspul: Jurnal Pendidikan*.
- [38] Li, H. (2024). Construction and Practice of "Five Education" Education Mode in Colleges and Universities Based on "Youth Red Dream Journey" Activity. *Journal of Education and Educational Research*, 8(3), 183-188.
- [39] Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention. *Frontiers in psychology*, 10, 869.
- [40] Ljungblad, A. L., & Berhanu, G. (2020). A Change in Interpersonal Relational Capital: Through mentoring relationships and homework activities in a university setting. *International Journal of Special Education*, 35(1), 5-17.
- [41] Luo, L., Guo, M., Huang, J., & Yang, J. (2022). Research on the effect of an entrepreneurial environment on college students' entrepreneurial self-efficacy: the mediating effect of entrepreneurial competence and moderating effect of entrepreneurial education. *Sustainability*, 14(11), 6744.
- [42] McCarty, C., Christensen, R., & McCabe, K. (2023). Clinical Ethics Concerns of Rural Healthcare Providers. *Journal of Regional Medical Campuses*, 6(1).
- [43] Miao, B. (2020). Impact of Innovation and Entrepreneurship Experiment Teaching Model on Academic Self-efficacy of Nursing Undergraduates. *Investigacion Clinica*, 61.

- [44] Ngoc Ton, H. N., Shumshunnahar, M., Nhat Tu, T. N., & Nguyen, P. T. (2023). Revisiting social capital and knowledge sharing processes in tertiary education: Vietnamese and Bangladeshi students as target populations. *Cogent Social Sciences*, 9(1), 2186579.
- [45] Piasecki, J., & Dranseika, V. (2021). Balancing professional obligations and risks to providers in learning healthcare systems. *Journal of medical ethics*, 47(6), 413-416.
- [46] Prabhu, G. N. (2020). Teaching the scope and limits of generalizability in qualitative research. *New Trends in Qualitative Research*, 1, 186-192.
- [47] Puiu, S., Udriștioiu, M. T., Petrișor, I., Yılmaz, S. E., Pfefferová, M. S., Raykova, Z., ... & Marekova, E. (2024, July). Students' Well-Being and Academic Engagement: A Multivariate Analysis of the Influencing Factors. In *Healthcare* (Vol. 12, No. 15, p. 1492). MDPI.
- [48] Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon Schuster.
- [49] Raj, M., De Vries, R., Nong, P., Kardia, S. L., & Platt, J. E. (2020). Do people have an ethical obligation to share their health information? Comparing narratives of altruism and health information sharing in a nationally representative sample. *PloS one*, 15(12), e0244767.
- [50] Rogers, C. (2021). Supporting health students on rural placements: A scoping review. *Australian Journal of Rural Health*, 29(3), 319-331.
- [51] Roy, S. (2022). Achievement motivation of post graduate level students: an analytical study. *Galore International Journal of Applied Sciences and Humanities*, 6(4), 51-55.
- [52] Sarnkhaowkhom, C., Santre, S., Phonsuk, P., Wongtawee, N., Piansamer, S., Laohapisitpanich, A., ... & Phikunthong, P. (2022). Assessment of Entrepreneurial Leadership among Undergraduate Nursing Students: The Case from Thailand. *Nurse Media Journal of Nursing*, 12(3).
- [53] Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing.
- [54] Saunders, C., Marcolin, B., & Cherneski, J. (2022). The role of students' personal values and ethical ideologies in increasing the importance of perceptions of social responsibility for business students: A prime directive. *Journal of Management Education*, 46(5), 920-950.
- [55] Seiler, C. (2018). Can there be a moral obligation to participate in biomedical research?. *European journal of clinical investigation*, 48(4), e12896.
- [56] Shen, Y., Wang, Q., Hua, D., & Zhang, Z. (2021). Entrepreneurial learning, self-efficacy, and firm performance: Exploring moderating effect of entrepreneurial orientation. *Frontiers in psychology*, 12, 731628.
- [57] Singh, M. K., & Moody, J. (2022). Do social capital and networks facilitate community participation?. *International Journal of Sociology and Social Policy*, 42(5/6), 385-398.
- [58] Tang, J., Ruan, H., Wang, C., Xu, W., Li, C., & Dong, X. (2022). Social network, cognition and participation in rural health governance. *International journal of environmental research and public health*, 19(5), 2862.
- [59] Thaivalappil, A., Coghlin, R., Bell, C., Dougherty, B., Duench, S., Janicki, R., & Papadopoulos, A. (2023). A mixed-methods assessment of community-engaged learning in a Master of Public Health program. *SAGE Open Medicine*, 11, 20503121231176637.
- [60] Uysal, İ., Koşan, A. M. A., Postacı, E. S., & Tekin, M. (2021). The Relationship between Motivational Persistence and Achievement Goal Orientations of Vocational School of Health Services Students. *Acta Medica International*, 8(1), 7-15.
- [61] Weston, T. J., Hayward, C. N., & Laursen, S. L. (2021). When seeing is believing: Generalizability and decision studies for observational data in evaluation and research on teaching. *American Journal of Evaluation*, 42(3), 377-398.
- [62] Wicaksono, R. B., Ferine, M., Lestari, D. W. D., Hidayah, A. N., & Muhaimin, A. (2021). Experience of Indonesian medical students of ethical issues during their clinical clerkship in a rural setting. *Journal of Medical Ethics and History of Medicine*, 14.
- [63] Wiyono, B. B., & Wu, H. H. (2022). Investigating the structural effect of achievement motivation and achievement on leadership and entrepreneurial spirit of students in higher education. *Administrative Sciences*, 12(3), 99.
- [64] Yahata, S., Takeshima, T., Kenzaka, T., & Okayama, M. (2021). Fostering student motivation towards community healthcare: a qualitative study. *BMJ open*, 11(1), e039344.
- [65] Yan, Y., & Tu, Y. (2023). The impact of China's urban and rural economic revitalization on the utilization of mental health inpatient services. *Frontiers in Public Health*, 10, 1043666.

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- [66] Yashiro, D., Nawa, N., Okada, E., Kato, H., Yonemori-Matsumoto, S., Kashimada, A., ... & Tanaka, Y. (2021). Facilitators and barriers to physicians' entrepreneurial ventures in major Japanese cities: A qualitative study. *PloS one*, 16(10), e0258957.
 - [67] You, Y., Xie, A., & Cleland, J. (2022). Medical students' rural practice intention: academic performance matters. *Medical Education*, 56(12), 1203-1213.
 - [68] Yuan, C. H., Wang, D., & Su, H. H. (2023). Red Boat Spirit and social entrepreneurship education in China. *Sustainability*, 15(6), 5030.
 - [69] Yue, L., & Rivera, J. P. R. (2022). Probing Chinese perception on the importance of social capital in entrepreneurial success. *Vision*, 26(4), 504-521.
 - [70] Zeng, X., Zhao, Y., & Cheng, Z. (2021). Development and research of rural renewable energy management and ecological management information system under the background of beautiful rural revitalization strategy. *Sustainable Computing: Informatics and Systems*, 30, 100553.
 - [71] Zhang, Z. (2021). Innovation and Entrepreneurship of College Students to Empower Rural Revitalization Implementation Path and Thinking. *Learning & Education*, 10(5), 255-256.
 - [72] Zhou, H., Hong, J., Yang, S., & Huang, Y. (2022). The Impact of Social Capital on Rural Residents' Medical Service Utilization in China—An Empirical Study Based on CFPS Data. *International Journal of Environmental Research and Public Health*, 19(23), 15989.
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