

Beyond Authority: Servant Leadership as a Catalyst for Transformation in NGOs

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Funding: No specific funding was received for this work.

Potential competing interests: No potential competing interests to declare.

Abstract

Purpose: The purpose of this study is to explore the complex influences that affect successful project outcomes within Non-Governmental Organizations (NGOs), with a particular focus on understanding the role and impact of Servant Leadership (SL) practices.

Design/Methodology/Approach: The study utilizes Hierarchical Regression to discern mean associations and residual variations and Binary Logistic Regression to analyze categorical data in order to rigorously investigate the relationship between Servant Leadership and project performance while accounting for multiple variables and interaction effects.

Findings: This study confirms a positive and statistically significant correlation between servant leadership practices, like team empowerment and development support, and project success in NGOs. However, team identification moderates this relationship. High team identification amplifies the positive impact of SL, but unexpectedly, a strong interaction with team climate suggests potential downsides if interpersonal relations overshadow task focus.

Practical Implications: The study recommends that NGOs should integrate Servant Leadership principles into their organizational culture and values. This can be achieved by incorporating Servant Leadership criteria in leadership selection processes and providing continuous training to nurture the competencies associated with Servant Leadership. These actions are likely to contribute to optimized project outcomes through the judicious application of Servant Leadership.

Originality/Value: This study illuminates the intricate interplay between Servant Leadership and Social Identity Theory in shaping successful project outcomes across diverse NGOs globally. Utilizing advanced statistical methods, it uncovers nuanced interactions between leadership, team dynamics, and project outcomes. Unlike previous research, this work delves into multiple NGO contexts and regions, expanding the generalizability of findings and offering practical guidance for integrating Servant Leadership principles. By illuminating the link between Servant Leadership and NGO values, the study provides a novel perspective on nonprofit leadership effectiveness and its impact on achieving altruistic goals. This combined contribution marks a significant advancement in understanding leadership dynamics and optimizing team climate for enhanced project success in NGOs.

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Keywords: Non-Governmental Organisations (NGOs), Project Success, Quantitative analysis, Servant Leadership, Social Identity Theory, Team Climate, Team Identification.

At the forefront of driving change in the challenging landscape of Non-Governmental Organizations (NGOs), servant leadership emerges as a beacon of hope and efficacy. This leadership style diverges sharply from conventional models focused on business-centric achievements; instead, it is characterized by its selfless pursuit of the greater good, placing the welfare and growth of both the organization and its stakeholders at its core^[1]. Servant leadership proves particularly vital in NGOs, which often grapple with constraints like scarce resources, diverse stakeholder expectations, and multifaceted socio-economic settings. By fostering qualities like empathy, active listening, and a strong sense of community, servant leadership uniquely positions itself as an effective solution to these prevalent challenges^[2].

Through servant leadership, NGO leaders can foster a culture of collaboration and empowerment, crucial in environments where resource constraints require innovative and collective problem-solving. By prioritizing the development of their teams and focusing on serving their communities, servant leaders in NGOs can effectively navigate the complexities of their work, ensuring sustainable impact and success in their projects. This approach aligns closely with the values and mission of most NGOs, which are centred around service and community development. However, despite the potential synergy between servant leadership and NGO values, there is a lack of empirical research investigating the impact of servant leadership on project success in NGO contexts. This study aims to address this research gap by examining the influence of servant leadership on project success in NGO

In an era of pressing global challenges, NGOs are critical in addressing complex humanitarian and development issues. NGOs, often project-based, aim to improve the lives of communities in need. The success of NGOs is contingent upon various factors, among which leadership emerges as a significant aspect. In the context of NGOs, leadership is pivotal in ensuring effective project management and achieving community development goals. Servant leadership, which emphasizes the growth and well-being of the community and the team, is especially potent in driving success within NGOs. This leadership style aligns with the very essence of NGOs, which is service to the community.

The servant leadership model, given its emphasis on follower satisfaction and motivation^[3], may resonate well with the community-centric ethos of NGOs, potentially enhancing their project success in NGOs. The exploration of this synergy forms the rationale for this research, a subject that has not received sufficient attention in the current literature. Moreover, understanding the impact of servant leadership on NGO project success in various cultural contexts presents an intriguing and valuable aspect of this investigation. Furthermore, the need for leadership that can inspire and empower the NGO workforce is accentuated by the NGOs' quest for credibility and legitimacy among key stakeholders^[4]. Effective

leadership, reflected in the alignment of initiatives and projects with the organization's core values, emerges as a vital determinant of sustainable outcomes^[5]. Servant leadership aligns well with this requirement as a promising leadership model prioritizing follower development, potentially driving optimal team performance and successful project outcomes in NGOs.

0.1. Project Success

In the NGO context, project success is a multifaceted concept that extends beyond the mere completion of a project to include broader impacts and the achievement of intended objectives^[6]. It encompasses not only the attainment of defined outcomes within specific timeframes and allocated resources but also the effective solutions for community issues and optimal utilization of limited funds. Essential elements contributing to this success are adaptability, knowledge communication, collaboration skills, leadership practices, ethical norms, situational awareness, and change management^[7]. Furthermore, the involvement of the local community and establishing relationships with local corporations are crucial for the successful implementation and sustainability of projects^[8].^[9] expands this definition by considering success in terms of long-term development results, conformity of goods and services, national visibility, project reputation with international development agencies, and the likelihood of securing additional funding.

Conversely, project management success specifically refers to the effective application of project management methodologies and practices to ensure that the project is completed on time, within scope and budget. This involves planning, organising, and controlling resources to achieve specific project goals and objectives. Inherently unique and complex, projects exhibit a defined lifecycle alongside distinct characteristics, interdependencies, and occasional conflicts. As a crucial figure, the project manager and the team hold significant sway over the project outcome. It becomes necessary for the project manager to have comprehensive knowledge of project management, particularly in planning, organising, monitoring, and controlling all project aspects. Motivating all involved to achieve the project's objectives also falls within the manager's responsibilities^[7].

It is important to distinguish between project management and project success. While project management success is primarily concerned with the efficient and effective execution of the project through proper management techniques, project success is a broader term that includes not only the completion but also the impact and fulfilment of the project's objectives. Historically, the focus on project success factors has been centred on development projects^[10], construction and infrastructure. This focus explains why project management primarily finds application in engineering fields with clearly defined, measurable, and widely accepted criteria for success. Traditional triangle criteria of time, budget, and project quality are commonly used to evaluate project management success^[11]^[12]. However, in recent years, additional criteria such as strategic objectives of the organisation, end-user satisfaction, benefit to the organisation, benefit to project personnel and stakeholders, and business success have been utilised to assess project success^[11].

Projects executed by for-profit organisations aim to provide additional value to the organisation, and their results can be assessed using a set of quantitative metrics^[13]. Conversely, NGO projects generally intend to address and mitigate pressing social, economic, and environmental issues. Consequently, such projects face uncertainty and challenges in

evaluating outcomes due to the nature of the project goals and the involvement of divergent stakeholder groups^[13]. Moreover, NGO project outcomes are often less visible and measurable than projects executed by for-profit organisations. Hence, we employ^[9]s framework for measuring project success in this study as it aligns closely with the study's objectives.

0.2. Servant leadership and project success

Servant leadership (SL) is recognised for its focus on meeting the needs of team members, encouraging their personal development, and fostering a sense of community^[14]. This style of leadership is especially pertinent in the context of NGOs, where the complex and often challenging operational environment necessitates a leadership approach that motivates and empowers team members. By prioritising the needs and growth of individuals and the community, SL can significantly contribute to project success. Various studies have supported this notion in different contexts^{[15][16]}.

Moreover, the reciprocal relationships between leaders and followers, central to the concept of SL, can positively influence the performance of project teams, boosting their motivation and commitment to project goals^[17]. As the success of projects in NGOs largely depends on the performance of these teams, fostering such reciprocal relationships can be a critical factor in achieving project success. However, implementing SL in NGOs can be challenging due to the common issues of resource constraints and high turnover rates that characterise these organisations.

0.3. Research Aim and structure

This study examines the project management practices of NGOs, with a specific focus on the role of SL. It seeks to reveal the dynamics and mechanisms underpinning project management in NGOs and how they impact success. The inquiry revolves around three fundamental questions: (1) Does implementing a servant leadership strategy enhance project success within an NGO context? (2) Does team climate contribute to project success? (3) Does team identity influence project success? The research highlights the importance of team identity and climate in achieving project success, often overlooked criteria that can determine a project's outcome in NGOs.

Addressing a notable research gap, this study conducts an empirical analysis of the influence of SL on project success in NGOs, a sector previously underexplored in this context. It examines the impact of SL on project outcomes by investigating mediators such as team climate and team identity. This contrasts with prior studies that did not consider these elements.

The study utilizes hierarchical regression and binary logistic models to analyze the relationships between SL, TC, TI, and project performance. This comprehensive approach integrates theoretical research with practical execution, providing NGOs with dependable, evidence-based conclusions. These insights aim to guide NGOs' project management strategies by understanding the intricate interconnections between SL, TI, and TC in achieving project success.

The objective is to contribute to academic discussions and offer NGOs specific information and strategies suited to their operational environment, helping them achieve greater effectiveness and impact. The subsequent sections of this research are structured as follows: Section 1 examines past literature and puts forward research hypotheses. The study

methodologies and data are presented in Section 2, followed by results and findings in Section 3. Section 4 discusses the study findings. Section 5 acknowledges the limitations and proposes further research.

1. Theoretical Framework, Literature Review, and Hypothesis Development

1.1. Servant Leadership Theory

SL is deeply rooted in the prioritization of followers' needs, wherein leaders are intrinsically motivated to serve, thereby fostering an environment that bolsters autonomy, learning, and growth. This principle, timeless and transcending various religions and philosophies, has been exemplified throughout history by those who dedicated their lives to serving others^[18]. SL theory is particularly relevant in the NGO context due to its emphasis on serving others and prioritizing the well-being of communities, which aligns with the core mission of most NGOs. SL naturally resonates with the values and mission of NGOs which primarily focus on serving marginalized communities. Through an empathetic and service-oriented approach, SL can significantly enhance NGO effectiveness, inspire and empower employees, cultivate commitment, and maximise team performance^[19]. While other leadership styles also value service and employee development, SL uniquely emphasizes the deep, personal commitment to directly serving the needs of both employees and the community, aligning seamlessly with the core ethos of most NGOs

Furthermore, SL is versatile, encompassing elements of different leadership styles such as autocratic, expert, participative, and referent leadership. Autocratic leaders, for instance, may practice SL by taking the well-being of their followers into account in their decision-making. Expert leaders can serve by leveraging their in-depth knowledge and skills to provide guidance, whereas participative leaders facilitate a servant leadership environment by involving team members in decision-making, valuing their input, and fostering collaboration. This involvement in decision-making fosters a sense of ownership and engagement among followers and in an NGO setting, ensures that interventions and programs are more aligned with the community's needs and aspirations. Referent leaders, who are admired and trusted, can serve as role models embodying the values integral to SL. This aligns with the mission of NGOs in establishing a strong relationship with the communities they serve, fostering trust, and collaboration, particularly in humanitarian efforts, environmental conservation, and social justice initiatives^[20].

Empirical research on SL in NGOs, though still emerging, highlights SL's suitability for these organizations^[21]. The key attributes and practices of Servant-Leadership are summarized in Table [tab:leadershipstylesSL], emphasizing elements such as service, empowerment, respect, listening, development, accountability, and principles-based leadership. While other leadership styles share certain attributes with SL, it is SL's comprehensive emphasis on service, altruism, and community well-being that sets it apart. Unlike Entrepreneurial or Transformational Leadership, which focus on innovation or motivation, SL's adaptability and ethical orientation align closely with the missions of NGOs, particularly in resource-constrained environments where empowerment and collaboration are key. Additionally, SL's proficiency in navigating the dynamic challenges typical to NGOs, such as fluctuating donor interests and political landscapes, further underscores its effectiveness. The distinct contrast between SL's community-centric ethos and the more hierarchical or individualistic

approaches of other styles underscores its relevance and the necessity for further exploration in the NGO sector.

As demonstrated in Table 2, various leadership styles contribute uniquely to organizational success. What distinguishes SL in the context of NGOs is its inherent ability to integrate diverse aspects of these styles—like the decision-making inclusivity of Participative Leadership or the ethical considerations of Ethical Leadership—into a unified approach that places service at the forefront^[22]. This synthesis is crucial in the complex and often resource-strained environments of NGOs.

Category	Attributes and Practices
Service	Leader’s primary objective is to serve others; Promotes team/enterprise members before self
Empowerment	Enables subordinates to advance to their fullest potential; Encourages others’ potential development
Respect	Treats co-workers with respect as part of a team; Maintains an open-door atmosphere
Listening	Listens to people before making decisions; Seeks first to understand, then to be understood
Development	Learns from mistakes while offering praise to others; Invests in others with a view to their advancement
Accountability	Encourages input and feedback; Welcomes personal evaluations as a means to improve performance
Principles-based Leadership	Uses principles for openly arrived at decisions; Wins support through logic and persuasion

Table 1. Attributes and Practices of Servant-Leadership

Note: Adapted from^[23]

Autocratic Leadership (AUT)	AUT leaders exercise complete control and authority over decision-making without seeking input or consensus from others. They often make decisions based on their own judgment and can be directive in their management style.
Expert Leadership (EXP)	EXP leaders are highly knowledgeable and skilled in their field. They leverage their expertise to guide and influence their team members, providing guidance and support based on their deep understanding of the subject matter.
Laissez-faire Leadership (LFL)	LFL leaders adopt a hands-off approach and provide significant autonomy to their team members. They trust their employees to make their own decisions and accomplish their tasks without much intervention or supervision.
Participative Leadership (PAR)	PAR leaders actively involve their team members in the decision-making process. They value input, suggestions, and ideas from their employees and aim to create a collaborative and inclusive work environment.
Referent Leadership (REF)	REF leaders earn the respect, trust, and admiration of their followers. They inspire and influence others through their personal qualities, character, and values, often serving as role models.
Transactional Leadership (TRA)	TRA leaders focus on maintaining clear expectations and establishing a mutually beneficial exchange with their followers. They provide rewards or incentives in return for meeting specified performance targets or objectives.
Transformational Leadership (TFL)	TFL inspire and motivate their followers to transcend their self-interests and work towards a collective vision. They promote personal growth, encourage innovation, and create a supportive environment.
Leader-Member Exchange (LMX)	LMX focuses on the dyadic relationships between leaders and followers. It emphasizes the mutual exchange, trust, and respect in these relationships and how they can foster high-quality collaboration.
Empowering Leadership (EMP)	EMP Leadership involves delegating authority and empowering followers to take control of their work. It supports autonomy and self-direction and enables followers to contribute to decision-making processes.
Shared Leadership (SHL)	SHL Leadership is characterized by the distribution of leadership responsibilities among team members. It breaks the traditional hierarchical structure and promotes a more democratic and collaborative approach.
Ethical Leadership (ETH)	ETH Leadership emphasizes the moral aspects of leadership. It entails leaders acting with integrity, fairness, and responsibility and promoting ethical behaviours among followers.

Table 2. Leadership Styles

Note: Adapted from^[24]

1.2. Social Identity Theory

Social Identity Theory (SIT) elucidates how individuals categorize themselves into social groups and the behavioral implications of this identification^[25]. In the context of NGOs, where employees and volunteers often strongly identify with the organization's mission and values, SIT is particularly relevant. This identification contributes to their self-concept and influences their commitment, satisfaction, and overall performance within the NGO. Furthermore, SIT extends to team dynamics, where TI emerges from self-categorization into the "in-group" of team members. This process leads to the internalization of team norms, goals, and values as part of an individual's self-concept, fostering cohesion, trust, cooperation, and a collective orientation among team members, thereby enhancing team processes and outcomes^[26].

SIT also provides insights into team climate, defined as the shared perceptions of behavioral norms in the team environment^[27]. This climate is shaped by interaction patterns and social cues within the team, influenced by social identification with the group. Such identification promotes adherence to mutually defined norms and expectations, crucial for maintaining a positive and productive team atmosphere. In the NGO context, understanding these dynamics of social identity is vital, not only for fostering a sense of belonging among employees and volunteers but also for navigating the social landscapes of the communities they serve. SL plays a crucial role in this process by cultivating inclusive, ethical norms that team members internalize, aligning personal and collective identity. This alignment via effective leadership is proposed to impact team processes and outcomes in NGO project teams, demonstrating the multifaceted influence of SIT in these organizations.

1.3. The Confluence of Servant Leadership and Social Identity Theory

SL and SIT together provide a distinct advantage for NGOs by aligning leadership practices with the creation of strong group identities. SL focuses on leaders serving their teams, promoting autonomy and growth, while SIT explains how such leadership strengthens individuals' identification with the NGO's mission. This combination ensures that NGO staff and volunteers not only embrace the organization's goals as their own but also feel empowered to contribute effectively. Specifically, SLT encourages leaders to adopt behaviours that directly benefit their followers, such as active listening and empathy, which in turn enhances team cohesion and loyalty as outlined by SIT. Consequently, NGOs can achieve a more focused and motivated workforce, directly impacting their capacity to serve communities and fulfil their missions.

1.4. Influence of Servant Leadership Style on Team Identification

In the context of NGOs, SL is paramount for enhancing team identification, a concept deeply rooted in SIT. SIT posits that a person's sense of self is partly derived from their group memberships, with SL in NGOs fostering a sense of belonging and psychological connection amongst team members^[28]. This alignment is evident as SL in multicultural environments nurtures an inclusive climate, strengthening team identification and aiding in overcoming challenges like cultural differences and past conflicts^[29]. By prioritizing service over hierarchy, SL builds trust and collaboration, reinforcing a strong sense of TI crucial for effective multinational teamwork. The choice of TI and team climate as mediators is grounded in their relevance to NGO team dynamics. TI, influenced by SL, aligns with SIT's emphasis on group membership shaping individual behaviors and attitudes. This concept is critical in enhancing team cohesion and collective efficacy, essential elements for NGO team performance^[30]. Research highlights SL's impact on TI, linking it to outcomes like project success, reduced work withdrawal, and employee creativity. Cultural dimensions, such as horizontal and vertical collectivism, modulate the SL-TI relationship, further underscoring its importance in diverse settings.

SL extends beyond team dynamics to the broader organizational framework in NGOs. By focusing on team members' needs, shared goals, diversity, and ethical practices, SL fosters a robust sense of TI^[31]. This approach is crucial for developing cohesive, effective teams equipped to tackle humanitarian challenges with agility. SL ensures deep engagement with team objectives, successes, and challenges, fostering a unified and purpose-driven work environment,

illustrating the practical application of SIT in organizational settings. The impact of SL on team identification is particularly significant in the NGO context, where diverse teams often work on complex, mission-driven projects. By cultivating a strong sense of shared identity and purpose, SL helps to align individual motivations with organizational goals, enhancing overall team effectiveness and project outcomes. This alignment is crucial in NGOs, where the ability to work cohesively towards common objectives can significantly impact the success of humanitarian and development initiatives.

1.5. Hypothesis statements

Based on the literature discussed above and the theoretical underpinnings of SL and SIT, we aim to examine the following hypotheses [H]:

- **H1:** A SL approach to management positively affects project success in an NGO setting.
- **H2:** Team climate mediates the relationship between SL and project success in an NGO setting.
- **H3:** Team identification mediates the relationship between SL and project success in an NGO setting.
- **H4:** Team climate positively affects project success in an NGO setting.
- **H5:** Team identification positively affects project success in an NGO setting.
- **H6:** A three-way interaction among SL, team identification, and team climate positively impacts project success in an NGO setting.

As shown in Figure 1, our study proposes direct and indirect pathways of SL influence on project success in NGOs, with TC and TI as mediators, aligning with SIT. SL is hypothesized to directly impact project success (H1) while also influencing it through TC (H2) and TI (H3). These mediators independently affect project success (H4 and H5) and may modulate SL's direct impact. The framework incorporates interaction effects (indicated by dashed lines), suggesting synergistic or compensatory relationships between variables (H6). TC, influenced by SL, fosters trust and cooperation, nurturing TI and commitment to the NGO's mission. Similarly, a robust TI, bolstered by SL, promotes unity and shared purpose, directly impacting collective efforts and project outcomes. This model examines how SL influences project outcomes through team dynamics, providing practical insights for NGO management and performance improvement.

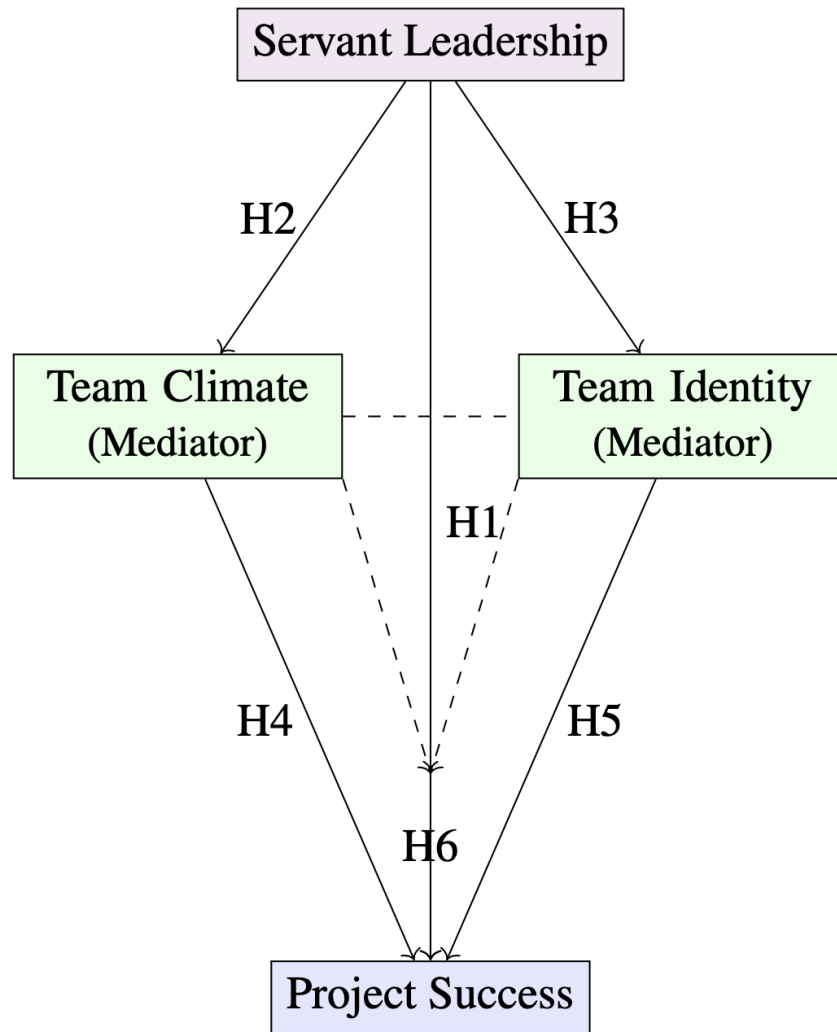


Figure 1. Research Framework Examining SL in NGOs

2. Study Data and Methodology

2.1. Overview of the data

Our study examines the relationship between SL and project performance in NGO settings across diverse global regions. Utilizing a dataset from the Harvard Dataverse^[32], responses from 451 participants involved in various project types were analyzed, focusing on environmental (20.2%), community/family (16.99%), healthcare (14%), and food security (12%) initiatives. The sample ensured representativeness across different geographic locations, following the methodology outlined by^[33].

An online questionnaire, designed to mitigate response bias^[34], was used to collect data from project team members, excluding managers to reduce self-response bias. The questionnaire comprised two parts: an introductory section explaining study objectives and confidentiality measures, and a data collection section using a 7-point Likert scale to

measure independent variables (SL, TI, TC) and the dependent variable (Project Success). To address common method bias, simple and concise item measurements were employed.

The dataset's reliability and validity were rigorously assessed through confirmatory factor analysis, convergent and discriminant validity evaluations, and reliability checks using Composite Reliability and Average Variance Extracted. Harman's single-factor test and a full collinearity approach further addressed common method bias concerns. While the analysis primarily adopts an individual-level perspective, potential insights from aggregating data to the team level are acknowledged for future research. Detailed demographic information is presented in Table 3, providing a robust foundation for our analysis and underscoring our methodological rigor. This study contributes to the understanding of SL's impact on project performance in NGO contexts, offering valuable insights for both practitioners and researchers in the field of project management and organizational behavior.

Table 4 provides a summary of the key variables and their measurements used in this study, describing each variable concisely to highlight its main components and relevance. This includes aspects such as project success, servant leadership, team identification, and team climate, each adapted from well-established sources. Detailed questionnaire items for these measures can be found in Table 14.

Table 3. Geographic Region of Data Collection and Project Types

Region	Valid Responses	Pct.	Categories	Pct.
US	170	37.7%	Food Security	11.9%
Latin America	70	15.5%	Water supply, sanitation and hygiene projects	7.9%
Asia	118	26.2%	Environmental Related	20.2%
Europe	48	10.6%	Alternative low cost energy	2.8%
Africa	45	10.0%	Capability Building	3.9%
1-3 Total	451	100.0%	Community/family-based child development	16.9%
			Health Care Service	14.6%
			Post Disaster Relief	4.7%
			Sustainable & Affordable Construction	6.2%
			Others	11.9%

Note: Data was collected from March to June 2021^[32]. The first month yielded 170 valid responses from US NGOs, the second month obtained 70 valid responses from NGOs in Latin America, the third month collected 118 valid responses from Asian NGOs, the fourth month gathered 48 valid responses from European NGOs, and the fifth month resulted in 45 valid responses from African NGOs.

Table 4. Variables and Measurement

Variable	Description
<i>Project Success</i>	Adapted from ^[9] , nine items: budget adherence, timelines, quality, long-term impact, stakeholder involvement, community ownership, monitoring, economic sustainability, community satisfaction.
<i>Servant Leadership</i>	Adapted from ^[35] , 13 questions: serving/supporting team, prioritising well-being, ethical standards, problem-solving, organisational goals, skill development, honesty, community involvement, volunteerism.
<i>Team Identification</i>	Adapted from ^{[35][36]} , six questions: team membership, belonging, pride, strong ties, shared success, motivation.
<i>Team Climate</i>	Adapted from ^{[37][38][39]} , six questions: communication, trust, collaboration, feedback, reflective practices, shared learning/growth.

Descriptive statistics revealed a mean project success score of 5.40 ($\sigma = 0.98$), indicating generally positive project outcomes. The sample was predominantly male (62.2%) with moderate diversity in education ($\sigma = 0.85$) and age ($\sigma = 0.80$), and significant variation in job positions ($\sigma = 1.71$, $\bar{x} = 3.08$). Interaction effects between Servant Leadership (SL), Team Identity (TI), and Team Climate (TC) were examined to capture complex relationships. The two-way interactions showed moderate means with some variability, while the three-way interaction exhibited greater variability, suggesting intricate interplay among variables. Detailed descriptive statistics are presented in Table 5.

	N	Min	Max	Mean	Std. Dev	Skewness
Project Success (PS)	451	1.33	7.00	5.40	0.989	-0.828
Education	451	1.00	5.00	3.21	0.845	-0.304
Age	451	2.00	5.00	3.08	0.800	0.538
Job Position	451	1.00	7.00	3.69	1.713	-0.106
Servant Leadership (SL)	451	-4.08	1.69	0.00	1.139	-0.916
Team Identification (TI)	451	-4.17	1.83	0.00	1.030	-0.546
Team Climate(TC)	451	-4.51	1.49	0.00	1.071	-1.011
SL*TI	451	-4.74	13.63	0.72	1.622	3.670
SL*TD	451	-1.99	16.38	0.88	1.733	4.451
TI*TC	451	-2.97	11.53	0.75	1.482	3.766
SL*TI*TC	451	-44.46	9.53	-0.48	4.127	-6.636
Gender = Male	451	0.00	1.00	0.62	0.487	-0.48

Table 5. Descriptive Statistics

Note: The education level of the study participants is split as follows: high school (2.7%), college (15.5%), bachelor's (43.7%), masters (34.4%), and Ph.D. (3.5%)

Mean-centring was applied to the continuous variables (SL, TI, and TC) to enhance statistical performance. This common preprocessing step reduces correlations between variables and their product terms^[40]. The transformed data approximated 5 on a 7-point scale, with standard deviations near 1, as shown in Figures 2 - 4. Table 6 presents updated descriptive statistics, confirming near-normal distribution with standard deviations close to 1.0.

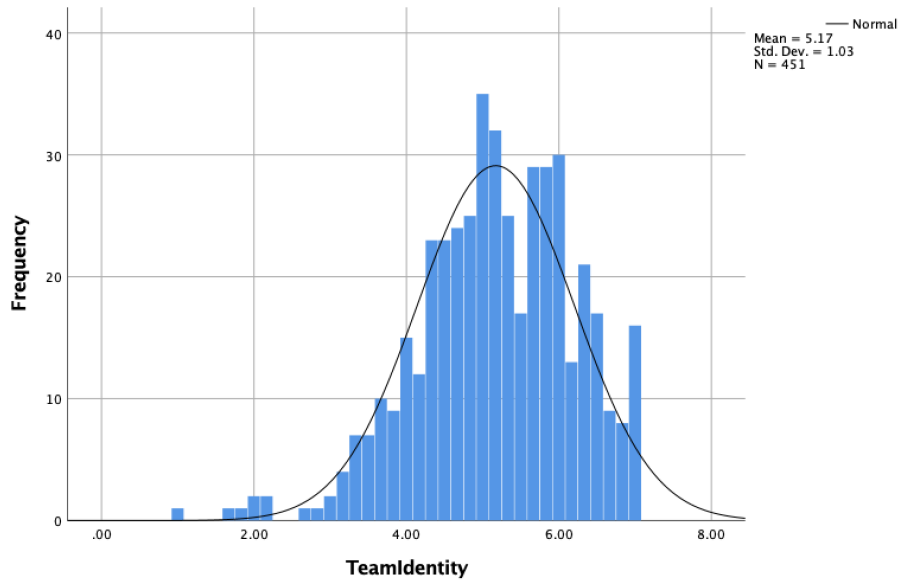


Figure 2. Team Identification

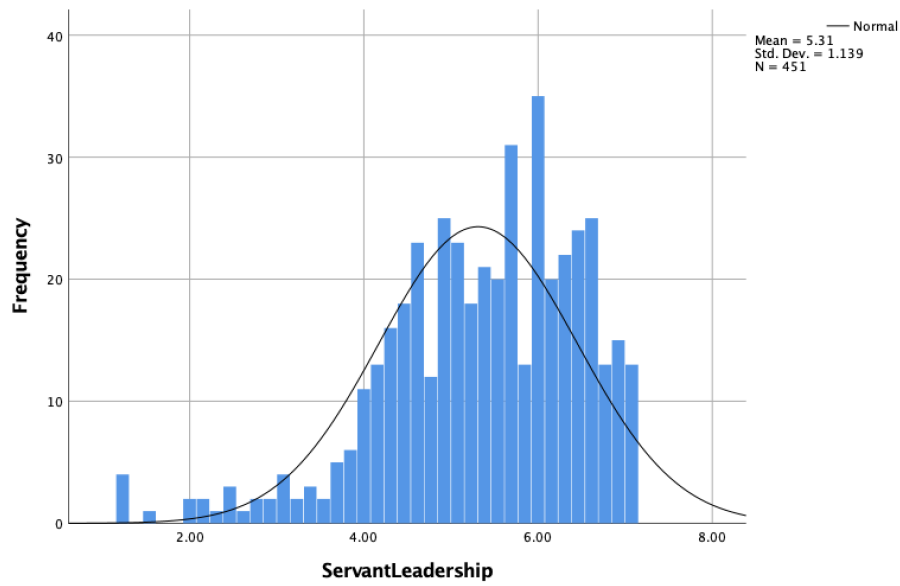


Figure 3. Servant Leadership

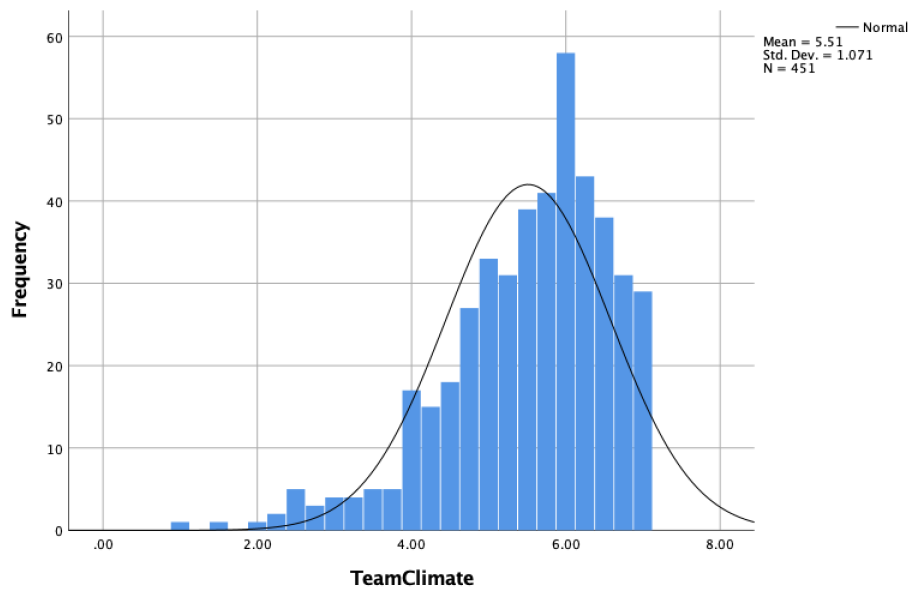


Figure 4. Team Climate

	N	Min	Max	Mean	Std. Dev
Servant Leadership (SL)	451	1.23	7.00	5.31	1.139
Team Identification (TI)	451	1.00	7.00	5.17	1.029
Team Climate(TC)	451	1.00	7.00	5.512	0.989

Table 6. Mean-Centered Descriptive Statistics

A preliminary analysis was conducted using a Pearson correlation matrix to gain insights into the relationships between the principal variables^[12]. As depicted in Table 7, notable positive correlations were observed between SL and PS ($r = 0.689$), TI and PS ($r = 0.647$), and TC and PS ($r = 0.732$). These statistically significant findings indicate a robust association between the predictor variables and project success.

Variable		SI	Ti	TC	Pro S
Servant Leadership	(SL)	1	.616**	.721**	.689*
Team Identification	(TI)	.616**	1	.679**	.647**
Team Climate	(TC)	.721**	.679**	1	.732**
Project Success	(PS)	.689*	.647**	.732**	1

Note: Significance level: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

2.2. Methodology

Our study employs Hierarchical Regression and Binary Logistic Regression to analyze the relationship between servant leadership and project performance. These advanced analytical methods allow us to create a robust framework for investigating the influence of SL's effect while controlling for numerous variables. In addition, employing these statistical approaches allows us to uncover potential interaction effects between SL and other key factors, shedding light on how the impact of SL may vary across different contexts.

The usage of a hierarchical model permits the β^j parameters to function as a result of the overall mean association and the residual variation^[41]. The hierarchical model is presented as per Eq. 1:

$$\beta^j \sim N(\delta, \tau^2), \quad \text{for } j = 1, \dots, J \quad (\text{Eq. 1})$$

where:

β^j	denotes the j th beta coefficient, for $j = 1, \dots,$
J	corresponds to the influences of each predictor variable
δ	is the mean of the normal distribution and signifies the expected value of beta coefficients.
τ^2	represents the variance of the normal distribution

Binary logistic regression is employed to analyze categorical response variables, particularly for dichotomous outcomes where relationships may be non-linear. Its widespread application across social sciences and demography underscores its value in examining probabilities related to binary outcomes, such as project success. This analytical tool offers crucial insights for decision-making in project management and other fields where binary dependent variables prevail^[42]. The regression model is detailed in Eq. 2.

$$\log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p \quad \text{Eq. 2}$$

where:

Y	represents the dependent variable or the outcome being predicted.
X_1, X_2, \dots, X_k	are the predictor variables in the first block or level of the model.
$\beta_0, \beta_1, \beta_2, \dots, \beta_p$	are additional predictor variables in subsequent blocks or levels of the model.
$\beta_0, \beta_1, \beta_2, \dots, \beta_p$	are the coefficients (parameters) associated with each predictor variable.
ϵ	represents the error term.

These approaches above provide valuable tools for conducting rigorous statistical analyses, allowing researchers to delve deeper into the data and evaluate their research hypotheses. However, it is crucial to acknowledge and address the

underlying assumption of a normal distribution in the data. The normal distribution assumption is fundamental in numerous statistical tests, and the validity of the conclusions drawn from these tests relies heavily on how well this assumption is met. By ensuring the data follows a normal distribution, the reliability and accuracy of our statistical analyses are enhanced, thereby strengthening the validity of the research findings^[43].

3. Results and Findings

3.1. Quantitative Findings - Bivariate Analysis

We begin our analysis with a bivariate analysis of categorical variables to investigate the relationships between variables to understand better if and how these variables are related to each other. Data displayed in Table 8 indicates that 'Job Position' (JP) significantly influences project success, with a higher job position correlating with increased project success. However, many variables, such as Gender, do not significantly impact project success in this model, suggesting that factors other than those listed may be at play.

Variable	Coefficient	t-statistic
Gender = male	-0.048	-1.399
Age	0.009	0.264
Education	0.025	0.748
Job Position	0.400***	20.339
Geographic Region	0.052	1.538
NGO characteristic	-0.014	-0.405
Project Characteristic	-0.051	-1.487
Project Duration	0.430	1.260
Project Size	0.008	0.249
TeamSize	0.000	-0.01
_cons	3.924***	49.003

*Note: Dependent variable is Project Success. Asterisks indicate the coefficient significance level: * for 10%, ** for 5%, and *** for 1%.*

While *JP* is the sole significant variable affecting Project Success in our dataset, the potential influence of other variables should not be overlooked.^[44] highlights the impact of team homogeneity on performance, suggesting that similarities in gender, age, and education can enhance productivity.^[45] further underscores the importance of demographic homogeneity in fostering effective communication and team Identification.

The Equity Theory proposed by^[46] also emphasizes the role of perceived status differences within a team in shaping

communication and resource sharing. Given these theoretical frameworks, it is crucial to consider variables such as Gender, Age, and Education alongside Job Position. This comprehensive approach allows for a more robust understanding of project outcomes, enhancing the reliability of results and informing decision-making processes.

Table 9. Hierarchical Regression: Effects on Project Success

Variable	Model 1	Model 2	Model 3	Model 4
Gender = male	.092 (1.307)	0.036 (0.061)	0.048 (0.779)	0.047 (0.765)
Age	.010 (.241)	0.026 (0.037)	0.030 (0.818)	0.022 (0.607)
Education	.021 (.503)	0.012 (0.035)	0.016 (0.447)	0.014 (0.385)
Job Position	.400*** (20.327)	9.414E-5 (0.041)	-0.028 (-0.597)	-0.040 (-0.840)
Servant Leadership (SL)		0.241*** (0.038)	0.234*** (5.978)	0.254*** (6.348)
Team Identification (TI)		0.203*** (0.042)	0.184*** (4.215)	0.227*** (4.773)
Team Climate (TC)		0.359*** (0.065)	0.448*** (5.514)	0.457*** (5.637)
SL*TI			-0.070* (-2.143)	-0.080 (-2.431)
SL*TC			0.035 (1.297)	0.020 (0.711)
TI*TC			0.061 (1.634)	0.028 (0.699)
SL*TI*TC				-0.032** (-2.231)
_cons	3.769*** (19.508)	5.262*** (0.215)	5.307*** (24.238)	5.411*** (24.272)
n	446	443	440	439
R ²	.482	.614	.619	.623
Adj. R ²	.478	.608	.610	.614
Std. Error	.71516	.619	.617	.614
VIF	1.027	2.706	3.461	3.417

*Note: The t-statistics are presented below the coefficients. Asterisks indicate the coefficient significance level: * for 10%, ** for 5%, and *** for 1%.*

Hierarchical regression was employed in Model 1 (Table 9) to analyze categorical variables such as Gender, Age, Education, and Job Position. This model corroborates the Bivariate analysis, revealing that only Job Position significantly impacts Project Success. Additionally, the model's predictive power is modest ($\text{Adj. } R^2 = 0.48$). In Model 2, SL, TI, TC, and categorical variables were included. The addition of these factors increases the $\text{Adj. } R^2$ to 0.60, enhancing explanatory power by 13.2%. Model 2 indicates that Job Position no longer has a statistically significant effect on Project Success. Instead, SL, TC, and TI positively impact Project Success, validating the study hypotheses.

Model 3 incorporates SL, TC, and interaction effects. SL and TI are included because servant leaders can enhance team trust, cooperation, and motivation, potentially improving Project Success. The SL and TC interaction is considered for similar reasons. The TI and TC interaction is included because team members with a strong sense of identity and belonging are more likely to align their aspirations and efforts with project goals. However, except for the SL and TI interaction, these effects are not statistically significant. Contrary to expectations, the SL and TI interaction negatively affects Project Success, suggesting that SL and TI do not synergize as anticipated.

Model 4 demonstrates a three-way interaction involving SL, TI, and TC, with an increase in $\text{Adj. } R^2$ from 0.608 (Model 2) and 0.610 (Model 3) to 0.614. Despite the significant interaction, the negative coefficient suggests a complex interplay where SL, TI, and TC may counteract each other, leading to a decrease in Project Success. This negative sign could reflect unforeseen moderating variables^[47] or conflicts between servant leadership ideals and team identification in heterogeneous groups with varying perspectives. Incorporating group values and beliefs, such as SL's promotion of a serving culture, into individual identities can influence behavior and attitudes^[48]. These interactions are visualized in Figure 7 and Figure 8 of the Appendix. Variance Inflation Factor (VIF) analysis confirmed no significant multicollinearity issues, with VIF values below 10 in all models^[49]. This supports the robustness of the regression analysis, demonstrating the positive impact of SL, TI, and TC on Project Success.

3.1.1. Binary Logistic Regression

Hierarchical regression, a critical tool in model selection, often grapples with the challenge of accurately gauging success due to subjective metrics. This predicament can be navigated using Binary Logistic Regression, which evaluates the intricate interplay between predictor variables and binary outcomes, thereby enhancing precision in estimating success probabilities. To quantify project success, surrogate variables, represented on a refined 0-7 scale with four as the midpoint, have been introduced to bolster the analytical robustness, enabling clear differentiation of successful projects.

In our regression, we note that (*JP*) was significantly influential on project ($p < 0.05$) when assessed without SL, TI, and TC. Incorporating *JP* as a control variable augments our understanding of its role in the interplay between main variables and project outcomes. Despite the preponderance of *JP*, it is vital to recognize the influence of other variables, such as Project Characteristics.

Our Binary Logistic Regression analysis, presented in Table 10, reveals that the model holds a Nagelkerke R^2 value of 0.588, indicative of its significant explanatory capacity in mediating and assessing a wide range of variables influencing project outcomes. In the analysis, while categorical variables exhibit no significant impact on Project Success, three key

variables – SL ($p < 0.01$), TI (p – value < 0.03), and TC ($p < 0.08$) – are found to substantially influence project outcomes. The positive interactions among these variables imply a collective synergy that enhances Project Success. These observations are congruent with Model 2 of the Multivariable Regression analysis, which bolsters the consistency of the Binary Logistic Regression results and corroborates the initial hypothesis (H1) posited in the study.

Moreover, despite the non-significance of Job Position, it is noteworthy that specific roles, namely the Chief Technology Officer (CTO) and Project Management, appear to impact project success negatively. Such adverse effects may stem from the CTO's potential misalignment with project goals or ineffective communication leading to resource discrepancies and from inefficiencies in Project Management such as poor risk handling. The heightened responsibilities and decision-making authority attributed to these roles could amplify the consequences of any shortcomings. Additionally, the organizational culture, if not conducive to collaboration, could further hinder the positive contributions of these roles. Concurrently, a χ^2 test statistic of 7.46 with 8 degrees of freedom ($p > 0.488$) attests to the model's excellent fit to the data.

Table 10. Binary Logistic Regression: Effects on Project Success

Variable	Coefficient	t-statistic
ProjectCharacteristic = Sustainable & Affordable Construction	-1.086	0.53
JobPosition = Project Management Office	-0.142	0.797
JobPosition = Project portfolio manager	-0.448	0.499
JobPosition = Chief Technology Officer	-0.433	0.489
JobPosition = Volunteer Team member	0.236	0.553
JobPosition = Team leader/Project Manager	0.116	1.186
JobPosition = other	-1.247	1.229
Servant Leadership	0.654***	0.181
Team Identification	0.655***	0.22
Team Climate	1.077***	0.405
Constant	-11.47***	2.702
Log-likelihood	326.409	
Cox & Snell R^2 / Nagelkerke R^2	0.424	0.588
Hosmer and Lemeshow χ^2 / Sig.	7.456	0.488

*Note: Asterisks indicate the coefficient significance level: * for 10%, ** for 5%, and *** for 1%.*

In this analysis, categorical variables within the model demonstrate no significant impact on Project Success. Nevertheless, three essential variables – Servant Leadership ($p < 0.01$), Team Identification ($p < 0.03$), and Team Climate ($p < 0.08$) – significantly influence project outcomes, underscoring their crucial role in assessing project feasibility. Additionally, observed positive interaction among these variables suggests collective impact enhancing Project Success. These findings align with Model 2 of the Multivariable Regression analysis, validating the consistency of the Binary

Logistic Regression results and thereby reinforcing the initial hypothesis (H1) put forth in the study.

3.2. Robustness Check: Resolving Outliers

In pursuit of further insights into the determinants of Project Success, this section examines residuals and outliers to enhance our understanding of Project Success determinants. Analyzing substantial standardized residuals revealed potential model limitations in capturing the relationship's full scope (Table 11 - Panel A). To address this, we standardized predicted values for clearer interpretation. Panel B's Kolmogorov-Smirnov and Shapiro-Wilk tests indicated significant deviations from normality ($p < 0.001$), suggesting underlying complexities or outliers. Through data transformations and robust statistical methods, we addressed these deviations, refining our dataset from 451 to 435 observations by removing outliers. The effectiveness of our outlier remediation is visually supported by the post-remediation Box-Plot (Figure 6), demonstrating a marked reduction in outliers and enhancing the dataset's suitability for detailed analysis (Figures 5-6). The refined dataset's descriptive statistics are detailed in Table 12, confirming the data cleansing's success.

Table 11. Statistical Analyses on Predicted Values and Normality Tests

	Panel A: Standardization and Predicted Values				Panel B: Normality Tests			
Metric	Minimum	Maximum	Mean	Std. Dev	Test	Statistic	df	Sig.
Predicted Value	3.037	6.564	5.402	0.781	Kolmogorov-Smirnov	0.067	451	< .001
Residual	-2.427	2.459	0.000	0.607	Shapiro-Wilk	0.962	451	< .001
Std. Predicted Value	-3.028	1.488	0.000	1.000				
Std. Residual	-3.947	4.000	0.000	0.980				

Table 12. Descriptive Statistics

	ProSuc	Gender=	Education	Age	Job	SL	TI	TC	SL*	SL*	TI*	SL*	
		Male			Position				TI	TC	TC	TI*TC	
N	435	435	435	435	435	435	435	435	435	435	435	435	
Mean	5.436	0.628	3.200	3.070	3.730	0.000	0.000	0.000	0.669	0.789	0.700	-0.419	
SD	0.916	0.484	0.843	0.797	1.691	1.102	1.001	1.017	1.573	1.567	1.379	3.862	

Following outlier adjustments, we reassessed our models to gauge robustness. Model 1 showed that key variables maintained their significance, with model fit improving (R^2 from 0.48 to 0.55), indicating a refined explanatory power of control variables without revealing new insights. Model 2's variables—SL, TI, and TC—continued to significantly predict Project Success, with Adjusted R^2 rising from 0.614 to 0.700, reflecting a better understanding of underlying patterns and affirming the primary variables' importance in success determinants.

Model 3 introduced two-way interaction terms, enhancing the analysis of variable interplays and uncovering significant positive interactions between TI and TC, a new insight not evident in initial models. Model 4, incorporating control

variables, main effects, two- and three-way interactions, explained 70.7% of the variance in project success, highlighting the complexity captured by three-way interactions. However, the negative and marginally significant three-way interaction among SL, TI, and TC indicates a reduced likelihood of success under specific conditions, adding depth to our understanding of project dynamics.

Table 13. Robustness Check: Unstandardized Coefficients

Variable	Model 1	Model 2	Model 3	Model 4
(Constant)	3.793*** (22.342)	5.358*** (29.569)	5.384*** (29.433)	5.484*** (29.484)
Gender=male	0.038 (0.612)	0.002 (0.046)	0.015 (0.289)	0.013 (0.259)
Education	0.042 (1.162)	0.025 (0.853)	0.034 (1.147)	0.033 (1.104)
Age	-0.003 (-0.068)	0.008 (0.246)	0.013 (0.438)	0.006 (0.196)
JobPosition	0.400*** (22.677)	-0.007 (-0.215)	-0.037 (-0.957)	-0.049 (-1.260)
SL		0.279*** (8.707)	0.271*** (8.321)	0.290*** (8.729)
TI		0.208*** (5.750)	0.207*** (5.555)	0.245*** (6.136)
TC		0.357*** (6.333)	0.436*** (6.430)	0.445*** (6.597)
SL*TI			-0.043 (-1.590)	-0.054* (-1.987)
SL*TC			0.006 (0.239)	0.013 (0.515)
TI*TC			0.080* (2.479)	0.053 (1.562)
SL*TI*TC				-0.031* (-2.545)
n	430	427	424	423
F Change	128.948	77.204	2.371	6.475
R ²	0.545	0.705	0.71	0.71
Adj. R ²	0.541	0.700	0.703	0.707
Std. Error	0.621	0.502	0.499	0.496
F-Change	128.948	77.204	2.371	6.475
Sig.F-Change	< .001	< .001	0.070	0.011

*Note: The t-statistics are presented below the coefficients. Asterisks denote the coefficient significance level: * for $p < 0.05$, ** for $p < 0.01$, and *** for $p < 0.001$.*

4. Discussions

The findings of this study contribute to a greater comprehension of the factors influencing successful project outcomes within NGOs' context. The primary objective was to examine the effect of SL on project success, with results affirming a positive relationship. These findings resonate with prior research by [50][51], and [52], underscoring the pivotal role of SL in enhancing project performance within NGOs.

SL practices, such as empowering team members, fostering a sense of ownership, and supporting their personal and professional growth, have shown a positive impact on project success. By nurturing an environment that bolsters team members' commitment, motivation, and engagement, SL significantly enhance NGO project performance. Given that SL promotes effective communication, knowledge sharing, and collaborative problem-solving, it emerges as crucial for project management in NGOs.

Regarding the H2, exploring the impact of TI on the SL-project success relationship revealed nuanced insights. The data suggests that a strong TI might moderate the SL's positive effect on project success. In environments with high team unity and shared goals, the reliance on collective identity and norms might diminish the prominence of individual SL traits, suggesting a complex interaction between TI and SL. This unexpected finding highlights the need for further research to elucidate the dynamics at play and define the conditions under which TI influences the SL-project success linkage.

Moreover, the investigation into H3, focusing on TI's direct effect on project success, provided evidence that SL's beneficial impact is significantly enhanced by high TI. A team environment characterized by trust, mutual support, and open communication, when coupled with SL, promotes collaborative synergy and cooperation, essential for project success. Additionally, a positive TC alongside high TI creates a conducive atmosphere for effective communication and decision-making, leading to better project outcomes. This aligns with findings from [53] and [54]. However, the unexpected negative interaction between SL, TI, and TC suggests potential overemphasis on interpersonal relations and internal dynamics at the expense of focusing on essential project tasks. High TI and TC might also lead to complacency, reducing the urgency or critical evaluation needed for project success. This indicates that the relationship between SL, TI, and TC is more intricate than previously thought, pointing towards the possibility of unexplored moderating variables or interactions.

5. Contributions. Limitations and Future Research

5.1. Theoretical Contribution

This study uniquely contributes to theoretical knowledge by exploring the interplay between Servant Leadership Theory

(SLT) and Social Identity Theory (SIT) in shaping TC within NGOs. While previous research has examined the individual effects of SL and SIT on various outcomes, this study delves deeper by investigating how these theories interact to influence the specific context of team climate. The research reveals the unique interplay between intrinsic motivation and collective action, an aspect not thoroughly explored in existing literature on NGO leadership and organizational behaviour.

Furthermore, the study enriches SL theory by illustrating its profound alignment with NGO principles, moving beyond its characterization as a mere leadership style. It highlights a unique congruence between the service-oriented behaviours inherent in SL and the altruistic objectives of NGOs, which significantly bolsters employee commitment and satisfaction, thereby driving organizational effectiveness. This research, therefore, offers a comprehensive framework for integrating SL into NGO cultures, emphasizing its role not just as a leadership approach but as an embodiment of the core values of NGOs. This perspective opens new avenues for practical application in NGO management and suggests fertile ground for future research to explore the nuanced intersections of SIT, SL, and NGO performance.

5.2. Practical Contribution

This study illuminates pathways for NGOs to achieve successful project outcomes by underlining the pivotal roles of team dynamics, leadership development, and organizational culture. As shown in Figure 1, the integration of SL principles in leadership selection, training, and organizational culture is crucial. NGOs must foster a supportive and inclusive team environment based on trust, collaboration, and SL qualities to enhance project outcomes. This involves incorporating SL principles in leadership selection through behavioural interviews and personality assessments, creating educational workshops to ingrain SL understanding, establishing mentorship programs, and encouraging community service participation. Project managers should exemplify SL behaviours to engender a positive TC. The study emphasizes the importance of TC and TI as mediators in the SL-project success relationship, aligning with SIT. TC, influenced by SL, creates an atmosphere conducive to strong TI and commitment to the NGO's mission, mediating SL's effect on project success. Similarly, robust TI fosters unity and shared purpose, directly impacting project results. In cohesive teams, TC and TI may moderate SL's direct impact, potentially enhancing belonging and motivation. Through this holistic approach, NGOs can elevate project outcomes and employee satisfaction, creating an efficacious workforce aligned with the NGO landscape's dynamism.

5.3. Limitations and Future Research

While our study offers insights into the influence of servant leadership and team climate on NGO project success, its reliance on questionnaires introduces potential response bias, and its focus on specific success criteria limits its generalizability. Future research should broaden the definition of project success to include effectiveness, impact, and sustainability. Additionally, employing mixed methods, such as interviews and observations, could reduce bias and provide deeper understanding of the interplay between leadership, team climate, and project success. Lastly, exploring differences in how volunteer and paid workers react to leadership styles and team climates might yield valuable management insights. Through these improvements, future studies can build on our findings, offering richer guidance for

effective NGO project management and sustainable impact.

Appendix

Table 14. Measurements of the variables via quantitative questionnaire

Dependent Variable	Questionnaire Items
Project Success [9]	(1) Comply with the budget
	(2) Comply with the expected time
	(3) Comply with the quality
	(4) Obtain long-term project impact
	(5) Stakeholder/partner involvement
	(6) Ownership extension to the local community
	(7) Monitoring and reporting to stakeholders
	(8) Economic sustainability after the project end
	(9) Satisfaction of the local
Independent Variable	Questionnaire Items
Servant Leadership [55]	(1) My manager can effectively think through complex problems
	(2) My manager has a thorough understanding of our organization and its goals
	(3) My manager provides me with work experiences for skill development
	(4) My manager holds high ethical standards
	(5) My manager is always honest
	(6) My manager would not compromise ethical principles for success
	(7) My manager values honesty more than profits
	(8) I would seek help from my manager for personal problems
	(9) My manager cares about my well-being
	(10) My manager emphasizes the importance of giving back to the community
	(11) My manager is interested in helping people in our community
	(12) My manager is involved in community activities
	(13) I am encouraged by my manager to volunteer in the community
Team Identification [38] [56] [36]	(1) I see myself as a member of this team
	(2) I am pleased to be a member of this team
	(3) I feel strong ties with members of my team
	(4) identify with other members of my team
	(5) I feel proud to be a member of the project team
	(6) The success of the project team is also my success
Team Climate [38] [37] [39]	(1) We always look for different interpretations and perspectives to confront a problem
	(2) In our project team, we criticize each other's work in order to improve team effectiveness.
	(3) In our project team, we are prepared to reflect on the way we act.
	(4) In our project team, we engage in evaluating our weak points in attaining effectiveness.

	(4) In our project team, we engage in evaluating our weak points in attaining effectiveness.
	(5) In our project team, we openly challenge each other's opinions.
	(6) In our project team, we reassess any proposed solution.
Socio-demographic	(1) Age
	(2) Education
	(3) Job tenure
	(4) Project Size
	(5) Team size
	(6) Project Type
	(7) NGO type (international or local)

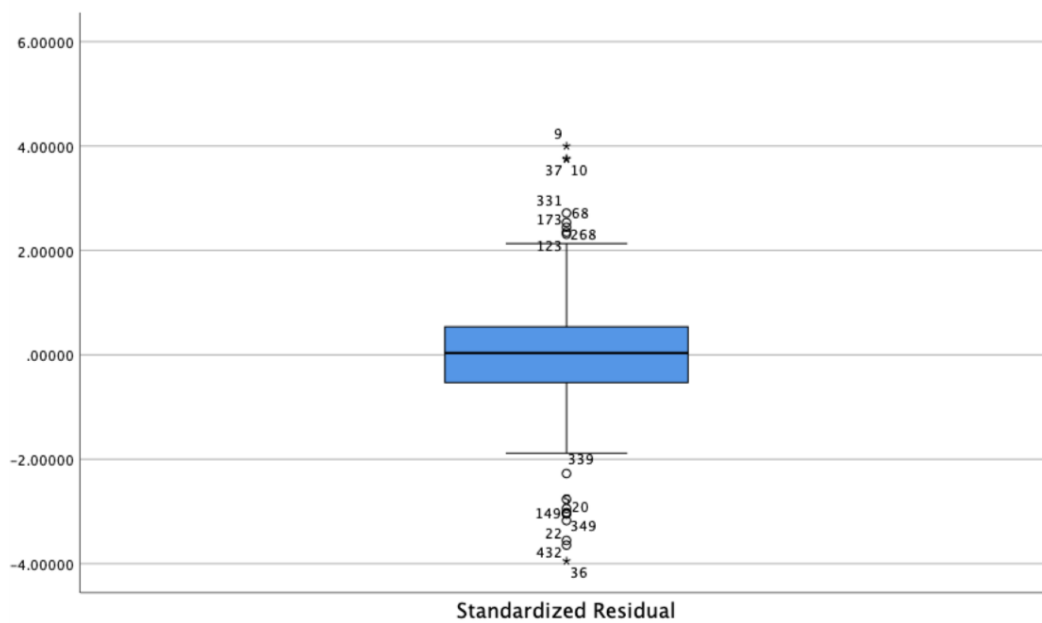


Figure 5. Pre-Remedy Project Success Box Plot

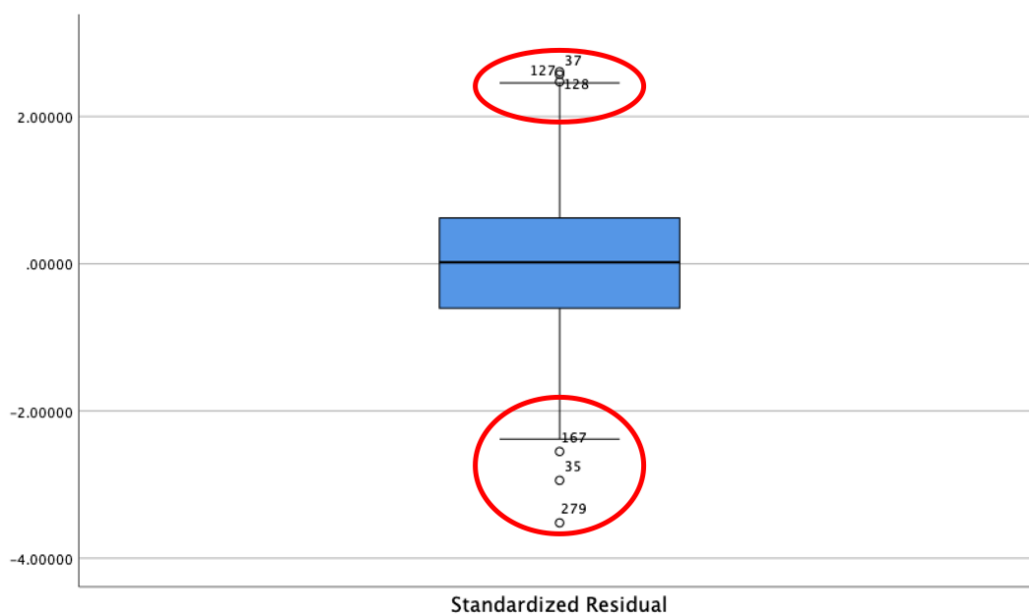


Figure 6. Post-Remedy Project Success

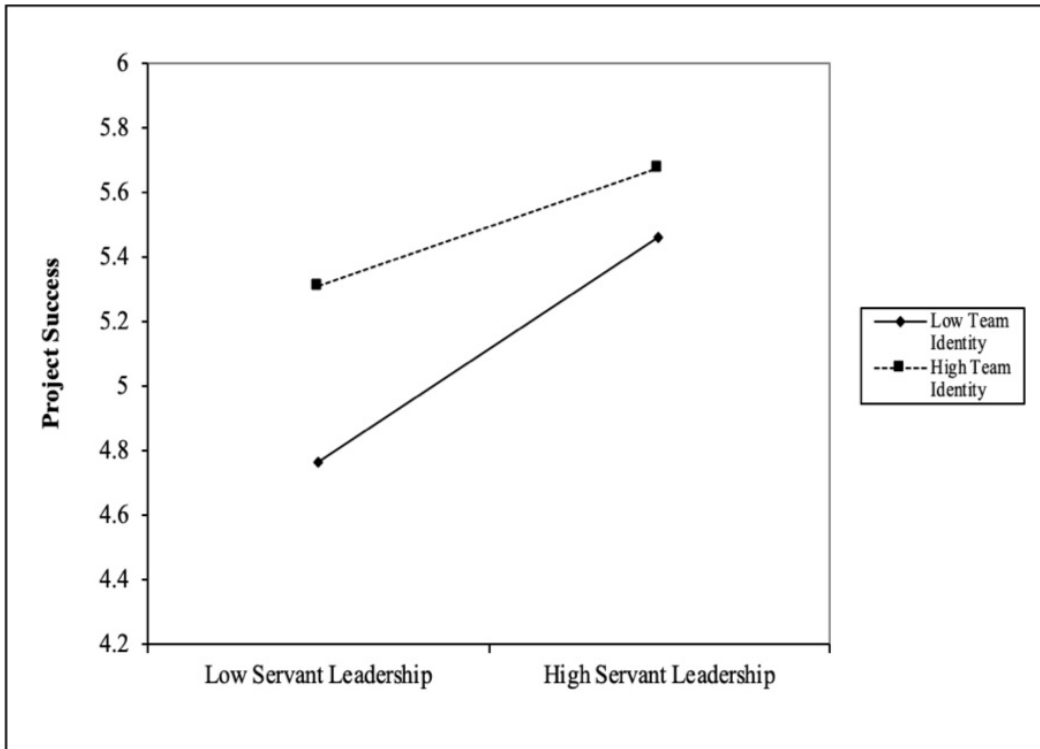


Figure 7. Two-way Interactions

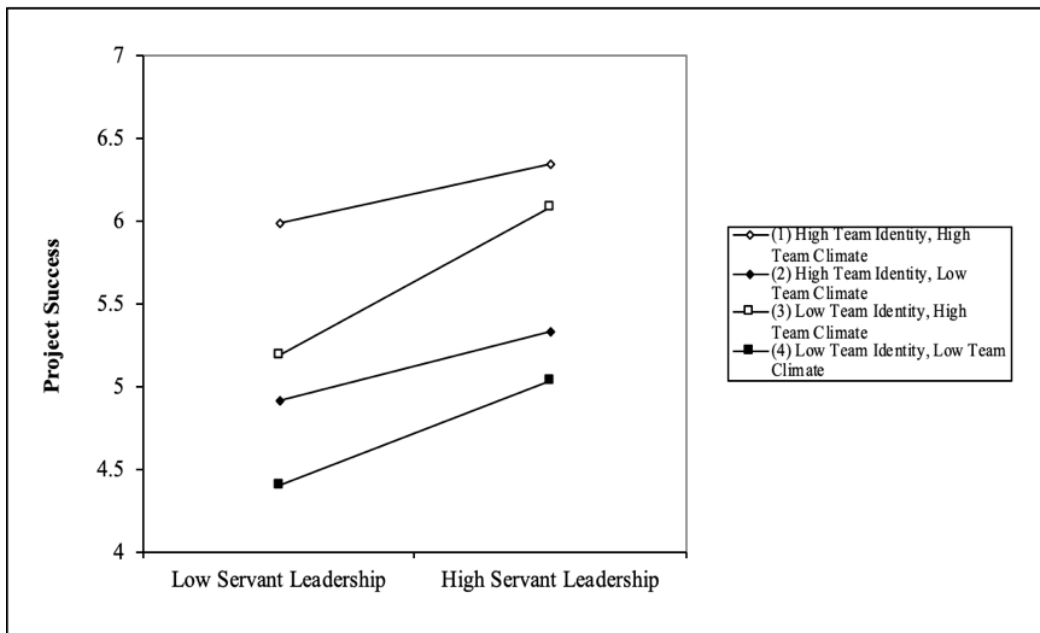


Figure 8. Three-way Interactions

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