

JIRSEA-UPM Special

Issue: Vol. 23 No. 1

April 2025

ISSN 1675-6061

<http://www.seaairweb.info/journal/index.aspx>

Submission Timeline

Received: 18/02/2025

Revised as per Preliminary

Review: 15/03/2025

Final Revision & Acceptance:

19/04/2025

Publication Date: 30/04/2025

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CITE ARTICLE: Saidi, Z.A., Asri, A, S., and Abd Aziz, M.F. (2025). Exploring The Relationship Between Participation, Needs, Readiness, And Planning In University Student Volunteering Programs. *Journal of Institutional Research South East Asia*, 23(1). 401-417



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Publisher: SEAAIR Secretariat

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EXPLORING THE RELATIONSHIP BETWEEN PARTICIPATION, NEEDS, READINESS, AND PLANNING IN UNIVERSITY STUDENT VOLUNTEERING PROGRAMS

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ABSTRACT

Volunteering programs in higher education play a pivotal role in fostering student development, civic responsibility, and meaningful community engagement. This quantitative study explores the relationships between participation, needs, readiness, and program planning in the context of university student volunteering programs. The research involved 48 students from Universiti Kebangsaan Malaysia (UKM) who participated in structured volunteering initiatives. Data were collected through purposive sampling using a validated questionnaire and analyzed using both descriptive statistics (frequency, percentage, mean) and inferential analysis (Pearson correlation). The results revealed strong and significant positive relationships between participation, needs, readiness, and program planning, suggesting that these factors are interconnected and critical for the effective implementation of student volunteering programs. These findings provide valuable insights for higher education institutions in designing improved volunteer initiatives that foster student engagement and preparedness, with future studies in Malaysia offering opportunities to explore the long-term effects of these interconnected factors.

Keywords: student volunteers, participation, program planning, readiness, needs, higher education

1. Introduction

Volunteering programs in higher education are vital platforms for fostering civic engagement, leadership skills, and personal development among students. Globally, volunteerism has evolved into a structured and strategic approach, often supported by public or private institutions, to address societal needs and encourage active citizenship (Hannibal & Robertson, 2023; Owen & Chambers, 2022). Volunteers are key stakeholders who contribute their time, skills, and resources to meaningful causes, ranging from disaster relief to community development. Over time, volunteering has shifted from informal goodwill to professionally managed initiatives that demand clear objectives, long-term engagement, and structured planning (Koutrou et al., 2016).

International research has highlighted the transformative impact of volunteerism on both individual volunteers and the communities they serve. Studies have shown that volunteer activities foster trust, knowledge-sharing, and mutual learning among stakeholders (Schech, 2022; Impey & Overton, 2014). In this context, volunteers are not merely service providers but active participants in collective, knowledge-driven efforts that support sustainable development.

Volunteer programs are integral to collective efforts in advancing community and societal activities (Magrizos et al., 2021). Within these programs, various approaches- such as skill development, orientation, and attitudinal training- are employed to create solutions and support local communities. These efforts align with the goals of enhancing volunteers' knowledge and experiences. Volunteer programs also offer participants opportunities to learn from diverse experiences in a relatively low-pressure environment, aiming to deliver positive impacts for all stakeholders (Sparrow et al., 2020). Therefore, this study posits that within the broader volunteering context, volunteers contribute to the shared goals of assisting communities in need by leveraging skills, knowledge, and selfless service to meet program objectives.

Volunteer programs inherently shape participants' experiences, which vary based on the primary goals of the program. Experiences derived from service-oriented volunteer activities are considered a critical component of a volunteer's development (Ballard et al., 2015; Hustinx et al., 2015). Research on volunteering frequently examines themes such as collaboration, program objectives, activities, assistance, and community contributions. Previous studies have focused on ideal partnerships, principles of volunteer assistance, goals, objectives, and other related topics. The overarching aim of volunteering is often to create a better world through the knowledge, perspectives, and roles of individuals. Recognizing this, volunteer engagement has gained importance in contemporary discourse. Hauser-Oppelmayer and Korac (2024) argue that the impact of volunteer experiences is a core value essential to alleviating the burdens faced by communities and stakeholders.

In Malaysia, the role of student volunteers continues to gain momentum. With over 20 million registered volunteers nationwide (Gage & Thapa, 2012), higher education institutions increasingly recognize the potential of structured volunteer programs to nurture leadership, empathy, and collaborative competencies among students. These programs also align with national priorities to cultivate responsible, community-oriented graduates (Rabun et al., 2017).

In line with Malaysia's commitment to the United Nations 2023 Agenda, student volunteerism contributes directly to Sustainable Development Goal 4 (SDG 4): Quality Education-

particularly Target 4.7, which emphasizes education for sustainable development, global citizenship, and community engagement. This aligns closely with the Malaysian Education Blueprint (Higher Education) 2015–2025, which calls for holistic, entrepreneurial, and balanced graduates through experiential learning and civic participation. Initiatives such as Yayasan Sukarelawan Siswa (YSS) have further institutionalized student volunteerism as a national strategy to cultivate leadership, empathy, and global-mindedness. These structured volunteering programs allow Malaysian students to develop critical soft skills, build social responsibility, and contribute meaningfully to community development. Strengthening such programs is therefore central to Malaysia's higher education transformation agenda.

Although student volunteerism has gained increasing attention in higher education, empirical research remains limited regarding the critical components that shape effective program implementation particularly in non-Western or developing country contexts. Volunteerism in higher education has become an integral part of student development, complementing academic learning with civic engagement and social responsibility. Student participation in structured volunteer programs is shaped not only by motivations such as altruism, skill-building, and career preparation but also by how relevant and supportive the program feels (Clary & Snyder, 1999; Hauser-Oppelmayer & Korac, 2024). Engagement is deeper when students perceive that their needs are met and they feel ready—both mentally and practically—to contribute meaningfully (Adel et al., 2021; Magrizos et al., 2021).

These dynamics underscore the importance of program structures that respond to student needs while fostering sustained participations. The effectiveness of volunteer programs depends on their ability to balance student motivation with well-planned, supportive structures. Clear roles, training, and ongoing guidance help sustain participation, while readiness—rooted in confidence, prior experience, and alignment with personal values—enhances commitment and performance (Curran & Taheri, 2021; Hustinx et al., 2015). In this context, thoughtful program planning becomes essential, serving as the foundation for aligning institutional goals with student engagement and community impact (Schech et al., 2016).

Given the limited studies exploring how student participation, needs, readiness, and program planning intersect in Malaysian university contexts, this study aims to investigate how these factors interact, fuelling optimal student engagement in volunteer programs. By examining these relationships, the study seeks to provide insights for designing more effective, student-centered volunteer initiatives in higher education. These initiatives can enhance both student development and societal impact, ensuring that volunteer experiences are meaningful for students and beneficial for the communities they serve.

1.1. Problem of statement and research aims

Volunteers are the core component of volunteer programs, managing, funding, and implementing various activities such as disaster relief and emergency response. These programs have increasingly become professional and goal-oriented, with growing long-term membership and alignment with program objectives. However, challenges persist in ensuring the effectiveness of volunteer participation, knowledge sharing, preparedness, and achieving objectives consistent with program goals (Owen & Chambers, 2022; Curran & Taheri, 2021).

While previous research has explored the general outcomes of volunteering activities (Meher & Meher, 2024; Siqueira et al., 2022), there remains a lack of focused empirical studies examining the internal dynamics of volunteer program implementation—particularly how

participation, perceived needs, readiness, and planning interact to shape student engagement. This gap is especially relevant in Malaysian higher education institutions, where volunteer programs are increasingly used as tools for student development, yet often lack systematic evaluation. A better understanding of these interrelationships is needed to inform the design of more effective, student-centered volunteer initiatives.

Therefore, the primary aim of this study is to explore the relationships between participation and the independent variables—needs, readiness, and program planning—in the context of student volunteering programs at a Malaysian university. The findings aim to offer practical insights for improving program structure, engagement strategies, and alignment with educational goals—particularly in support of Malaysia’s higher education objectives and Sustainable Development Goal 4.7, which emphasizes education for sustainable development and global citizenship. To achieve this, the following research objectives are set:

- i. to identify the relationship between university student participation and needs in a structured volunteering program
- ii. to identify the relationship between university student participation and readiness in a structured volunteering program
- iii. to identify the relationship between university student participation and program planning in a structured volunteering program
- iv. to identify the relationships between the independent variables—needs, readiness, and program planning—among university students in a structured volunteering program

2. Literature Review

2.1. Student Participation in Volunteering

Student participation in volunteering programs is shaped by a range of internal and external motivators, including altruism, skill development, social connection, and career aspirations (Clary & Snyder, 1999; Hustinx, 2005). Participation is defined as the degree of student engagement and involvement in structured volunteering activities (Ballard et al., 2015). Active participation is associated with greater awareness of societal needs, improved self-confidence, and stronger identification with community values (Kim & Morgul, 2017). In the context of university programs, participation also reflects students’ willingness to take on responsibilities, engage with peers, and align their efforts with the goals of the volunteering initiative (Hauser-Oppelmayer & Korac, 2024). Participation has been found to be positively associated with the success of volunteer programs, especially when students perceive their roles as meaningful and well-organized (Cho et al., 2020).

2.2. Perceived Needs in Volunteering

Understanding and addressing students’ perceived needs is essential for designing effective volunteer programs. These needs may include logistical support, role clarity, leadership guidance, and appropriate task assignments (Gage & Thapa, 2012). When students feel that their personal, emotional, or skill-based needs are met, they are more likely to remain engaged and contribute meaningfully (Magrizos et al., 2021). Needs also encompass the availability of pre-training, access to resources, and mentoring throughout the program. The lack of need-aligned structures may reduce volunteer retention and satisfaction (Hustinx et al., 2015). In Malaysia, the incorporation of structured support and contextualized programming has been emphasized in national volunteering initiatives such as those under Yayasan Sukarelawan

Siswa (YSS), reinforcing the importance of student-centered program design (Rabun et al., 2017).

2.3. Readiness for Volunteering Engagement

Readiness refers to a student's psychological and practical preparedness to participate in volunteer work. It includes prior experience, motivation, confidence, and the availability of time and emotional capacity (Adel et al., 2021). High levels of readiness are typically associated with successful engagement, sustained effort, and positive volunteer experiences (Sparrow et al., 2020). Students who are mentally prepared and informed about what is expected of them are more likely to contribute effectively. Curran & Taheri (2021) emphasize that readiness also relates to whether students view the program as aligned with their goals and values. In Malaysian higher education, where volunteerism is increasingly integrated into holistic education models, ensuring students' readiness is key to maximizing the impact of such programs.

2.4. Program Planning in Volunteer Initiatives

Planning is the backbone of any successful volunteer initiative. Effective program planning involves setting clear objectives, organizing activities, managing time and resources, and ensuring alignment with both institutional goals and community needs (Willems et al., 2020). Planning also incorporates feedback loops, role assignments, contingency management, and the integration of training and reflection phases (Schech et al., 2016). Poorly planned programs can result in confusion, low participation, and dissatisfaction among student volunteers (Bang et al., 2020). In contrast, well-structured programs foster a sense of ownership, improve communication among volunteers, and enhance program outcomes. In the Malaysian context, university-administered volunteer initiatives increasingly prioritize program planning as a key driver of both participation and program impact (Hussin & Arshad, 2012; Gage & Thapa, 2012).

2.5. Conceptual Framework Development

The constructs of participation, needs, readiness, and program planning are widely acknowledged in literature as core pillars of effective volunteer management and student engagement (Siqueira et al., 2022; Garma & Niepes, 2022). These variables were selected based on their recurring presence in studies related to student volunteering behavior, program success factors, and institutional frameworks. While previous models have examined these elements individually, this study integrates them to explore their interconnected roles in a structured Malaysian university program. This integrated approach provides a clearer understanding of how these constructs collectively influence program implementation, thus filling an existing gap in localized volunteerism research.

Building on this relationship, this study is conceptually guided by three theoretical underpinnings—Theory of Planned Behavior (TPB), Self-Determination Theory (SDT), and Experiential Learning Theory (ELT)—to support the integration of participation, needs, readiness, and program planning in university-based volunteering programs. TPB (Ajzen, 1991) provides a behavioral lens, suggesting that participation is influenced by students' attitudes, perceived norms, and perceived control, which in this study align with the constructs of readiness, needs, and the clarity of program planning. SDT (Deci & Ryan, 1985) reinforces the importance of meeting students' psychological needs—autonomy, competence, and

relatedness—which are captured within the study’s focus on readiness and support aspects, enhancing intrinsic motivation among the students to volunteer. ELT (Kolb, 1984), meanwhile, situates participation as part of a continuous learning cycle, where planning and readiness are essential preparatory stages that enable meaningful and effective engagement. Together, these theories provide a comprehensive foundation for understanding how these interrelated constructs—participation, needs, readiness, and program planning—contribute to effective and sustained student involvement in structured volunteering efforts.

Grounded in this framework, the correlation analysis was conducted to validate the theoretical assumptions and measure the extent to which each construct influenced participation. Figure 1 presents the conceptual framework showing the relationship between participation, needs, readiness, and program planning in student volunteering programs. Through this study, the relationship between independent variables—needs, readiness, planning—and the dependent variable—participation—was explored using the correlation test to determine both the significance and the direction of the relationships.

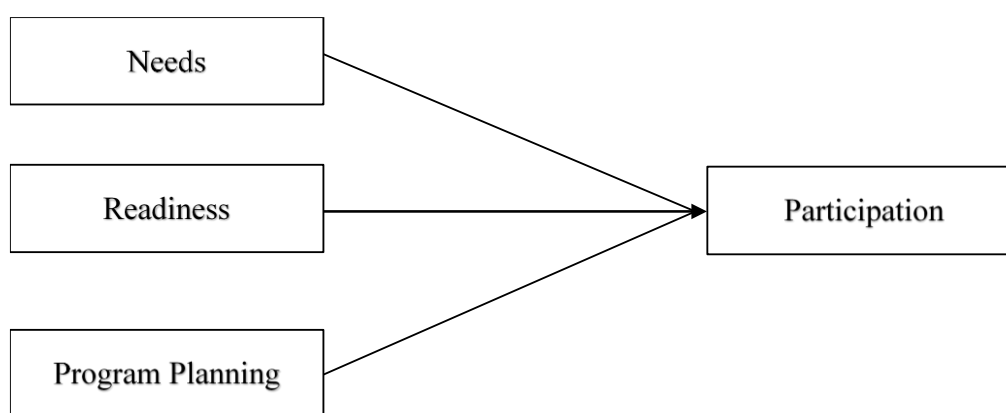


Figure 1: Conceptual Framework Linking Participation, Needs, Readiness, and Program Planning in a Structured Student Volunteering Program

3. Method

3.1. Research design

This study employs a quantitative, non-experimental correlational research design to explore the relationships among four key variables: participation, needs, readiness, and program planning in the context of university student volunteering programs. This design is appropriate when the goal is to examine the strength and direction of naturally occurring relationships between variables, rather than to establish causality or manipulate conditions (Creswell & Creswell, 2018). In this study, the descriptive component was used to summarize respondent demographics and determine the levels of each construct. At the same time, the correlational analysis focused on identifying statistically significant associations among the four variables. This design aligns with the study's aim to provide insight into program development and engagement strategies without the need for intervention or control groups.

The non-experimental nature of the research was further justified by the ethical and practical constraints of modifying existing university programs, reinforcing the use of a passive observational approach.

3.2. Participants and Sampling

A sample is a smaller subset of a larger population chosen to accurately reflect the characteristics of the overall population. The researcher obtains data from a representative sample because it is not feasible to study the entire population. The study focused on students involved in a university-administered community volunteering program at Universiti Kebangsaan Malaysia (UKM). A purposive sampling was used to deliberately select participants who had direct involvement and responsibilities in the program. This method is justified by the study's intention to obtain insights from students who were actively engaged in planning, leading, or implementing volunteer activities. Initially, 65 students were identified as potential participants based on their program involvement. After applying the inclusion criteria, only 48 students were eligible and consented to participate in the study.

The selection process was conducted in two phases:

- i. Initial screening by the program executive council based on participants' involvement level;
- ii. Confirmation interviews to verify eligibility and commitment.

The final sample consisted of 48 undergraduate students who fulfilled the following inclusion criteria:

- a) Enrolled as active students at UKM;
- b) Held formal roles in the volunteering program (e.g., team leaders, planners, facilitators);
- c) Had previous volunteering experience at community, state, or national level;
- d) Participated in the full program cycle (from preparation to execution).

While the sample size may be limited in scope, it represents a focused, information-rich group suitable for exploratory correlation analysis in a specific institutional context (Maxwell, 2013).

3.3. Research Instrument, Pilot Test, and Data Collection Tools

A self-administered structured questionnaire was developed and adapted from existing instruments and literatures. It was bilingual (Malay and English) and structured into five sections. The instrument was tailored to align with the Malaysian higher education context based on expert validation and related literatures (Palermo & Thomson, 2018; Curran & Taheri, 2021). Program implementation was assessed using a 5-point Likert scale based on Palermo and Thomson (2018). Cronbach's alpha was used to assess internal consistency.

Constructs were evaluated from four constructs, such as participation, needs, readiness, and overall program planning. The measurement reliability index was 0.95. A reliability coefficient nearing 1.0 denotes enhanced perceived reliability, indicating superior internal accuracy (Suresh & Chandrashekara, 2012). Based on the results of the pilot study conducted before the actual research (N = 30), it was found that the pre-implementation constructs and implications were reliable. Each item was evaluated on a 5-point Likert scale: (1) strongly disagree, (2) disagree, (3) somewhat agree, (4) agree, and (5) strongly agree.

The questionnaire consisted of 56 items, organized into five sections as follows:

- Section A: Demographic profile (gender, age, year of study, academic performance)
- Section B: Participation – 7 items (role responsibility, attendance, frequency)
- Section C: Needs – 10 items (clarity of roles, support from leaders, resources)

- Section D: Readiness – 10 items (mental preparedness, prior knowledge, time commitment)
- Section E: Program Planning – 5 items (schedule, coordination, communication, contingency planning)

The instrument underwent content validation by two senior lecturers in educational leadership and community engagement. It consisted of four sections with a total of 56 questions covering demographic components, program implementation, and the implications of the volunteering program.

The pilot study conducted on 30 students was not included in the final sample with similar volunteering experience. The implementation of the volunteering program was divided into four construct: volunteer participation, volunteer needs, volunteer readiness, and planning during the program. Reliability was used to indicate stability and internal consistency by measuring the Cronbach's alpha value. A value above 0.60 is typically used to measure and confirm the reliability of an instrument, while instruments with a value below 0.60 are considered to have low reliability in assessing the construct being tested. Based on the validity and reliability analysis, the Cronbach's alpha values indicated high reliability, ranging from 0.84 to 0.94. All implementation items showed high interpretation regarding the implementation prior to the volunteering program. The 'needs' construct showed the highest mean score at 4.34 among the student volunteers, followed by 'participation' construct at 4.30. 'Readiness' and 'program planning' showed mean scores of 4.20 and 4.18, respectively. The result of the internal consistency reliability using **Cronbach's alpha** is presented in Table 1.

Table 1: Pilot Study Reliability and Validity

Constructs	Cronbach's Alpha	Mean	Standard division
Participation	0.844	4.30	3.57
Needs	0.900	4.34	5.39
Readiness	0.943	4.20	4.20
Program planning	0.861	4.18	3.29

3.4. Data Collection Procedures

Data collection was conducted in April 2024, during two weeks before the official closure of the program. The research team distributed printed questionnaires to participants during scheduled briefing sessions. Participation was voluntary and anonymous. Students were briefed on the objectives and allowed to ask questions before filling out the form. Completed questionnaires were collected immediately upon completion to ensure data integrity and high response rate.

To reduce response bias, no faculty member or program supervisor was involved during data collection. Additionally, students were assured that their answers would not affect their academic or program evaluations.

3.5. Data Analysis

The study used IBM SPSS version 26 software in the process of analyzing the results to ensure accuracy and reliability. The variables were measured using validated and reliable scales, adapted from related studies and confirmed through the instrument validation process (Krishnan & Sitaraman, 2013). The analysis was conducted at two levels:

- i. Descriptive statistics were used to profile respondents and determine overall response patterns. Frequency, percentage, mean, and standard deviation were reported for all variables.
- ii. Inferential statistics involved Pearson correlation analysis to examine the strength and direction of the relationships between participation, needs, readiness, and program planning. Pearson's correlation is appropriate when both variables are continuous and normally distributed (Field, 2013). The significance level was set at $p < 0.05$, and results were interpreted using standard effect size thresholds.

3.6 Ethical Considerations

This study adhered to the ethical guidelines of UKM. Participants provided informed written consent and were assured that: i) their participation was entirely voluntary; ii) all responses would be kept confidential and used solely for academic purposes; iii) their identity would remain anonymous; iv) they could withdraw at any stage without penalty.

4. Results

4.1 Student Demographics

The demographic analysis describes the characteristics of the 48 student volunteers from UKM who participated in this study, as shown in Table 2. Among the respondents, 68.8% were female ($n=33$) and 31.3% male ($n=25$). The majority of participants were between the ages of 21-22 years (47.9%), followed by those aged 19-20 (37.5%), and 23-24 years (14.6%).

Ethnically, the sample was predominantly Malay (95.8%), with a small representation of Indian students (4.2%). All participants were currently enrolled in a Bachelor's degree program, with most in their first year (75%), followed by second-year (18.8%) and third-year (6.3%) students. In terms of academic performance, the majority of the student volunteers had a Cumulative Grade Point Average (CGPA) between 3.1 and 3.5 (47.9%), followed by 35.4% with a CGPA above 3.6, and 16.7% between 2.5 and 3.0. Overall, the sample primarily comprised junior undergraduates—predominantly Malay female students—with moderate to high academic standing.

Table 2: Respondent Demographics

Category	Frequency	Percentage (%)
Gender		
Male	15	31.3
Woman	33	68.8
Age		
19 – 20	18	37.5
21 – 22	23	47.9
23 – 24	7	14.6
Ethnicity		
Malay	46	95.8
Indian	2	4.2
Year of study		
Year 1	36	75.0
Year 2	9	18.8
Year 3	3	6.3

Cumulative Grade Point Average (CGPA)		
> 3.6	17	35.4
3.1 – 3.5	23	47.9
2.5 -3.0	8	16.7

4.2 Descriptive Analysis of Participation, Needs, Readiness, and Program Planning

This section presents the descriptive findings for each of the four constructs: participation, needs, readiness, and program planning. Respondents' scores were categorized into three levels—high (3.68- 5.00), moderate (2.34 – 3.67), and low (100 – 2.33)—based on the mean ranges derived from a 5-point Likert scale.

As shown in Table 3, the majority of student rated their experiences and perceptions within the high category across all constructs. High ratings were recorded for participation (n = 19, 81.3%), needs (n = 42, 87.5%), readiness (n = 36, 75.0%), and program planning (n = 36, 75.0%). The remaining student volunteers reported moderate levels of participation, needs, readiness and program planning. Notably, none of the constructs fell within the low category, suggesting an overall positive perception of participation and program structure among the respondents.

Table 3: Categories of Volunteer Participation, Needs, Readiness, and Program Planning

Constructs	Categories	Frequency	Percentage (%)
Participation	High	39	81.3
	Moderate	9	18.8
Needs	High	42	87.5
	Moderate	6	12.5
Readiness	High	36	75.0
	Moderate	12	25.0
Program planning	High	36	75.0
	Moderate	12	25.0

Mean scores were analyzed to identify item-level patterns across the four constructs. Table 4 summarizes the mean ranges for each construct based on its respective items. Overall, the findings indicate that students reported high levels of participation, needs, readiness, and orogram planning.

Table 4: Mean Levels of Volunteer Participation, Needs, Readiness, and Program Planning

Constructs	Mean Value		Interpretation
	Lowest	Highest	
Participation	3.71	4.52	High
Needs	4.10	4.48	High
Readiness	4.00	4.40	High
Program planning	3.90	4.38	High

The participation construct was measured using seven items. these items recorded high mean scores ranging from 4.17 to 4.52, reflecting strong student involvement in the volunteering program. Two items pertaining to peer recognition and holding leadership roles had slightly

lower means (3.96 and 3.71, respectively), though still within the high category. For the needs construct, all ten items were rated in the high category, with mean scores ranging between 4.10 and 4.48. The highest mean was for clear instructions from program leaders, followed by the need for relevant knowledge and management skills.

Readiness construct also showed high mean scores across all ten items, ranging between 4.00 and 4.40. The item with the highest mean indicated that students were ready to receive instructions from leaders at any time, reflecting their adaptability and openness to guidance. For the last construct, program planning, five items were analysed. Among these items, four had high mean scores between 4.00 and 4.38. In contrast, one item, related to participation in additional team activities, had a slightly lower mean of 3.90, yet continued to reflect a high level. Overall, these findings suggest strong student involvement and positive perceptions of university volunteering programs.

4.2 Relationship between Participation, Needs, Readiness, and Program Planning

Guiding on the research objectives, the Pearson correlation analysis indicated that all variables have a significant relationship with the university student participation in volunteering programs, thus rejecting the null hypothesis. Strong correlations were also reported between all variables.

The analysis revealed significant positive relationships between student participation and the independent variables (Table 5). Needs demonstrated a strong positive correlation with participation ($r = 0.769$, $p < 0.01$), while readiness ($r = 0.820$, $p < 0.01$) and program planning ($r = 0.806$, $p < 0.01$) both exhibited very strong positive correlations. These findings suggest that students who were more actively engaged in volunteer activities also demonstrated higher levels of preparedness and psychological readiness. Additionally, students who perceived that their needs were adequately addressed were more likely to report greater participation and alignment with program planning efforts. This supports the interconnected nature of the four constructs—participation, needs, readiness, and program planning—as outlined in the research framework. It also reinforces the appropriateness of examining these variables relationally, rather than through a cause-and-effect lens, consistent with the correlational design of the study.

Table 5: Pearson Correlation Coefficients Between Participation, Needs, Readiness, and Program Planning (N = 48)

Independent Variable	r	Direction	Strength	Significance
Needs	.769**	Positive	Strong	Significant
Readiness	.820**	Positive	Very strong	Significant
Program planning	.806**	Positive	Very strong	Significant

Note: Values represent Pearson's r correlation between Participation and each independent variable;
**significant at $p < .01$ (2-tailed)

Additional correlational analyses were conducted between the independent variables—readiness, needs, and program planning. As shown in Table 6, all relationships were significant and strongly positive: needs and readiness ($r = 0.835$, $p < 0.01$), needs and program

planning ($r = 0.815$, $p < 0.01$), and readiness and program planning ($r = 0.889$, $p < 0.01$).

Table 6: Pearson Correlation Coefficients Among Independent Variables—Needs, Readiness, and Program Planning (N = 48)

Variable	1	2	3
1. Needs	-		
2. Readiness	.835**	-	
3. Program planning	.815**	.889**	-

Note: **significant at $p < .01$ (2-tailed); r = correlation coefficient

The strong correlation between needs and readiness suggests that students exhibit greater psychological readiness to engage in volunteer activities when their individual needs are adequately supported. Likewise, the strong relationship between program planning and readiness indicates that students feel more confident and prepared when volunteering programs are well-structured and clearly communicated. The significant association between needs and planning also supports the idea that perceived program responsiveness enhances both student preparedness and participation. These results reinforce the multidirectional relationships proposed in the conceptual framework.

5. Discussion

The relationship between components of volunteering programs, or in the case of this study, the factors associated with university student participation in volunteering programs, needs, readiness, and program planning, encompasses various critical dimensions for effective volunteer management. Volunteering programs thrive on active participation, which is significantly influenced by effective management strategies. According to Siqueira et al. (2022), volunteering programs can attract participation and retain volunteers more effectively, ensuring a more committed workforce. Volunteers require specific support to function effectively, including training and resources, especially in high-risk environments such as disaster relief (Adel et al., 2021). By addressing volunteer needs, student readiness is enhanced, leading to better outcomes in service delivery. Therefore, effective planning can adequately address challenges, needs, and rejections and ensure that volunteering programs align with organizational goals (Garma & Niepes, 2022). A structured approach to designing volunteer programs can facilitate the management and integration of volunteers into relief initiatives. Therefore, balancing structure and flexibility is essential to ensure continuous volunteer engagement.

The findings confirm the interconnected nature of these constructs, as proposed in the conceptual framework, and are consistent with prior research on effective volunteer program design (Curran & Taheri, 2021; Gage & Thapa, 2012). The strong correlation between participation and readiness suggests that students who are more actively involved in volunteer roles tend to be better prepared, both mentally and logistically, for engagement. This is consistent with the Theory of Planned Behavior (Ajzen, 1991), which posits that perceived behavioral control and readiness influence actual participation. Emphasizing this, Kim and Morgul (2017) also report that increased involvement builds confidence and ownership, aligning with Self-Determination Theory's emphasis on competence and autonomy as key drivers of motivation. Similarly, Gage and Thapa (2012) affirm that well-structured programs

aligned with student needs enhance motivation and participation. These findings reflect principles of Experiential Learning Theory (Kolb, 1984), which suggests that meaningful learning and engagement occur through active involvement and reflective experience. Collectively, the results underscore the importance of designing student-centered programs that cultivate readiness, address individual needs, and provide structured opportunities for deeper engagement.

In parallel, the significant relationship between the independent variables provide valuable insights. The correlations between needs and readiness highlights the importance of addressing volunteer expectations and support structures. When students' logistical and emotional needs are met, they are more likely to approach programs with enthusiasm and clarity. Notably, program planning also strongly correlated with both needs and readiness, underscoring the pivotal role of well-structured program delivery in fostering successful student engagement. This is consistent with Schech et al. (2016) and Bang et al.'s (2020) findings, as they identified planning as a core driver of volunteer retention and satisfaction. Ultimately, this aligns with the Malaysian context, where institutions such as Yayasan Sukarelawan Siswa (YSS) emphasize planning, reflection, and feedback as part of national volunteerism strategy (Rabun et al., 2017).

Overall, the study successfully meets all research objectives, validating the relationships between participation and the independent variables—needs, readiness, and program planning—while also affirming the multidirectional connections among these constructs. This emphasizes that successful student volunteering depends not on a single factor, but on a well-integrated system involving participation, preparedness, responsive support, and clear planning. The theoretical perspectives supporting these findings further underscore the importance of a comprehensive approach to developing transformative volunteering programs. By highlighting these interconnected elements, the study contributes to the literature with an empirically tested model set within the Malaysian higher education context—an area where such integrative research has been limited.

6. Conclusion

This study emphasize that successful student volunteer participation is driven by the cohesive integration of program planning, readiness, and support for individual needs, rather than relying on a single aspect. Students are more likely to engage meaningfully when they feel prepared, supported, and involved in decision-making processes. From a practical standpoint, this study provides guidance for universities to enhance the design and implementation of student volunteer programs by focusing on feedback mechanisms, student leadership roles, and needs-responsive planning. Such strategies not only strengthen engagement but also support broader institutional goals in producing holistic and civic-minded graduates. Finally, this research supports Sustainable Development Goal 4, Target 4.7, by demonstrating how structured volunteerism contributes to quality education, civic responsibility, and values-based student development within higher education.

These findings also emphasize the value of creating authentic, real-world learning environments through well-managed volunteering experiences. Students benefit not only in terms of skill development and civic engagement but also through enhanced motivation and deeper social awareness. Program coordinators and higher education institutions must therefore ensure that volunteer programs are both structured and adaptable, allowing students to contribute, reflect, and grow within safe and supportive settings.

Ultimately, this study highlights that thoughtful volunteer program design—grounded in participation, needs-responsiveness, and readiness—can produce positive educational outcomes and contribute to broader societal impact. As universities continue to explore experiential learning opportunities, structured volunteering stands out as a practical, scalable tool to enhance both student development and community engagement.

7. Limitations of the Study and Recommendations for Future Research

This study has several limitations. First, it involved a purposive sample of 48 students from a single Malaysian university, which may restrict the generalizability of the findings to other institutions or broader student populations. Second, its cross-sectional design captured data at a single point in time, limiting insights into how participation, needs, and readiness may evolve across different stages of volunteering. Third, reliance on self-reported quantitative data may overlook the nuanced, subjective experiences that shape students' motivations and perceptions.

Future research should consider a larger, multi-institutional sample to improve representativeness, adopt longitudinal designs to observe developmental trends, and incorporate qualitative approaches—such as interviews or reflective journals—to gain deeper insights into student experiences and the dynamic nature of engagement.

Additionally, while this study revealed strong associations among the independent variables—needs, readiness, and program planning—it did not extend its analysis to examine these relationships in greater depth. This presents a limitation in fully capturing the dynamics among these constructs, despite their statistical significance. Future studies could adopt mediation or path analysis to uncover how these elements interact and contribute to the broader understanding of student engagement.

Co-Author Contribution

All authors confirm that there are no conflicts of interest related to this study. Zurina Ahmad Saidi conducted the field study, data entry, and analysis, reviewed the literature, and wrote the overall manuscript. Alia Sarah Asri assisted with the statistical analysis, interpreted the results, and contributed to writing the methodology, finding and discussions section. Mohd Faiq Abd Aziz supervised the entire research process, provided suggestions for improvement, and approved the final version of the article.

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