

Determinants of Inclusive Volunteer Education Awareness among University Communities: The Role of Awareness, Motivation, and Behaviour Formation

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ABSTRACT:

This study examines the determinants of inclusive volunteer education awareness among university communities, with particular emphasis on the roles of awareness, motivation, and behaviour formation. Grounded in the growing emphasis on inclusive education and the social responsibility of higher education institutions, the study adopts a quantitative cross-sectional survey design involving 500 respondents comprising students, academic staff, and non-academic staff. Data were analysed using descriptive statistics, Spearman correlation, and multiple linear regression. The findings indicate that awareness, motivation, and behaviour formation are all at high levels, reflecting a generally positive orientation towards disability inclusion and volunteer engagement. Correlation analysis reveals strong and significant relationships among the variables, suggesting that awareness, motivation, and behaviour formation are closely interconnected. Regression analysis further demonstrates that all three variables significantly predict the perceived need for inclusive volunteer education, with motivation emerging as the strongest determinant ($\beta = 0.415$, $p < .001$), followed by awareness and behaviour formation. The model explains a substantial proportion of variance ($R^2 = 0.586$), indicating strong explanatory power. These findings highlight the importance of integrating cognitive, motivational, and behavioural dimensions in promoting inclusive volunteerism within higher education. The study contributes to the literature by proposing an empirical model that explains how these factors collectively shape the perceived need for inclusive volunteer education, while offering practical insights for designing more effective and engagement-driven institutional initiatives.

Keywords: Inclusive volunteer education, disability inclusion, volunteer motivation, behavioural engagement, awareness, higher education institutions, university students, inclusive practices.

1. INTRODUCTION

Inclusive education and disability awareness have moved steadily from the margins of educational debate to the center of global policy and scholarly discussion. The Global Education Monitoring Report Team (2020) argues that inclusion should be treated as a basic condition of equitable education, not as a peripheral concern, while Tilak (2022) contends that universities can no longer be understood only through their teaching and research functions because their social responsibility is now an equally important part of their institutional mission. In a similar vein, Roca-Hurtuna and Sanz-Ponce (2023) describe the university's broader "third mission" as one of social commitment, where institutions are expected to shape values, strengthen civic awareness, and respond to social realities beyond the classroom. In higher education specifically, this shift also means that inclusion must go beyond formal admission and extend to accessible learning environments, equal participation, and the meaningful development of students with disabilities (International Finance Corporation, 2024; O'Callaghan et al., 2025).

Within this wider agenda, volunteerism offers a particularly practical route for translating inclusive values into lived experience. Rather than leaving inclusion at the level of policy language or abstract classroom discussion, structured volunteering and service-learning create opportunities for students to encounter disability in relational, social, and community-based settings. Gordon et al. (2022), in a systematic meta-analysis and meta-synthesis, found that service-learning produces a significant positive effect on university students' empathy and that direct interaction with communities is one of the strongest conditions for that development. Likewise, Park et al. (2024) showed that in-person service-learning improved university students' attitudes toward people with disabilities, suggesting that sustained, face-to-face engagement can strengthen not only empathy but also more inclusive professional and interpersonal dispositions. In this sense, volunteer-based educational experiences can help bridge the distance

between what students know about inclusion and how they actually respond to it in practice.

Even so, the growing visibility of inclusive initiatives does not mean that university communities are uniformly prepared to participate in them. Recent evidence suggests that awareness, readiness, and engagement remain uneven. Rashid et al. (2025), in a systematic literature review focused specifically on university-community awareness toward inclusive education and volunteerism for persons with disabilities, found that awareness remains limited in areas such as accessibility, empathy-driven engagement, and inclusive academic support. Related studies also point to similar inconsistencies. Madhesh (2022) reported a lack of disability awareness among university graduates in one national higher education context, while Malaysian studies by Yusof et al. (2020) and Chan et al. (2023) show that students with disabilities continue to face barriers in access, facilities, participation, and institutional support. Taken together, these findings suggest that institutional commitment alone is not enough; universities also need a clearer understanding of the personal and behavioural conditions that shape whether inclusive volunteer initiatives are actually embraced.

Among those conditions, awareness appears to be the starting point. Wang et al. (2021), in a systematic review of public attitudes toward persons with disabilities, found that knowledge of disability and the quality and frequency of contact with persons with disabilities are among the strongest factors associated with more positive attitudes. This is echoed in higher education research. Saadun et al. (2023) found that knowledge and exposure significantly predict disability perceptions among university students, while Roca-Hurtuna and Sanz-Ponce (2023) reported that students who had friendship ties or other links with persons with disabilities demonstrated more positive attitudes and stronger support for inclusive professional practice. These findings matter because awareness is not simply a matter of information; it shapes how students interpret disability, whether they feel comfortable engaging across difference, and how ready they are to support inclusive participation in university and community life.

Awareness, however, does not automatically produce action. Motivation is the force that helps move inclusive understanding toward voluntary participation. Wondimu and Admas (2024) found that student volunteering is driven by motives such as helping others, gaining learning experiences, applying skills, and enhancing future opportunities. In the Malaysian context, Noh et al. (2023) similarly reported that students' participation in volunteering is strongly influenced by social actors around them, especially peers and instructors, highlighting the importance of social environments in sustaining volunteer involvement. What this means conceptually is that even students who are aware of disability issues may not necessarily participate unless they also see volunteering as meaningful, valuable, socially supported, or personally relevant. Motivation, therefore, functions as the mechanism that converts inclusive awareness into willingness to act.

The final element, behaviour formation, is equally important because inclusive attitudes and volunteer intentions only matter if they are translated into actual practice. Ajzen (2020) explains in the Theory of Planned Behavior that attitudes, subjective norms, and perceived behavioural control shape intention, and intention remains one of the strongest predictors of behaviour. This logic is supported in volunteer-specific research. Hu et al. (2023) found that students' cognition of volunteer service positively influences attitudes, norms, and perceived control, but does not directly produce behaviour; instead, these factors work through behavioural intention, which then predicts volunteer participation. Neely et al. (2022) reinforce this behavioural view by conceptualizing volunteer motivation as a process involving initiation, choice, and continuance, showing that volunteering unfolds over time rather than emerging automatically from a single positive belief. For the present study, this means that behaviour formation should be understood as the stage at which awareness and motivation become visible through concrete, sustained engagement in inclusive volunteer education.

Taken together, the literature remains valuable but fragmented. One group of studies has examined the

structural and institutional realities of inclusion in higher education, especially barriers experienced by students with disabilities (Yusof et al., 2020; Chan et al., 2023). Another has focused on awareness, contact, and attitudes toward disability (Wang et al., 2021; Roca-Hurtuna & Sanz-Ponce, 2023; Rashid et al., 2025). A separate strand has explored volunteer participation and the motives that encourage students to get involved (Wondimu & Admas, 2024; Noh et al., 2023; Hu et al., 2023). A reasonable synthesis of these studies suggests that, particularly in the Malaysian higher education context, there is still limited empirical attention to how awareness, motivation, and behaviour formation operate together within a single model to explain the perceived need for inclusive volunteer education. Accordingly, this study aims to examine the determinants of inclusive volunteer education awareness among university communities by focusing on three key predictors: awareness, motivation, and behaviour formation.

Research questions

Based on this rationale, the study addresses the following questions:

1. What are the levels of awareness, motivation, behaviour formation, and the perceived need for inclusive volunteer education among university communities?
2. Is there a significant relationship between awareness, motivation, behaviour formation, and the perceived need for inclusive volunteer education?
3. To what extent do awareness, motivation, and behaviour formation predict the perceived need for inclusive volunteer education?

2. LITERATURE REVIEW

2.1 Awareness and Inclusive Education

Awareness has been widely recognised as a foundational element in shaping inclusive attitudes and understanding towards persons with disabilities. In a comprehensive systematic review, Wang et al. (2021) public attitudes towards persons with disabilities found that knowledge of disability, combined with meaningful and sustained interaction with persons with disabilities,

significantly predicts more positive public attitudes and reduced stigma. This suggests that awareness is not merely informational but deeply experiential, where direct exposure plays a critical role in reshaping perceptions and social acceptance.

Within higher education, however, the development of such awareness remains uneven and, in many cases, insufficient. Madhesh (2022) awareness of disability among university graduates reported that university graduates often demonstrate limited understanding of disability-related issues, raising concerns about the effectiveness of higher education institutions in embedding inclusive knowledge within their curricula. Similarly, Papadakaki et al. (2022) faculty attitudes toward inclusive education found that faculty members' knowledge and prior exposure significantly influence their attitudes towards inclusive education, indicating that awareness is not confined to students but extends across institutional stakeholders.

Despite growing policy emphasis on inclusion, these findings reveal a critical inconsistency between institutional commitment and actual awareness levels among university communities. While universities increasingly promote inclusive values, the translation of these values into meaningful understanding remains limited, suggesting that awareness development is often superficial rather than deeply internalised.

To address this gap, recent studies have examined the role of structured educational interventions. For instance, Gómez-Calvo et al. (2025) promoting attitudes towards disability demonstrated that targeted university-based programmes can significantly improve students' attitudes towards persons with disabilities. However, Korthals Altes et al. (2024) higher education teachers challenges for inclusion argued that despite such interventions, many educators continue to face challenges related to limited knowledge, pedagogical skills, and confidence in implementing inclusive practices.

This tension highlights a critical issue: while awareness can be enhanced through structured programmes, its sustainability and translation into practice remain uncertain. In other words, increased

awareness does not necessarily guarantee behavioural change or sustained inclusive engagement. This limitation is particularly important in the context of volunteerism, where awareness must extend beyond cognitive understanding to influence motivation and actual participation.

Collectively, these findings suggest that awareness is a necessary but insufficient condition for inclusive behaviour. Although higher levels of awareness are associated with increased acceptance, empathy, and willingness to engage, they do not automatically lead to meaningful action. This underscores the need to examine awareness in conjunction with other factors, particularly motivation and behaviour formation, to better understand how inclusive engagement can be effectively fostered within higher education contexts.

2.2 Motivation in Volunteerism

Motivation is widely recognised as a central determinant influencing individuals' willingness to participate in volunteer activities. Within volunteerism research, motivation is typically conceptualised as a multidimensional construct encompassing both intrinsic and extrinsic drivers, including personal values, social responsibility, skill development, and career advancement. A recent systematic review by Muñoz-Llerena et al. (2025) volunteer motivation review highlights that intrinsic motivations particularly personal growth, altruistic values, and self-expression are the most dominant factors sustaining long-term engagement in volunteer activities.

While this evidence reinforces the importance of intrinsic motivation, it also raises a critical issue: not all forms of motivation are equally effective in promoting sustained volunteer behaviour. In many higher education contexts, students often engage in volunteerism for instrumental reasons, such as enhancing employability or fulfilling academic requirements. This suggests that participation driven by extrinsic motives may be situational and short-lived, rather than deeply internalised.

Within higher education, motivation has consistently been shown to influence both participation and engagement outcomes. For

instance, Li et al. (2022) volunteer motivation and well-being found that volunteer motivation is positively associated with psychological well-being and student engagement, indicating that motivated individuals are more likely to derive meaningful and transformative experiences from volunteering. However, this relationship is not purely linear. While motivation can enhance engagement, the quality and type of motivation play a decisive role in determining whether participation leads to sustained involvement or merely episodic engagement.

This distinction becomes more evident in studies examining intrinsic versus extrinsic motivation. Cho et al. (2023) volunteer continuance intention demonstrated that intrinsic motivation significantly predicts students' intention to continue volunteering, whereas reliance on extrinsic rewards may weaken long-term commitment. Similarly, Lorente et al. (2024) volunteer engagement and retention found that satisfaction and competence development enhance intrinsic motivation, which in turn strengthens sustained engagement.

Despite these findings, a critical gap remains in understanding how motivation operates within specific cultural and institutional contexts. In the Malaysian setting, Tan et al. (2025) volunteerism among university students reported that motivational factors significantly influence students' intention to participate in volunteer programmes, particularly when aligned with social values and environmental awareness. However, intention does not necessarily translate into consistent action, suggesting that motivation alone may not be sufficient to ensure sustained participation.

This highlights a key limitation in existing literature: while motivation is frequently identified as a strong predictor of volunteer intention, fewer studies adequately explain the transition from motivation to actual behaviour. In other words, motivation may initiate engagement, but its ability to sustain behaviour depends on additional factors such as opportunity structures, social support, and behavioural readiness.

Collectively, these findings suggest that motivation functions as a critical but complex mechanism in

volunteerism. It not only drives initial participation but also determines the quality, depth, and sustainability of engagement. However, motivation should not be viewed in isolation. Its effectiveness in promoting inclusive volunteer education depends on its interaction with awareness and behaviour formation, as individuals who are both aware and intrinsically motivated are more likely to translate intention into meaningful and sustained action.

2.3 Behaviour Formation

Behaviour formation represents the stage at which awareness and motivation are translated into observable action or, at minimum, into a consistent behavioural tendency toward engagement in inclusive practices. It reflects not only individuals' readiness to act but also the extent to which such readiness is sustained over time. The theoretical foundation for this process is strongly grounded in the Ajzen (2020) Theory of Planned Behavior, which posits that behaviour is shaped by attitudes, subjective norms, and perceived behavioural control, operating through behavioural intention.

However, while the Theory of Planned Behavior provides a robust explanatory framework, it also highlights a critical limitation: intention does not always lead to actual behaviour. This "intention-behaviour gap" is widely acknowledged in behavioural research, suggesting that individuals may possess positive attitudes and strong intentions but still fail to act due to contextual constraints, lack of opportunity, or insufficient behavioural support.

Empirical studies within the context of volunteerism further reinforce this complexity. For instance, Hu et al. (2023) volunteer intention patterns found that students' knowledge and attitudes significantly influence behavioural intentions, which in turn predict participation in volunteer activities. However, the study also indicates that cognitive and attitudinal factors alone are insufficient to directly produce behaviour, as their influence is mediated through intention.

Similarly, Nowakowska et al. (2025) volunteer intention longitudinal study demonstrated that empathy and prosocial attitudes significantly predict individuals' intention to engage in volunteer activities over time. While this finding supports the

role of psychological processes in behaviour formation, it also underscores that such processes are gradual and developmental rather than immediate. In other words, behaviour formation is not a single-step outcome but a dynamic process shaped by repeated exposure, reinforcement, and contextual influence.

Further evidence by Benito-Ballesteros et al. (2025) volunteer retention model highlights that satisfaction and role identity play a significant role in sustaining volunteer behaviour. This suggests that consistent engagement depends not only on initial motivation but also on the extent to which individuals internalise their roles and derive meaning from their participation.

Despite these contributions, a critical issue remains: much of the existing literature tends to conceptualise behaviour formation in terms of intention rather than actual observable behaviour. This creates ambiguity in understanding whether individuals are genuinely engaging in inclusive practices or merely expressing a readiness to do so. In the context of this study, behaviour formation is therefore conceptualised as behavioural tendency and readiness, rather than fully realised behaviour, acknowledging the practical constraints that may limit direct observation of sustained action within a cross-sectional design.

Collectively, these findings suggest that behaviour formation is a crucial but complex component in the process of inclusive volunteer engagement. It serves as the bridge between awareness and motivation on one hand, and actual participation on the other. However, its effectiveness is contingent upon both internal psychological factors and external contextual conditions. As such, understanding behaviour formation requires an integrated perspective that considers not only intention but also the structural and situational factors that enable or constrain meaningful action.

2.4 Conceptual Framework

Based on the preceding literature, this study proposes a conceptual framework that integrates awareness, motivation, and behaviour formation as key determinants of the perceived need for inclusive volunteer education within university communities.

Rather than examining these constructs in isolation, the present model conceptualises them as interrelated components that collectively shape individuals' engagement with inclusive practices.

First, awareness is positioned as a foundational cognitive factor influencing the perceived need for inclusive volunteer education. Individuals who possess higher levels of knowledge and understanding of disability-related issues are more likely to recognise the importance of inclusive practices and support structured educational initiatives. This assumption is supported by prior research indicating that awareness enhances empathy, reduces stigma, and strengthens positive attitudes towards persons with disabilities (Wang et al. 2021) public attitudes towards disability, Madhesh (2022) disability awareness among graduates. However, as highlighted in previous sections, awareness alone may not be sufficient to drive meaningful engagement, as it does not necessarily translate into action without additional motivational support.

Second, motivation is conceptualised as the driving force that transforms awareness into behavioural intention. Individuals with stronger intrinsic motivation are more likely to engage in volunteer activities, perceive such engagement as meaningful, and actively seek opportunities for participation. Empirical evidence suggests that intrinsic motivation plays a dominant role in sustaining volunteer involvement, whereas extrinsic motivation may only produce short-term engagement (Muñoz-Llerena et al. 2025) volunteer motivation review, Cho et al. (2023) volunteer continuance intention. This suggests that motivation functions as a critical mediating mechanism between cognitive awareness and behavioural engagement, although its effect may vary depending on contextual and institutional factors.

Third, behaviour formation represents the stage at which awareness and motivation are translated into behavioural tendencies or readiness to act. Drawing on the Ajzen (2020) Theory of Planned Behavior, behaviour is understood as being influenced by attitudes, subjective norms, and perceived behavioural control through behavioural intention.

Empirical findings further indicate that behavioural readiness is shaped by both internal psychological processes and external contextual conditions (Hu et al. 2023) volunteer intention patterns. Importantly, the intention–behaviour gap suggests that even

highly motivated individuals may not always translate intention into action, highlighting the need to consider behaviour formation as a gradual and context-dependent process rather than an immediate outcome.

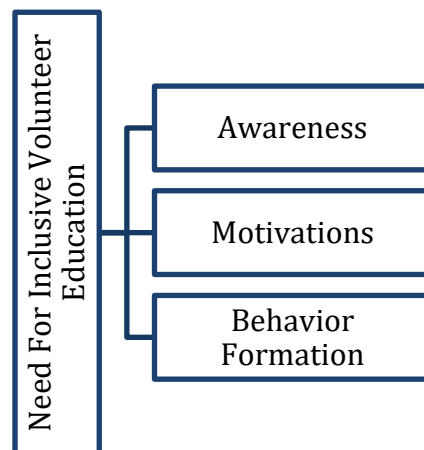


Figure 1: Framework Need for inclusive volunteer education

Taken together, the proposed framework suggests that awareness, motivation, and behaviour formation exert direct influences on the perceived need for inclusive volunteer education. At the same time, these constructs are conceptually interconnected, forming a dynamic system in which awareness enhances motivation, motivation strengthens behavioural readiness, and behavioural engagement reinforces both awareness and motivation over time.

This integrated model addresses a key limitation in existing literature, where awareness, motivation, and behaviour are often examined separately. By positioning these variables within a single framework, the present study offers a more comprehensive explanation of how cognitive, psychological, and behavioural factors collectively shape the perceived need for inclusive volunteer education, particularly within the higher education context.

3. METHODOLOGY

3.1 Research Design

This study employed a quantitative cross-sectional survey design to examine the determinants of

inclusive volunteer education awareness among university communities. A quantitative approach was deemed appropriate as it allows for the systematic measurement of relationships between variables and supports statistical generalisation across a relatively large sample (Creswell & Creswell, 2018; Saunders et al., 2019). The cross-sectional nature of the study enabled the researcher to capture respondents' perceptions, attitudes, and behavioural tendencies at a single point in time, which is particularly suitable for examining prevailing levels of awareness and readiness within the institutional context (Setia, 2016).

3.2 Sample and Sampling Procedure

The study involved a total of 500 respondents drawn from a public university in Malaysia, comprising undergraduate and postgraduate students, academic staff, and non-academic staff. The inclusion of these groups was considered important in order to capture perspectives from multiple segments of the university community, as inclusive values and volunteer practices are often shaped collectively through interactions between students, educators, and institutional personnel (Ngai et al., 2024). In terms of demographic

composition, respondents were selected based on their active involvement or continuous engagement within the university environment, ensuring that they possessed sufficient familiarity with campus culture, student activities, and issues related to inclusion and volunteerism.

A purposive sampling technique was employed because the study specifically required respondents who were able to provide informed perspectives regarding disability awareness, inclusive practices, and volunteer engagement within higher education settings (Etikan et al., 2016). The inclusion criteria required participants to be currently enrolled students or actively employed academic and non-academic staff within the university. In addition, respondents were required to be at least 18 years old and willing to participate voluntarily in the study. Individuals with limited exposure to university activities or incomplete questionnaire responses were excluded from the final analysis.

The sample size of 500 respondents was considered appropriate for quantitative analysis and regression modelling. According to Hair et al. (2019), larger sample sizes contribute to greater statistical power, improved stability of parameter estimates, and stronger generalisability of findings in multivariate analysis. Furthermore, the sample exceeded the minimum recommended threshold for multiple regression analysis, thereby strengthening the robustness and reliability of the statistical procedures employed in this study.

3.3 Instrumentation

Data for this study were collected using a structured self-report questionnaire developed based on relevant literature and aligned with the objectives of the study (DeVellis, 2017). The instrument consisted of four main constructs, namely awareness, motivation, behaviour formation, and the perceived need for inclusive volunteer education. The awareness construct measured respondents' level of knowledge and understanding regarding disability related issues and inclusive practices within higher education settings. The motivation construct examined both intrinsic and extrinsic motivational factors influencing individuals' willingness to engage in volunteer

activities. Behaviour formation referred to respondents' behavioural tendencies and readiness to translate awareness and motivation into inclusive volunteer-related actions. Meanwhile, the construct on the perceived need for inclusive volunteer education assessed respondents' perceptions regarding the importance of structured educational initiatives that promote disability inclusion and inclusive volunteerism within university communities.

The questionnaire items were adapted and developed based on previous studies related to disability awareness, volunteer motivation, behavioural engagement, and inclusive education. Specifically, the awareness items were informed by studies on disability awareness and inclusive attitudes (Wang et al., 2021; Madhesh, 2022), while the motivation construct was developed based on Self-Determination Theory and volunteer motivation literature (Ryan & Deci, 2020; Muñoz-Llerena et al., 2025). In addition, the behaviour formation construct was guided by the Theory of Planned Behavior (Ajzen, 2020) and volunteer participation studies (Hu et al., 2023). The construct measuring the perceived need for inclusive volunteer education was developed based on literature related to inclusive practices and volunteer engagement within higher education contexts.

To ensure content appropriateness and clarity, the instrument underwent an expert review process involving three experts in the fields of inclusive education, volunteerism, and educational research methodology. The review process focused on item clarity, construct relevance, language suitability, and alignment with the objectives of the study. Based on the feedback provided, several minor revisions were made to improve the comprehensibility and consistency of the questionnaire items.

Each construct was measured using multiple items to ensure adequate representation of the underlying concept. All items were rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), allowing respondents' perceptions and attitudes to be measured systematically and consistently (Doronila & Cariaga, 2025). As this study focused on perceptions, awareness, motivation, and behavioural tendencies, the

instrument measured self-perceived responses rather than objective behavioural outcomes.

Prior to the main analysis, reliability testing was conducted to assess the internal consistency of the instrument. The findings indicated satisfactory reliability across all constructs, namely awareness ($\alpha = .87$), motivation ($\alpha = .91$), behaviour formation ($\alpha = .86$), and perceived need for inclusive volunteer education ($\alpha = .92$). All Cronbach Alpha values exceeded the recommended threshold of 0.70, demonstrating acceptable internal consistency and confirming the suitability of the instrument for subsequent statistical analysis (Libasin et al., 2025).

3.4 Data Analysis

Data analysis was conducted using statistical software to address the research objectives systematically (Field, 2018). The analysis was performed in three main stages.

First, descriptive statistics, including mean and standard deviation, were used to determine the overall levels of awareness, motivation, behaviour formation, and perceived need for inclusive volunteer education among respondents (Pallant, 2020).

Second, prior to inferential analysis, normality testing was conducted using the Kolmogorov–Smirnov test. The results indicated that the data were not normally distributed ($p < .001$). Therefore, Spearman’s rank-order correlation was employed to examine the relationships between the key variables and determine the strength and direction of associations among the constructs (Schober et al., 2018).

Finally, multiple linear regression analysis was conducted to identify the extent to which awareness, motivation, and behaviour formation predict the perceived need for inclusive volunteer education. Although the data demonstrated non-normal distribution, regression analysis was considered appropriate due to the relatively large sample size ($n = 500$), as multiple regression procedures are generally robust against violations of normality assumptions in large samples (Hair et al., 2019). In addition, preliminary assumption testing indicated no serious issues related to heteroscedasticity, supporting the suitability of the regression model. The analysis enabled the study to determine the relative contribution of each independent variable and establish a predictive model explaining the variance in the dependent variable.

4. RESULTS

4.1 Levels of Awareness, Motivation, Behaviour Formation, and Perceived Need

No.	Type of Awareness Level	Mean	Standard Deviation (SD)	Mean Level
1	The level of awareness value among the UKM community towards the need for PWD-friendly volunteerism involvement among the Universiti Kebangsaan Malaysia community.	4.09	0.926	High
2	The level of motivation among the UKM community towards the need for PWD-friendly volunteerism involvement among the Universiti Kebangsaan Malaysia community.	4.41	0.777	High

3	The level of behavior formation in the form of awareness among the UKM community towards the need for PWD-friendly volunteerism involvement among the Universiti Kebangsaan Malaysia community.	4.225	0.95	High
Overall		4.23	0.884	High

Table 1: Levels of Awareness Among HEI Community Towards the Need for PWD-Friendly Volunteerism Education

Descriptive analysis was conducted to examine the levels of awareness, motivation, behaviour formation, and the perceived need for inclusive volunteer education among university communities. The findings demonstrate generally positive perceptions across all constructs, indicating favourable attitudes towards disability inclusion and volunteer engagement within higher education settings.

Among the variables examined, motivation recorded the highest mean score ($M = 4.41$, $SD = 0.777$), suggesting that respondents possess strong intrinsic and extrinsic drives to participate in inclusive volunteer activities. This was followed by behaviour formation ($M = 4.23$, $SD = 0.950$), indicating that respondents demonstrate

considerable readiness and behavioural tendency towards inclusive engagement. Awareness recorded the lowest mean among the three constructs ($M = 4.09$, $SD = 0.926$), although the score still reflects substantial understanding of disability-related issues and inclusive practices. The overall mean score ($M = 4.23$, $SD = 0.884$) suggests that respondents generally exhibit favourable perceptions and readiness towards the implementation of inclusive volunteer education.

Overall, the findings imply that university communities are not only informed about disability inclusion but are also psychologically and behaviourally inclined to support and participate in inclusive volunteer initiatives.

4.2 Relationship between Awareness, Motivation, and Behaviour Formation

NORMALITY TEST (KOLMOGOROV-SMIRNOV)			
Variable	P=	value	Result
Awareness Value	< 0.001		Non-Normal
Motivation Value	< 0.001		Non-Normal
Behavior Value	< 0.001		Non-Normal
SPEARMAN TEST			
Variable Pairs	Spearman Value (p)	P=	Strength of Correlation
Awareness Value – Motivation Value	0.714	< 0.001	Strong
Awareness Value – Behavior Value	0.672	< 0.001	Strong
Motivation Value – Behavior Value	0.778	< 0.001	Strong

Table 2: Relationship Between Awareness, Motivation, and Behavior Values

Prior to inferential analysis, normality testing using the Kolmogorov–Smirnov test indicated that the data were not normally distributed ($p < .001$). Therefore, Spearman's rank-order correlation was

employed to examine the relationships among the variables.

The analysis revealed strong and statistically significant relationships between all constructs. The correlation between awareness and motivation was strong ($\rho = 0.714$, $p < .001$), indicating that individuals with greater understanding of disability-related issues and inclusive practices also tend to demonstrate stronger motivation towards inclusive volunteer engagement. Similarly, a strong positive relationship was identified between awareness and behaviour formation ($\rho = 0.672$, $p < .001$), suggesting that increased awareness is associated with stronger behavioural readiness and tendency to engage in inclusive volunteer activities.

The strongest relationship was observed between motivation and behaviour formation ($\rho = 0.778$, $p < .001$). This finding suggests that motivation plays a particularly important role in translating awareness into behavioural tendency and readiness for action. Individuals who possess stronger intrinsic or extrinsic motivation are more likely to demonstrate

consistent willingness to participate in inclusive volunteer initiatives. Theoretically, this finding supports perspectives from Self-Determination Theory (Ryan & Deci, 2020) and the Theory of Planned Behavior (Ajzen, 2020), which emphasise that motivation and behavioural intention are central mechanisms influencing engagement and behavioural outcomes. In this context, motivation appears to function as the psychological driver that strengthens the transition from inclusive understanding to behavioural inclination.

Overall, these findings demonstrate that awareness, motivation, and behaviour formation are closely interconnected and mutually reinforcing within the context of inclusive volunteer education. The results further suggest that increasing awareness alone may not be sufficient to encourage meaningful engagement unless accompanied by motivational factors that support behavioural readiness and participation.

4.3 Predictive Influence of Awareness, Motivation, and Behaviour Formation

HETEROSKEDASTICITY TEST					
Independent Variable			Sig. (p)		
Awareness Value			0.919		
Motivation Value			0.833		
Behavior Formation			0.705		
UJIAN REGRESI					
REGRESSION TEST		B	Beta	Sig. (p)	t
Awareness Value		0.124	0.272	< 0.001	6.350
Motivation Value		0.269	0.415	< 0.001	8.347
Behavior Formation		0.105	0.154	< 0.001	3.306

$R = 0.766$, $R^2 = 0.586$, $F(3,495)$, $p < 0.001$

Table 3: The Influence of Awareness, Motivation, and Behavior Values on the Need for Volunteerism Education

Multiple linear regression analysis was conducted to examine the extent to which awareness, motivation, and behaviour formation predict the perceived need for inclusive volunteer education. Although the data were found to be non-normally distributed, multiple

regression analysis was considered appropriate due to the relatively large sample size ($n = 500$), as regression procedures are generally robust against violations of normality assumptions in large samples (Hair et al., 2019).

Prior to the regression analysis, the assumption of homoscedasticity was tested, and the results indicated no violation of this assumption, as all variables recorded significance values above 0.05 ($p > 0.05$). This suggests that the variance of residuals remained relatively constant across the model, supporting the suitability of the regression analysis.

The regression model was found to be statistically significant, $F(3, 495)$, $p < .001$, explaining approximately 58.6% of the variance in the perceived need for inclusive volunteer education ($R^2 = 0.586$). This indicates that awareness, motivation, and behaviour formation collectively provide substantial explanatory power in predicting respondents' perceptions towards inclusive volunteer education.

Among the predictors, motivation emerged as the strongest contributor ($\beta = 0.415$, $p < .001$), followed by awareness ($\beta = 0.272$, $p < .001$) and behaviour formation ($\beta = 0.154$, $p < .001$). The stronger influence of motivation suggests that psychological willingness and personal drive play a more dominant role in shaping perceptions towards inclusive volunteer education compared to cognitive awareness or behavioural readiness alone. This finding reinforces the argument that individuals are more likely to value structured inclusive volunteer initiatives when they perceive personal meaning, social relevance, or intrinsic value in participation. However, approximately 41.4% of the variance remains unexplained, suggesting that additional psychological, institutional, or contextual factors may also influence perceptions towards inclusive volunteer education.

Overall, the findings indicate that individuals who are more motivated, aware, and behaviourally prepared are more likely to perceive a stronger need for structured inclusive volunteer education initiatives. The results further highlight the importance of integrating cognitive, motivational, and behavioural dimensions when promoting inclusive volunteerism within higher education institutions.

5. DISCUSSION

5.1 Levels of Awareness, Motivation, Behaviour Formation, and Perceived Need

The findings of this study show that awareness, motivation, and behaviour formation among university communities are generally positive, with motivation emerging as the strongest construct. This suggests that respondents are not only aware of issues related to disability inclusion, but are also personally inclined to participate in inclusive volunteer activities. More importantly, the stronger influence of motivation compared to awareness and behavioural readiness indicates that internal willingness may play a more immediate role in encouraging engagement than knowledge alone. Within higher education settings, this is not entirely surprising, as volunteerism is increasingly associated with civic responsibility, self-development, employability, and meaningful social contribution.

The relatively high level of awareness found in this study may reflect the growing visibility of inclusive education and disability related discourse within universities. In recent years, many higher education institutions have become more active in promoting inclusion through volunteer programmes, awareness campaigns, student-led initiatives, and community engagement activities. Continuous exposure to these environments may contribute to more positive perceptions towards persons with disabilities and inclusive practices. This interpretation is consistent with Wang et al. (2021), who emphasised that knowledge and meaningful interaction are important in reducing stigma and strengthening inclusive attitudes. However, despite the generally positive level of awareness, awareness recorded the lowest mean among the three main constructs. This suggests that awareness alone may still be insufficient to encourage stronger behavioural engagement, especially when individuals have limited direct exposure or opportunities for sustained participation in inclusive activities.

Interestingly, this finding differs from Madhesh (2022), who reported relatively low disability awareness among university graduates. The difference may be influenced by contextual and

institutional factors. Compared to earlier settings, Malaysian universities today appear to provide greater exposure to disability inclusion through volunteer programmes, service-learning activities, and student organisations that emphasise social responsibility. As a result, respondents in the present study may have developed more favourable perceptions due to increased engagement with inclusive initiatives. At the same time, it is also possible that social desirability influenced some responses, as inclusive attitudes and volunteerism are generally viewed positively within university environments. Respondents may therefore feel more inclined to report supportive attitudes towards inclusion, even if their actual level of involvement varies.

Motivation emerged as the strongest construct, indicating that respondents are not merely informed about inclusion-related issues, but are also personally motivated to become involved in volunteer activities. This may reflect the growing culture of socially responsible engagement within higher education institutions, where volunteer participation is increasingly linked to leadership development, personal growth, networking opportunities, and employability skills. In many universities, volunteer activities are now embedded within co-curricular programmes and student development initiatives, which may strengthen both intrinsic and extrinsic forms of motivation. This finding supports Muñoz-Llerena et al. (2025), who highlighted the importance of intrinsic motivation in sustaining volunteer engagement, as well as Cho et al. (2023), who found that individuals with stronger internal motivation are more likely to maintain long-term involvement in volunteer activities.

Although behaviour formation was also reported at a relatively positive level, its slightly lower mean compared to motivation highlights an important issue. The findings suggest that respondents may already possess the willingness and readiness to engage, but translating intention into consistent behaviour remains more challenging. This reflects what Ajzen (2020) describes as the intention–behaviour gap, where positive attitudes and strong intentions do not always result in actual behaviour.

In practice, participation in inclusive volunteer activities may still depend on external factors such as time constraints, institutional support, accessibility of programmes, and availability of opportunities. Similarly, Hu et al. (2023) argued that volunteer participation is often shaped not only by personal attitudes but also by situational and environmental conditions. Therefore, behaviour formation in this study may be better understood as behavioural readiness or tendency, rather than fully realised and sustained participation.

The high overall mean for the perceived need for inclusive volunteer education further strengthens this interpretation. Respondents appear to recognise that awareness and motivation alone are insufficient without structured opportunities that support meaningful engagement. This suggests that university communities may already possess the basic attitudes needed to support inclusion, but still require institutional platforms that allow these attitudes to be translated into consistent practice. In other words, respondents may be ready to participate, but the availability and accessibility of inclusive volunteer opportunities remain important considerations.

From a practical perspective, these findings suggest that universities should move beyond awareness-focused campaigns and place greater emphasis on experiential and engagement-based approaches. While awareness remains important, institutions should also create structured opportunities that allow students and staff to actively participate in inclusive volunteer activities. Service learning programmes, disability inclusive volunteering initiatives, and community-based experiential learning may help strengthen the connection between awareness, motivation, and actual engagement. Toscano and Zappalà (2024), for example, showed that structured volunteer experiences can strengthen long-term involvement by providing opportunities for interaction, reflection, and personal meaning.

Overall, the findings suggest that the main challenge within university communities may no longer be a lack of awareness regarding disability inclusion. Instead, the greater challenge lies in ensuring that awareness and motivation are translated into

meaningful and sustained action. Without adequate opportunities, institutional support, and continuous engagement, inclusive volunteerism may remain at the level of positive intention rather than becoming a consistent practice within higher education institutions.

5.2 Relationship between Awareness, Motivation, and Behaviour Formation

The findings of this study demonstrate that awareness, motivation, and behaviour formation are strongly and positively interconnected, suggesting that inclusive volunteer engagement is shaped through a combination of cognitive, psychological, and behavioural processes rather than through isolated factors. This indicates that individuals' understanding of disability-related issues, personal motivation, and readiness to engage tend to develop simultaneously and reinforce one another over time. More importantly, the findings imply that inclusive engagement within university communities may depend less on knowledge alone and more on how awareness is internalised and translated into meaningful motivation and behavioural readiness.

The strong relationship between awareness and motivation suggests that individuals who possess greater understanding of disability inclusion are also more likely to feel personally encouraged to engage in inclusive practices. This finding supports the argument presented earlier in Section 2.1, where awareness was conceptualised as a foundational factor influencing attitudes and emotional responses. Exposure to disability-related knowledge, inclusive discourse, and interaction with persons with disabilities may contribute to stronger empathy, social responsibility, and moral engagement. Paramita et al. (2024), for example, argued that awareness influences not only perceptions but also emotional orientation towards inclusion. However, the present findings also indicate that awareness alone may have limited practical impact if it remains at the level of passive understanding. In university settings, students and staff may already recognise the importance of inclusion conceptually, yet still demonstrate inconsistent participation when opportunities for meaningful engagement are lacking.

This interpretation becomes more significant when considering the relationship between awareness and behaviour formation. Although the correlation was strong, the findings suggest that awareness does not necessarily translate directly into sustained behavioural engagement. This reflects a common issue within behavioural research, where individuals may express positive attitudes and supportive intentions but struggle to maintain consistent action over time. Ajzen (2020) explains that attitudes and knowledge contribute to behavioural intention, but actual behaviour remains influenced by contextual and structural conditions. In the context of the present study, respondents may already possess awareness regarding disability inclusion, but their ability to engage consistently in inclusive volunteer activities may still depend on institutional support, accessibility of programmes, peer influence, and availability of opportunities. This raises an important issue for higher education institutions, as awareness campaigns alone may create symbolic support for inclusion without necessarily producing sustained behavioural change.

The strongest relationship identified in this study was between motivation and behaviour formation. This finding reinforces the argument that motivation functions as a central mechanism connecting awareness with behavioural engagement. Individuals who are intrinsically motivated are more likely to act on their inclusive values and demonstrate willingness to participate in volunteer activities. Ryan and Deci (2020) emphasised that intrinsically motivated individuals tend to sustain engagement because their participation is driven by personal meaning, values and self-determination rather than external pressure. Within university environments, this may explain why students who perceive volunteerism as personally meaningful are more likely to develop stronger behavioural readiness towards inclusive engagement.

Nevertheless, this relationship should be interpreted carefully. A strong association between motivation and behaviour formation does not necessarily indicate that actual inclusive behaviour is consistently practised. The findings may instead reflect behavioural intention or perceived readiness

rather than observable long-term engagement. This is particularly important because self-reported motivation can sometimes be influenced by social desirability, especially in educational environments where volunteerism and inclusion are socially valued. Respondents may therefore express strong motivation towards inclusive volunteerism because such attitudes are perceived positively within university culture, even if actual participation remains limited. In this sense, the present findings may partly reflect normative expectations surrounding socially responsible behaviour within higher education contexts.

At the same time, the strong relationship between motivation and behaviour formation may also reflect the increasing institutional emphasis on experiential learning and community engagement within universities. Many higher education institutions actively encourage volunteer participation through service learning programmes, co-curricular requirements, leadership activities, and student development initiatives. As a result, volunteerism may no longer be viewed solely as altruistic engagement but also as a pathway for self-development, networking, employability, and identity formation. This broader institutional culture may strengthen the connection between motivation and behavioural readiness among university communities.

Taken together, the findings suggest that awareness, motivation, and behaviour formation operate as part of a reinforcing cycle. Increased awareness appears to strengthen motivation, while stronger motivation supports behavioural readiness and participation. At the same time, engagement in inclusive volunteer activities may further enhance awareness and reinforce motivational commitment over time. However, this cycle may not always develop naturally or consistently without institutional structures that actively support participation. In the absence of accessible opportunities, supportive environments, and sustained engagement platforms, positive attitudes towards inclusion may remain largely symbolic rather than becoming embedded behavioural practices.

From a practical perspective, the findings indicate that universities should avoid treating awareness campaigns as sufficient indicators of inclusive engagement. While awareness-building remains important, institutions should also prioritise strategies that strengthen intrinsic motivation and create meaningful opportunities for participation. Structured service learning, disability inclusive volunteering programmes and experiential community engagement may help bridge the gap between supportive attitudes and actual behaviour. Husin et al. (2022) similarly argued that meaningful engagement opportunities are essential in translating inclusive understanding into sustained participation and practice.

Overall, this study highlights that the relationship between awareness, motivation, and behaviour formation is not only strong but also dynamic and context dependent. The findings suggest that inclusive volunteer engagement cannot be explained solely through individual attitudes or knowledge. Instead, meaningful participation appears to emerge through the interaction between personal motivation, institutional culture, behavioural opportunity, and sustained experiential exposure.

5.3 Predictive Influence of Awareness, Motivation, and Behaviour Formation

The findings of this study indicate that awareness, motivation, and behaviour formation significantly predict the perceived need for inclusive volunteer education among university communities, with motivation emerging as the strongest predictor. This suggests that while knowledge and behavioural readiness remain important, the internal willingness to engage appears to play a more influential role in shaping how individuals perceive the value and importance of structured inclusive volunteer initiatives. In other words, individuals may recognise the importance of inclusion conceptually, but the perceived need for sustained volunteer engagement becomes stronger when they are personally motivated to participate.

The dominant influence of motivation highlights the importance of psychological readiness within the context of inclusive volunteerism. As discussed earlier in Section 2.2, intrinsic motivation has

consistently been associated with sustained participation and long-term engagement. Ryan and Deci (2020) argued that individuals who are internally motivated tend to demonstrate stronger persistence because their actions are guided by personal values, meaning, and self-determination rather than external pressure alone. The present findings appear to support this perspective. Respondents who perceive inclusive volunteerism as meaningful and socially valuable are more likely to recognise the importance of structured programmes that allow them to engage in such activities. This may also reflect broader changes within higher education environments, where volunteer participation is increasingly connected to leadership development, employability, civic responsibility, and experiential learning.

At the same time, the stronger predictive role of motivation raises an important implication for universities. Many higher education institutions continue to emphasise awareness campaigns as the primary strategy for promoting inclusion. However, the present findings suggest that awareness alone may have limited influence if individuals are not emotionally or psychologically motivated to act on that awareness. In this sense, inclusive engagement may depend less on whether individuals understand disability-related issues and more on whether they perceive involvement as personally meaningful and socially relevant. This finding challenges the assumption that increasing knowledge automatically leads to sustained engagement and suggests that universities may need to shift from information-based approaches towards more engagement-oriented strategies.

Awareness was also found to be a significant predictor, reinforcing its role as a foundational factor in shaping perceptions towards inclusion. This aligns with the discussion in Section 2.1, where awareness was positioned as an important element in reducing stigma and strengthening inclusive understanding. However, the comparatively weaker predictive strength of awareness compared to motivation suggests that cognitive understanding alone may not be sufficient to encourage deeper involvement. Individuals may acknowledge the importance of inclusive practices intellectually, yet

still remain passive if they lack emotional connection, personal relevance, or opportunities for participation. Bamsey et al. (2026) similarly argued that awareness without practical engagement often results in symbolic understanding rather than meaningful action. The present findings therefore support the view that awareness becomes more impactful when combined with motivational and behavioural factors.

Interestingly, this interpretation also reflects a broader issue within higher education contexts, where inclusion is sometimes promoted symbolically through campaigns and institutional messaging but may not always be embedded within everyday university culture or practice. In such situations, awareness may increase at the surface level without necessarily producing sustained behavioural commitment. This may partly explain why awareness, although significant, was not the strongest predictor in the regression model.

Behaviour formation, although the weakest predictor among the three variables, still contributed significantly to the model. This suggests that individuals who already demonstrate behavioural readiness or willingness to engage are more likely to perceive inclusive volunteer education as necessary and valuable. Nevertheless, its comparatively weaker predictive strength highlights an important limitation in behavioural processes. As discussed in Section 2.3, behavioural readiness does not always result in actual participation, particularly when structural barriers are present. Respondents may already possess supportive attitudes and willingness to act, but their ability to engage consistently may still depend on institutional opportunities, accessibility of programmes, time availability, peer influence, and organisational support. This reflects the well-established intention-behaviour gap discussed by Ajzen (2020), where behavioural intention does not necessarily guarantee sustained action.

Another important consideration is the strength of the regression model itself. With an R^2 value of 0.586, the model explains a substantial proportion of variance in the perceived need for inclusive volunteer education, indicating that awareness, motivation, and behaviour formation collectively

provide a meaningful explanation of respondents' perceptions towards inclusive engagement. At the same time, approximately 41.4% of the variance remains unexplained, suggesting that additional psychological, institutional, or contextual factors may also influence perceptions towards inclusive volunteer education. Factors such as previous volunteer experience, institutional culture, empathy, accessibility exposure, peer influence, or organisational climate may therefore play an additional role in shaping inclusive engagement within higher education settings.

From a practical perspective, the findings suggest that universities should move beyond awareness oriented approaches and place greater emphasis on strengthening motivation through meaningful experiential opportunities. While awareness campaigns remain important, they may produce limited impact if they are not accompanied by opportunities for active participation and reflection. Service learning initiatives, disability inclusive volunteer programmes, and community-based experiential projects may help strengthen emotional engagement and translate motivation into sustained practice. Gordon et al. (2022), for example, demonstrated that experiential learning environments can enhance empathy, strengthen engagement, and encourage more meaningful participation in inclusive activities.

Overall, this study reinforces the argument that promoting inclusive volunteer education requires more than simply increasing awareness. What appears to matter most is how awareness is transformed into meaningful motivation and supported through opportunities for behavioural engagement. Without institutional structures that enable continuous participation, inclusive volunteerism may remain at the level of positive intention and symbolic support rather than

becoming a sustained and embedded practice within university communities.

6. CONCLUSION

This study examined the determinants of inclusive volunteer education among university communities by focusing on awareness, motivation, and behaviour formation. The findings indicate that university communities generally demonstrate positive perceptions towards disability inclusion and inclusive volunteer engagement, with motivation emerging as the strongest factor influencing the perceived need for inclusive volunteer education. The study also highlights that awareness, motivation, and behaviour formation are closely interconnected, suggesting that meaningful inclusive engagement depends not only on cognitive understanding, but also on psychological readiness and opportunities for behavioural participation.

More importantly, the findings suggest that promoting inclusive volunteerism within higher education requires more than awareness-based initiatives alone. Universities need to create meaningful and sustained opportunities that allow individuals to translate awareness and motivation into active engagement through experiential learning, structured volunteer programmes and community-based participation. Despite the valuable insights provided, this study was limited by its cross-sectional design, which only captured respondents' perceptions at a single point in time. Future research is therefore encouraged to adopt longitudinal or mixed method approaches and explore additional contextual or institutional factors that may further influence inclusive volunteer engagement. Ultimately, this study reinforces the importance of embedding inclusion within university culture so that inclusive volunteerism becomes a sustained practice rather than merely a symbolic commitment.

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