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RESEARCH PAPER

Stay or Stray: A Comparative Analysis of Short-Term Volunteer Permanence in the Theory of Planned Behavior and the Three-Stage Model of Volunteers' Duration of Service

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Abstract Understanding the factors that predict volunteer retention is critical for the sustainability of nonprofit organizations (NPOs), but the determinants of volunteer permanence still require research. This study investigates the utility of the Three-Stage Model of Volunteers' Duration of Service (3SMVDS) in predicting volunteer retention after 5 months and compares its explanatory performance to that of the Theory of Planned Behavior (TPB). Through path analysis, we assess each model's ability to predict volunteer retention after a 5-month period. The data analysis from 271 Spanish novice volunteers yields significant insights. The findings indicate that the 3SMVDS is more effective than the TPB in predicting actual volunteer retention at the 5-month mark, although it presents some theoretical discrepancies with the original model. These results underscore the complexity of volunteer retention and encourages a more sophisticated theoretical understanding that could guide the development of targeted interventions for NPOs to enhance volunteer engagement and retention.

Keywords Volunteer retention · Nonprofit organizations · Theory of planned behavior · Volunteer role identity · Volunteer permanence

Introduction

Volunteer research has received significant attention from researchers in the last decades, driven by the need to develop effective policies for recruiting and retaining new volunteers (Cuskelly et al., 2006; Hande et al., 2021; Peachey et al., 2013; Prouteau & Wolff, 2008; Smith et al., 2019). While considerable research has focused on understanding the motivations behind individuals' decisions to initiate volunteer service, the factors influencing volunteers' commitment to their organizations still require an integrative model that synthesizes them into a comprehensive framework.

The study of volunteer permanence in NGOs, reflecting their sustained participation over time, requires theoretical models to understand the factors that influence the longevity of volunteer engagement (Caligiuri et al., 2013). Although some theoretical models have emerged, there exists little research evidence due to two principal reasons. Firstly, the lack of longitudinal studies due to their inherent methodological challenges and associated costs hinders the academic investigation of dynamic processes such as volunteering (Amireault, 2014). Secondly, as we lack process-based studies, the variables that seem to influence volunteer permanence are usually included simultaneously in theoretical models regardless of at which moment of the process they exert their influence (Chacón et al., 2007; Marta et al., 2014).

A wide range of theoretical frameworks exist to account for the complex nature of volunteering (see Hustinx et al.,

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2010 for a review; Hustinx & Lammertyn, 2003). Some of these models emphasize the dynamic nature of the volunteer experience, such as the Model of Volunteer Process (Omoto & Snyder, 2002), which conceptualizes volunteering as a life cycle comprising antecedents, experiences, and consequences. However, this model may treat the complex transitions within the volunteer journey as a single category rather than examining them in depth (Hustinx et al., 2010). Similarly, the Volunteer Stages and Transitions Model (Haski-Leventhal & Bargal, 2008) accounts for different phases of organizational socialization but assumes a linear progression, which may not adequately capture the complexities of volunteer experiences (Kappelides et al., 2021). Other perspectives, for instance, ecological volunteering models, consider macro-contextual influences (Simon et al., 2000), further highlighting the need for an integrative approach.

Despite these contributions, the Theory of Planned Behavior (TPB; Ajzen & Driver, 1991, Fig. 1) has remained one of the most widely used frameworks in social psychology to study volunteerism (e.g., Okun & Sloane, 2002), even in combination or comparison with other popular frameworks like the Volunteer Functions Inventory (VFI) (Brayley et al., 2015; Clary et al., 1998; Greenslade & White, 2005). However, the TPB was not originally designed to explain long-term volunteer retention or the maintenance of volunteering behavior. Addressing these limitations, our research team developed the Three-Stage Model of Volunteers' Duration of Service (3SMVSD; Chacón et al., 2007, Fig. 2) to provide a dynamic perspective on volunteer permanence. Unlike previous models, the 3SMVSD explicitly considers how the key psychological predictors of volunteer retention differ across three different phases of the volunteer cycle, filling a critical gap in the literature.

In this study, we examine and compare the fundaments and performance of two theoretical models in the prediction of volunteer permanence after 5 months of a Spanish sample of newcomers volunteers: the Theory of Planned Behavior and the Three-stage Model of Volunteer's duration of Service.

Applying the Theory of Planned Behavior to Predict Volunteer Permanence

The TPB is a widely used theoretical framework in the study of planned behavior (Ajzen, 2020; Wang et al., 2022). TPB uses behavioral intention as the most proximal and better predictor of actual behavior. The TPB suggests that individuals' behavioral intentions are influenced by their attitudes, subjective norms, and perceived behavioral control (Ajzen, 2012; Grano et al., 2008). In the context of volunteer retention, attitudes toward remaining in an organization are shaped by volunteers' overall satisfaction with their experience, which in turn influences their behavioral intentions (Bang et al., 2022). Subjective norms refer to the perceived social pressure or expectations from others. Lastly, perceived behavioral control refers to individuals' beliefs concerning their ability to execute the behavior.

The TPB can be applied to diverse contexts and behaviors, making it a versatile framework for studying prosocial behavior. Numerous studies have found that TPB components are significant predictors of individuals' intentions to donate money, blood, or time (Hyde & Knowles, 2013; Knowles et al., 2012; Masser et al., 2012). The TBP is also employed to predict volunteers' intentions

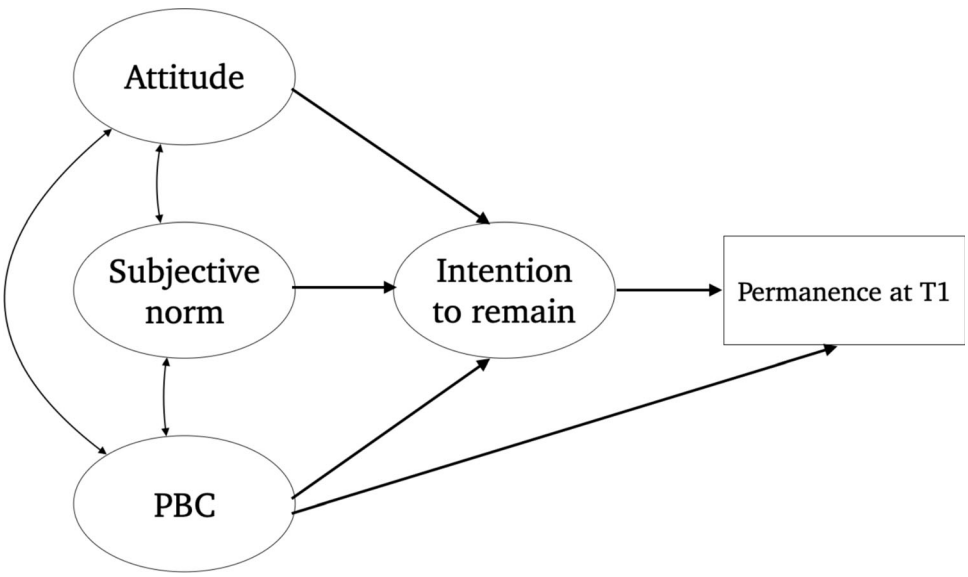

Fig. 1 Theory of planned bhavior. Based on Ajzen and Driver (1991)

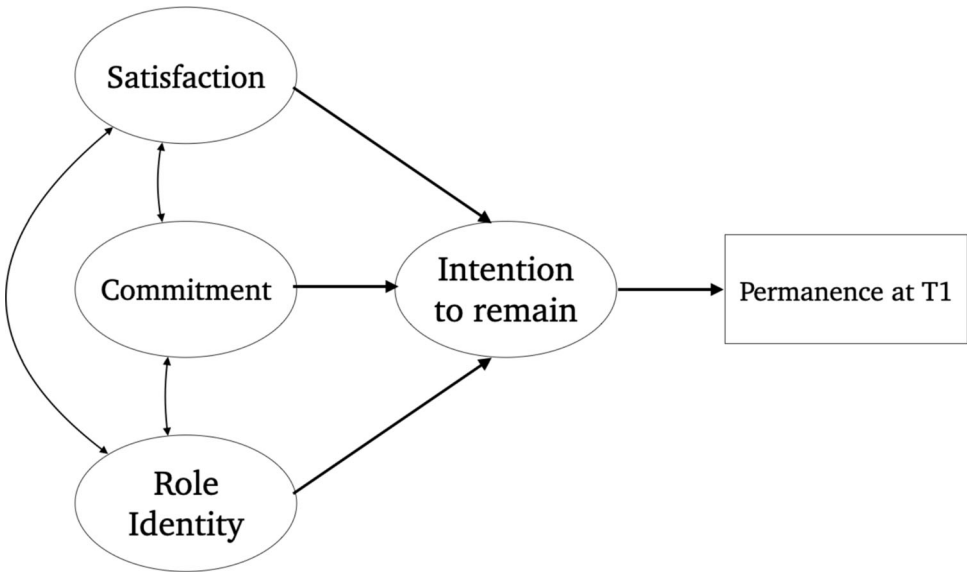

Fig. 2 Three-stage model of Volunteer's duration of service. Based on Chacón et al. (2007)

to start helping, return, or remain volunteering (Wu et al., 2022), and has been successfully employed in different volunteer domains, such as healthcare, environmental conservation, leisure activities, or tourism (Hauser et al., 2012; Lee & Lina Kim, 2018; MacGillivray & Lynd-Stevenson, 2013; Pierro et al., 2003; Wu et al., 2022;). Nonetheless, most investigations focus on the intention to volunteer for the first time or occasionally rather than the intention to remain volunteering (Russell et al., 2022).

Some authors have questioned the sufficiency of the TPB to explain the volunteer process and tried to expand the model including other predictors of intention. For example, some studies have added motivations (Brayley et al., 2015; Cho et al., 2018), volunteer role identity (Marta et al., 2014), altruistic concern (Cahigas et al., 2023), or other variables related to the behavior itself (Huang et al., 2021) to improve the performance of the model.

Despite the widespread use of the TPB to explain volunteer behavior and its empirical support, little is known about its ability to predict volunteer remaining (Lee et al., 2014). Among the scant examples, the study conducted by Marta et al. (2014) examined long-term volunteer retention over three years, showing that attitudes, subjective norms, and past behavior influenced retention indirectly through role identity. However, their study did not address the determinants on short or medium-term permanence.

The usage of the TPB to predict volunteers' intention to remain volunteering may not fully comprehend the dynamic nature of volunteers' motives and reasons over time. While TPB focuses on attitudes, subjective norms, and perceived behavioral control as predictors of intention and behavior, it may not account for changes in these factors or the emergence of new reasons for sustaining a behavior (Sheeran et al., 2001). The TPB has been valuable in understanding the initiation of behaviors; however, it has limitations explaining the decision to continue or stay in a behavior, such as volunteering. Furthermore, the TPB assumes that behavior change is a linear progression from intention to action, lacking mechanisms to address the subsequent actions that individuals must take to realize their intentions (More & Philips, 2022).

The Three-Stage Model of Volunteers' Duration of Service

The 3SMVSD (Chacón et al., 2005) integrates elements from the Functional Model of volunteer motivations (Clary & Snyder, 1991), the Role Identity Model (Callero et al., 1987), and theories of organizational commitment (Mowday et al., 1979), providing a dynamic theoretical framework that explains volunteer retention across different stages of service. As the TPB, the 3SMVSD assumes that the intention is the best predictor of actual behavior (Ajzen, 1985; Ajzen & Fishbein, 1980); however, it postulates that the variables influencing the intention to remain volunteering change over time. Thus, the 3SMVSD includes three stages: short-term permanence (6 months), medium-term permanence (12 months), and long-term permanence (24 months).

According to the 3SMVSD, during the initial stage of volunteering, it is necessary to maintain a balance between expectations and reality to ensure a positive experience and increase the likelihood of remaining committed (Omoto & Snyder, 1995). In the first stage, satisfaction is the main predictor of intention to remain volunteering. When satisfaction is high, individuals are more likely to remain committed to the behavior (Claxton-Oldfield & Claxton-

Oldfield, 2012; Dailey, 1986; Gidron, 1983; Pierucci & Noel, 1980). In addition, some investigations have identified satisfaction as the differentiating factor between those who drop out and those who remain engaged in the initial stages of volunteering (e.g., Vecina et al., 2009). Focusing on this stage is particularly relevant, as early dropout is one of the most critical challenges faced by volunteer-based organizations (Hustinx & Handy, 2009).

Commitment is a reliable indicator of a person's intention to continue working on a task and is the main predictor of intention to remain in a medium-term period. It refers to the motivation that drives a person to persevere even when they face difficulties or other options that could lead to giving up (Brickman et al., 1987). Commitment leads to a sense of identification with the organization, a desire to belong, acceptance of its goals, and an intention to put in the effort to support it, which can help offset a decrease in satisfaction levels (Wardel et al., 2000). Studies have shown that both affective and normative commitment can positively impact volunteering (Liao-Troth, 2001; Stephens et al., 2004), with affective commitment being the most significant and linked to a lower dropout rate (Mathieu & Zajac, 1990; Meyer & Allen, 1997; Vecina et al., 2012). Studies have found that a minimum level of initial satisfaction is necessary to develop high levels of affective commitment (Bang et al., 2013; Chordiya et al., 2017).

The third stage of the 3SMVSD postulates that role identity is the main factor that predicts long-term permanence. Continuously performing actions in favor of an organization will eventually become a part of a person's self-concept (Callero, 1994; Grube & Piliavin, 2000; Marta et al., 2014; Stryker & Burke, 2000). In this regard, factors such as social norms or satisfaction become less significant predictors of permanence as time passes (Fuller, 2011; Penner, 2002), while role identity gains more predictive strength (Theodorakis, 1994). Therefore, it seems that after repeatedly performing a behavior linked to a particular role, individuals start developing a new role identity, and these role identities serve as the basis for intention and behavior (Charng et al., 1988; Grube & Piliavin, 2000).

Several pieces of evidence support the validity of the 3SMVSD. According to Garner and Garner (2010), volunteer satisfaction is an important factor that influences volunteer retention in the early stage. Haski-Leventhal and Bargal (2008) also found that commitment is essential to achieve higher levels of involvement. Additionally, as predicted by the 3SMVSD, volunteers who stay longer have a higher level of commitment and identity compared to those who leave within the first year (Vecina et al., 2010). These "long-haul" volunteers also experience higher levels of emotional fatigue (Chacón et al., 2017; Clary et al., 1998; Davis et al., 2003), however, the higher levels of identity and commitment may act as protective factors, preventing volunteers from dropping out. Also, Vecina and Chacón (2017) found negative correlations between organizational commitment and role identity with volunteer dropout after seven years. Nevertheless, most of the evidence presented here comes from cross sectional research, so it is still necessary to conduct prospective and longitudinal studies to continue accumulating reliable evidence of the model's feasibility (e.g., Lavenburg & Bernt, 2011).

While the 3SMVS theorizes predictors across three phases of volunteer permanence, the current study focuses exclusively on the model's application in the short-term stage. This approach allows us to test its explanatory utility at the outset of volunteer engagement using a sample composed entirely of novice volunteers, thereby offering new insights into the early emergence of motivational and identity-related factors in volunteer retention.

Current Study

Literature reveals a vast number of concepts related to the intention to remain and the permanence of volunteers (e.g., Penner, 2002; Purwanto & Rostiani, 2022; Won et al., 2021). Nonetheless, the primary complexity is to place these concepts regarding their influence along the volunteering process. The objective of this study is to validate the utility of the Three-Stage Model of Volunteers' Duration of Service (3SMVSD) in predicting volunteer permanence after 5 months and to compare its explanatory performance to that of the Theory of Planned Behavior (TPB). Firstly, considering the literature and nature of the volunteering process, we expect a better performance of the 3SMVSD explaining the intention and permanence of volunteers after 5 months of service. Secondly, given that we focus on short-term permanence, we expect satisfaction to be the primary predictor of both intention and permanence in the 3SMVSD at this early phase of volunteer engagement.

Methods

Sample and Procedure

A total of 271 Spanish volunteers from various fields, health and social care (56%), social assistance (29%), culture (3%), animal and environmental activism (2%), and other categories, completed the questionnaire. The sample was predominantly female (79% women, 18.5% men, and 2.5% non-binary or other). Regarding employment status, 29% were employed or actively seeking employment; the majority of the sample were university students or individuals in early career stages, consistent with the average

age of 25.3 years (SD = 8.28). The study was restricted to novel volunteers, defined as individuals who had initiated stable voluntary activity (i.e., non-episodic) within the past 5 months, with a mean duration of 27 days (SD = 17.48) between the onset of volunteering and their participation in the study. Data collection took place across Spain between 2022 and November of 2023. Recruitment followed a snowball sampling approach, where organizations were contacted via email or at events and provided the survey link to their volunteers. Data collection was conducted in two phases, T0 and T1. On T0, participants completed a 20-min online questionnaire remotely after providing informed consent. On T1, 5 months later, they were contacted again via email and/or telephone to assess whether they remained active in their volunteer organization. The Complutense University of Madrid Ethical Committee approved the study.

Measures

Sociodemographic variables. We assessed the age, sex, type of volunteering, study level, work situation, marital status, and number of children of participants.

Attitude. According to Ajzen & Fishbein (1980) recommendations, we assessed Attitudes toward volunteering using a semantic differential scale of eight items on a 7-point scale. For example, from 1 (very pleasant) to 7 (very unpleasant). Omega coefficient: .816.

Subjective Norm. We employed a scale based on Marta et al. (2014), which assessed the perception of family, friends, and partners approval of four items in a 4-point Likert scale (e.g., "My [family] thinks that volunteering is important for me"). Omega coefficient: .741.

Perceived behavioral control. We employed four items on a 7-point scale ranging from ''strongly disagree'' (1) to ''strongly agree'' (7). Two items correspond to a self-efficacy perspective (Ajzen & Driver, 1991; Armitage & Conner, 1999; e.g., "I feel capable of being a volunteer"), and the other two items correspond to a control perspective (Randall & Gibson, 1991; e.g., ''The decision to continue as a volunteer next year is exclusively up to me"). Omega coefficient: .695.

Satisfaction. We employed the Volunteer Satisfaction Index (Vecina et al., 2009), which assesses three subscales Likert-type from totally unsatisfied (1) to completely satisfied (7). Task satisfaction comprises four items (e.g., "The tasks I usually do have clear and well-defined objectives"). Satisfaction with motives entails six items (e.g., "The tasks I usually do as a volunteer let me establish social relationships with different people"). Lastly, satisfaction with the organization comprises six items (e.g., "I'm satisfied with the interest showed by the organization to take into account my preferences, abilities, and capacities to select the available volunteering positions"). Omega coefficient:.908.

Organizational Commitment. We employed the adapted version of the Meyer et al. (1993) Commitment Scales by Ortega and Martín-Quirós (2003). The adapted version comprises 18 items equally distributed between an Affective Commitment Scale, a Continuity Commitment Scale, and a Normative Commitment Scale. Participants must respond on a Likert-type scale from (1) strongly disagree to (7) strongly agree (e.g., "Most days I am excited about my work as a volunteer"). Omega coefficient: 0.813.

Volunteer Role identity. We employed a set of items designed by Callero et al. (1987) and adapted to Spanish volunteers by Chacón et al. (2005). The scale includes five Likert-type from totally disagree (1) to totally agree (10) (e.g., "Volunteering is an important part of who I am"). Omega coefficient: 0.702.

Intention to remain. We assessed participants' short-term intention using the item "I intend to remain as a volunteer for the next 6 months," rated on a 7-point scale (1 = no intention, 7 = maximum intention)."

Permanence at T1. To address short-term permanence, we asked participants if they remained at the organization 5 months after the beginning of the volunteer activity, as this timeframe aligned with previous research on short-term retention (Veludo-de-Oliveira et al., 2013) and ensured coherence with the 3SMVSD framework.

Data Analysis

We analyzed the data using R (v4.2.3; R Core Team, 2022) and JAMOVI (v2.4.8; The Jamovi Project, 2023). Missing values (2.5–8.3%) were handled via listwise deletion. No extreme outliers were found using z-scores ($>|2.65|$). Scale reliability was assessed with McDonald's omega (1999).

We reported means and standard deviations, examined bivariate relationships via Pearson correlations, and tested path models using Maximum Likelihood (ML) and ULS estimators (Forero et al., 2009) for robustness. In both models, intention to remain acted as mediator between predictors and permanence at T1. For 3SMVSD, predictors included satisfaction, organizational commitment, and volunteer role identity. For TPB, predictors were attitude, subjective norm, and perceived behavioral control. Model fit was assessed using χ^2, R^2, TLI, CFI, RMSEA, and SRMR. Predictive effects were evaluated using standardized coefficients and Wald tests.

To ensure measurement validity, we conducted full CFAs using ULS due to its robustness with ordinal, non-normal data (Forero et al., 2009). The initial TPB model showed poor fit (CFI = 0.886; TLI = 0.873; RMSEA = 0.110; SRMR = 0.109), largely due to issues with the subjective norm construct: a subdimension on romantic

partners had high missing data, and one item lacked internal consistency. Both were removed, yielding good model fit (CFI = 0.955; TLI = 0.948; RMSEA = 0.071; SRMR = 0.076).

The 3SMVSD model had initially acceptable fit (CFI = 0.938; TLI = 0.935; RMSEA = 0.075; SRMR = 0.085), but two commitment items had very low loadings ($\beta < 0.20$), so they were removed. The revised model improved fit (CFI = 0.952; TLI = 0.949; RMSEA = 0.069; SRMR = 0.079). Full CFA results and loadings are provided in Supplementary Materials.

A sensitivity analysis confirmed stable results across original and refined models, supporting the robustness of the findings.

Results

Descriptive statistics and bivariate Pearson correlations between all variables in the models are shown in Table 1.

For the 3SMVDS the chi-square test indicated that the model fit the data well ($\chi^2(3) = 1.25$, $p = 0.742$), and global fit indices yielded satisfactory values (CFI = 1; TLI = 1; RMSEA = 0.001; SRMR = 0.013). Regarding model predictions (see Table 2 and Fig. 3), it was found a statistically significant direct effect of intention to remain on permanence at T1 ($\beta = 0.16$, $p = 0.008$, $R^2 = 0.03$). The greater the intention to remain, the stronger the correlation with increased permanence. It was also found a statistically significant direct effect of role identity ($\beta = 0.15$, $p = 0.03$) and satisfaction ($\beta = 0.15$, $p = 0.02$) on intention to remain. In this context, a higher level of role identity and greater satisfaction correspond to an increased intention to remain. There was no statistically significant effect of organizational commitment on intention to remain ($\beta = 0.07$, $p = 0.330$). These three predictors together yielded a R^2 of .08.

In the case of the TPB, the chi-square test indicated that the model fit the data well ($\chi^2(2) = 4.22$, $p = 0.121$), although not all global fit indices yielded satisfactory values (CFI = 0.896; TLI = 0.637; RMSEA = 0.066; SRMR = 0.030). In regards with model predictions (see Table 3 and Fig. 4), while intention to remain was found to predict permanence at T1 ($\beta = 0.16$, $p = 0.008$), perceived behavioral control did not ($\beta = 0.04$, $p = 0.558$). These two variables together achieved a R^2 value of .03. It was found an effect of attitude on intention to remain ($\beta = 0.23$, $p < 0.001$), so higher values of attitude were predictive of an increased intention to remain. There was no statistically significant effect of subjective norm ($\beta = 0.43$, $p = 0.542$) neither perceived behavioral control ($\beta = 0.05$, $p = 0.360$) on intention to remain. These three predictors together explained the 6% of the variability of intention to remain.

Table 2 Path analysis—three-stage model of volunteer's duration of service

Path	B	SE	*z*	*p*	β
Intention to remain					
Satisfaction	0.327	0.144	2.39	.023	.147
Organizational Commitment	0.130	0.134	.974	.330	.071
Role Identity	0.029	0.013	2.14	.032	.153
Permanence					
Intention to remain	0.048	0.018	2.63	.008	.163

B Unstandardized regression coefficient; *SE* Standard error of B; *z* Wald test value; *p* = Wald test *p* value; *β* Standardized regression coefficient

Discussion

Our primary objective was to validate the utility of the Three-Stage Model of Volunteers' Duration of Service in predicting short-term volunteer permanence (5 months) and to compare its explanatory performance to that of the Theory of Planned Behavior. The results indicate that the 3SMVSD offers a more robust theoretical framework for

Table 1 Descriptive statistics and bivariate correlations

Variables	Mean (SD)	1	2	3	4	5	6	7
1. Attitudes	4.16 (2.51)	–	0.231***	0.232**	0.335**	0.266**	0.288**	0.276**
2. Subjective norms	2.96 (0.63)	0.231***	–	0.095	0.354**	0.375**	0.350**	0.204**
3. Perceived Behavioral Control	5.28 (1.18)	0.232**	0.095	–	0.363**	0.162**	0.308**	0.249**
4. Satisfaction	5.91 (0.74)	0.335**	0.354**	0.363**	–	0.452**	0.388**	0.189**
5. Organizational commitment	4.73 (0.81)	0.266**	0.375**	0.162**	0.452**	–	0.562**	0.298**
6. Role Identity	4.59 (1.47)	0.288**	0.350**	0.308**	0.388**	0.562**	–	0.407**
7. Intention to remain	5 (1.05)	0.276**	0.204**	0.249**	0.189**	0.298**	0.407**	–

* $p = 0.05$; ** $p = 0.01$

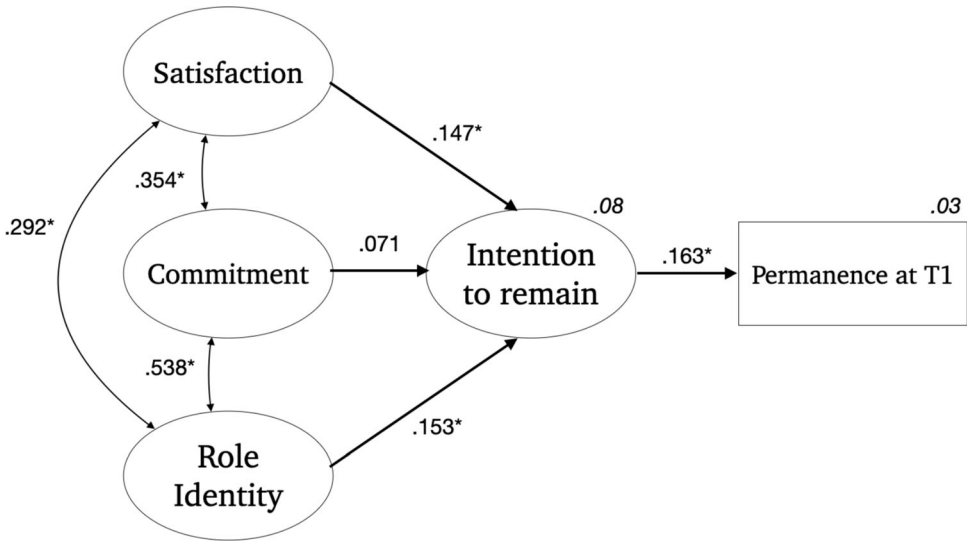

Fig. 3 Path analysis diagram for the three-stage model of volunteer's duration of service. Standardized regression coefficients, correlations, and *percentage of explained variance* are shown. * $p = 0.05$

Table 3 Path analysis—theory of planned behavior

Path	B	SE	*z*	*p*	*β*
Intention to remain					
Attitudes	0.051	0.014	3.59	0.001	0.227
Subjective Norms	0.090	0.148	0.610	0.542	0.030
Perceived Behavioral Control	0.017	0.019	0.916	0.360	0.086
Permanence					
Intention to remain	0.049	0.018	2.65	0.008	0.166
Perceived behavioral control	− 0.003	0.005	0.586	0.558	− 0.089

B Unstandardized regression coefficient; *SE* standard error of B; *z* Wald test value; *p* = Wald test *p* value; *β* Standardized regression coefficient

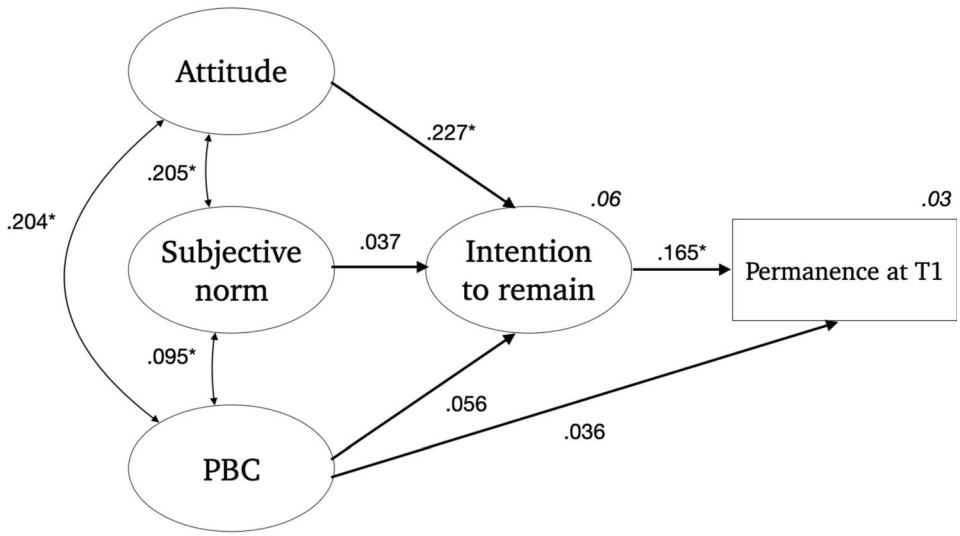

Fig. 4 Path Analysis diagram for the Theory of Planned Behavior. Standardized regression coefficients, correlations, and *percentage of explained variance* are shown. * $p = 0.05$

explaining short-term volunteer retention, with a superior model fit compared to the TPB. Both models showed comparable the predictive accuracy, which remained modest.

Performance of the TPB Model

The TPB remains a widely employed framework for understanding prosocial behaviors, particularly in initiating voluntary activities. However, consistent with prior

literature, our findings indicate that its predictive efficacy diminishes when applied to maintenance or behavior change (Meng et al., 2024). The TPB posits that attitudes, subjective norms, and perceived behavioral control shape behavioral intention, which subsequently predicts actual behavior (Ajzen, 2012). However, our results suggest that these constructs alone are insufficient to fully account for volunteer retention over time, reinforcing the argument for integrating additional variables in predictive models of sustained engagement (Theodorakis, 1994).

To enhance the TPB's predictive validity in volunteer retention, prior research has emphasized the role of volunteer identity as an additional determinant (Finkelstein & Penner, 2004; Grube & Piliavin, 2000). Longitudinal studies suggest that role identity strengthens over time as a predictor of sustained engagement (Pavey et al., 2012; Winterich et al., 2013), further supporting the limitations of TPB in capturing the evolving nature of volunteer retention.

Performance of the 3SMVSD Model

Our findings indicate that the 3SMVSD exhibits better model fit than the TPB in explaining intention to remain and actual permanence, yet predictive accuracy was very similar. As hypothesized, satisfaction emerged as a significant predictor of short-term retention. Prior studies confirm that volunteer satisfaction strongly influences intention to remain and retention (Claxton-Oldfield & Claxton-Oldfield, 2012; Dailey, 1986; Pierucci & Noel, 1980; Dwiggins-Beeler et al., 2011), particularly in early engagement (Vecina et al., 2009).

In contrast, commitment did not emerge as a significant predictor of volunteer permanence at 5 months, aligning with the 3SMVSD's theoretical premise that commitment requires time to develop (Lachance et al., 2021). Literature suggests that commitment strengthens with prolonged engagement and depends on initial satisfaction (Bang et al., 2013; Chordiya et al., 2017). This supports the notion that commitment becomes increasingly relevant only after volunteers have accumulated experience and deeper organizational connections.

Volunteer Role Identity

Contrary to expectations, volunteer role identity emerged as a significant predictor of retention at 5 months, suggesting that identity formation may occur earlier than proposed in the 3SMVSD. The 3SMVSD assumes that role identity requires sustained engagement and social reinforcement to develop (Grube & Piliavin, 2000; Marta et al., 2014). However, our findings indicate that volunteers may already identify with the volunteer role in the early stages of the volunteer activity.

Some hypotheses may account for this result. One possibility is that the volunteer role identity measure may inadvertently capture personal identity aspects rather than social identity dimensions, potentially skewing results toward self-identity rather than role identity by neglecting the social facets of identity (White et al., 2008) In this case, the measure may reflect an aspirational self-concept rather than an identity shaped by actual role performance.

Another explanation is that individuals may commence volunteerism with a preconfigured role identity (similar to pre-professional identity in Jackson, 2016; Woodall et al., 2022). This concept aligns with theories positing that role identity is shaped not only by direct experience but also by internalized group expectations regarding the behaviors associated with a given role (Charng et al., 1988; Van Dyne & Farmer, 2004). Prior research highlights the role of pre-existing expectations in shaping volunteer commitment, further supporting the notion that role identity may emerge at earlier stages than previously thought (Omoto & Snyder, 1995).

Limitations

While this study provides valuable insights into early stage volunteer retention, some limitations must be acknowledged. Firstly, the study counts with a relatively small sample size because of sample attrition. This attrition may occur as participants either cease their volunteer activities or discontinue their involvement in the study. While the attrition rate falls above what is usual in this type of study (Tambs et al., 2009) maintaining around 50% of the initial sample (271 out of 517 participants), this reduction significantly limits the dataset available for analysis, potentially influencing the results and their ecological validity.

Secondly, another limitation of this study is the relatively young age of the sample, with an average age of 25 years. This age distribution may influence the generalizability of our findings, as younger volunteers may have different motivations, commitments, and retention patterns compared to older volunteers (e.g., Ramadhia & Arfensia, 2023). Research suggests that younger volunteers often engage in volunteering activities due to personal growth, career development, or social connection, whereas older volunteers may be more driven by community engagement, social interaction, or a sense of duty (Chen et al., 2023). Future studies should include a more age-diverse sample to determine whether the predictive capacity of these models holds across different life stages.

Also, while the study focused on first-time volunteers, individuals with previous occasional prosocial engagement might already possess a developed role identity, potentially

explaining its early emergence. This possibility warrants careful monitoring in future studies. Additionally, it should be noted that path analysis does not account for measurement error, which may limit parameter precision. Although our complementary CFAs indicated good measurement properties, future research should consider full SEM to jointly model measurement and structural components.

Future Research Directions

Future research should explore the distinction between pre-existing volunteer role identity and experience-based volunteer role identity, as refining this differentiation could clarify how identity formation influences long-term engagement. Developing more precise measures would enhance understanding of the mechanisms through which role identity influences volunteer retention over time.

Additionally, extending longitudinal research beyond the initial stages is crucial to assessing the evolution of satisfaction, commitment, and identity. Studying these factors and other additional psychosocial factors over an extended period would improve the predictive accuracy of retention models and guide strategies to enhance long-term volunteer engagement.

Practical Implications

The findings of this study offer valuable insights for NGOs and volunteer management programs seeking to enhance retention strategies. By demonstrating that satisfaction is a key predictor of short-term permanence, the results emphasize the need to prioritize volunteer experiences in the initial months of service. Ensuring that volunteers feel valued and engaged from the beginning can significantly impact their decision to continue.

Moreover, the findings highlight the relevance of pre-configured role identity in early volunteer engagement. If role expectations can influence retention during the initial stages, organizations should strategically promote an appealing volunteer identity that individuals aspire to adopt. Emphasizing core values, expected behaviors, and key competencies associated with the volunteer role may encourage prospective volunteers to develop an early sense of identification with the position, thereby facilitating long-term engagement.

Ultimately, this study reinforces the necessity of tailoring retention strategies to different stages of volunteer engagement. While satisfaction plays a dominant role in the initial phases, commitment and fully developed role identity are expected to increase in importance over time. Understanding these dynamics enables organizations to implement evidence-based strategies that cultivate a stable and engaged volunteer workforce.

Conclusion

This study validates the efficacy of the 3SMVSD over the TPB in predicting short-term volunteer permanence, emphasizing the crucial role of satisfaction in early engagement. While role identity emerged earlier than expected, these findings advance our understanding of volunteer retention mechanisms and offer practical recommendations for volunteer organizations seeking to enhance engagement and retention strategies.

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Declarations

Conflict of interest No potential conflicts of interest are declared.

Human or Animal Participants This study adheres to ethical standards for research involving human participants. No animals were involved in this research.

Informed Consent Informed consent was obtained from all participants.

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References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In: Kuhl, J., Beckmann, J. (eds), Action control. SSSP Springer Series in Social Psychology. Springer.https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (2012). The theory of planned behavior. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (eds.), Handbook of theories of social psychology (pp. 438–459). SagePublications Ltd. https://doi.org/10.4135/9781446249215.n22

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies, 2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Ajzen, I., & Driver, B. L. (1991). Prediction of leisure participation from behavioral, normative, and control beliefs: An application

of the theory of planned behavior. *Leisure Sciences, 13*(3), 185–204. https://doi.org/10.1080/01490409109513137

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Prentice-Hall.

Ajzen, I. (2012). Behavioural interventions based on the theory of planned behaviour. Retrieved 09/29, 2023, from http://people.umass.edu/~aizen/pdf/tpb.intervention.pdf

Amireault, S. (2014). Doing more than just acknowledging attrition at follow-up: A comment on Lu, Cheng, and Chen (2013). *Psychological Reports, 115*(2), 419–426. https://doi.org/10.2466/03.pr0.115c19z5

Armitage, C. J., & Conner, M. (1999). The theory of planned behaviour: Assessment of predictive validity and'perceived control. *British Journal of Social Psychology, 38*(1), 35–54. https://doi.org/10.1348/0144666991640022

Bang, H., Smith, N. P., Park, S. E., & Lee, C. M. (2022). Perceived quality and organizational support for enhancing volunteers' leisure satisfaction and civic engagement: A case of the 2020 Super Bowl. *Leisure Sciences, 47*(1), 20–41. https://doi.org/10.1080/01490400.2022.2060883

Bang, H., Ross, S., & Reio, T. G. (2013). From motivation to organizational commitment of volunteers in non-profit sport organizations: The role of job satisfaction. *Journal of Management Development, 32*(1), 96–112. https://doi.org/10.1108/02621711311287044

Brayley, N., Obst, P. L., White, K. M., Lewis, I. M., Warburton, J., & Spencer, N. M. (2015). Examining the predictive value of combining the theory of planned behaviour and the volunteer functions inventory. *Australian Journal of Psychology, 67*(3), 149–156. https://doi.org/10.1111/ajpy.12078

Brickman, P., Dunkel-Schetter, C., & Abbey, A. (1987). The development of commitment. *Commitment, conflict, and caring*, (pp. 145–221). Prentice-Hall.

Cahigas, M. M. L., Prasetyo, Y. T., Persada, S. F., & Nadlifatin, R. (2023). Filipinos' intention to participate in 2022 Leyte landslide response volunteer opportunities: The role of understanding the 2022 Leyte landslide, social capital, altruistic concern, and theory of planned behavior. *International Journal of Disaster Risk Reduction, 84*, Article 103485. https://doi.org/10.1016/j.ijdrr.2022.103485

Caligiuri, P., Mencin, A., & Jiang, K. (2013). Win–win–win: The influence of company-sponsored volunteerism programs on employees, NGOs, and business units. *Personnel Psychology, 66*(4), 825–860. https://doi.org/10.1111/peps.12019

Callero, P. L. (1994). From role-playing to role-using: Understanding role as resource. *Social Psychology Quarterly, 57*(3), 228–243. https://doi.org/10.2307/2786878

Callero, P. L., Howard, J. A., & Piliavin, J. A. (1987). Helping behavior as role behavior: Disclosing social structure and history in the analysis of prosocial action. *Social Psychology Quarterly*, 247–256. https://doi.org/10.2307/2786825

Chacón, F., Vecina, M. L., & Dávila, M. C. (2005). El modelo de la identidad de rol de voluntario: análisis de sus componentes básicos en una muestra de voluntarios. [The volunteer role idenitity model: analysis of its basis components on sample of volunteers] *Revista de psicología general y aplicada: Revista de la Federación Española de Asociaciones de Psicología, 58*(3), 333–346.

Chacón, F., Vecina, M. L.,& Dávila, M. C. (2007). The thee-stage model of volunteers' duration of service. *Social Behavior and Personality: An International Journal, 35*(5), 627–642. https://doi.org/10.2224/sbp.2007.35.5.627

Chacón, F., Gutiérrez, G., Sauto, V., Vecina, M. L., & Pérez, A. (2017). Volunteer functions inventory: a systematic review. *Psicothema, 29*(3), 306–317 https://doi.org/10.7334/psicothema2016.371

Charng, H.-W., Piliavin, J. A., & Callero, P. L. (1988). Role identity and reasoned action in the prediction of repeated behavior. *Social Psychology Quarterly 51* (4) 303–317. https://doi.org/10.2307/2786758

Chen, C., Lan, Y., & Yan, Y. (2023). Empirical study on the factors influencing the successful aging of the middle-aged and older adult community volunteers. *Frontiers in Public Health*. https://doi.org/10.3389/fpubh.2023.1140965

Cho, M., Bonn, M. A., & Han, S. J. (2018). Generation Z's sustainable volunteering: Motivations, attitudes and job performance. *Sustainability, 10*(5), 1400. https://doi.org/10.3390/su10051400

Chordiya, R., Sabharwal, M., & Goodman, D. (2017). Affective organizational commitment and job satisfaction: A cross-national comparative study. *Public Administration, 95*(1), 178–195. https://doi.org/10.1111/padm.12306

Clary, E., & Snyder, M. (1991). *A functional analysis of altruism and prosocial behavior: The case of volunteerism*. In Clark, M. S. (Ed.), Prosocial behavior. Review of personality and social psychology (Vol. 12, pp. 119–148). Sage

Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and assessing the motivations of volunteers: a functional approach. *Journal of personality and social psychology, 74*(6), 1516–1530 https://doi.org/10.1037/0022-3514.74.6.1516

Claxton-Oldfield, S., & Claxton-Oldfield, J. (2012). Should I stay or should I go: A study of hospice palliative care volunteer satisfaction and retention. *American Journal of Hospice and Palliative Medicine, 29*(7), 525–530. https://doi.org/10.1177/1049909111432622

Cuskelly, G., Taylor, T., Hoye, R., & Darcy, S. (2006). Volunteer management practices and volunteer retention: A human resource management approach. *Sport Management Review, 9*(2), 141–163. https://doi.org/10.1016/s1441-3523(06)70023-7

Dailey, R. C. (1986). Understanding organizational commitment for volunteers: Empirical and managerial implications. *Journal of Voluntary Action Research, 15*(1), 19–31.

Davis, M. H., Hall, J. A., & Meyer, M. (2003). The first year: Influences on the satisfaction, involvement, and persistence of new community volunteers. *Personality and Social Psychology Bulletin, 29*(2), 248–260. https://doi.org/10.1177/01461672022390

Dwiggins-Beeler, R., Spitzberg, B., & Roesch, S. (2011). Vectors of volunteerism: Correlates of volunteer retention, recruitment, and job satisfaction. *Journal of Psychological Issues in Organizational Culture, 2*(3), 22–43.

Van Dyne, L., & Farmer, S. M. (2004). It's who I am: Role identity and organizational citizenship behavior of volunteers. *Handbook of organizational citizenship behavior. Nova Science Publishers*, 181–207. https://doi.org/10.4135/9781849200448.n7

Finkelstein, M. A., Penner, L. A., & Brannick, M. T. (2005). Motive, role identity, and prosocial personality as predictors of volunteer activity. *Social Behavior and Personality: An International Journal, 33*(4), 403–418 https://doi.org/10.2224/sbp.2005.33.4.403

Finkelstein, M. A., & Penner, L. A. (2004). Predicting organizational citizenship behavior: Integrating the functional and role identity approaches. *Social Behavior and Personality, 32*(4), 383–398. https://doi.org/10.2224/sbp.2004.32.4.383

Forero, C. G., Maydeu-Olivares, A., & Gallardo-Pujol, D. (2009). Factor analysis with ordinal indicators: A Monte Carlo study comparing DWLS and ULS estimation. *Structural Equation Modeling, 16*(4), 625–641. https://doi.org/10.1080/10705510903203573

Fuller, E. S. (2011). *Volunteers leading volunteers: How leader commitment relates to follower's commitment, turnover and*

recruitment [Doctoral thesis]. Capella University, USA. https://pqdtopen.proquest.com/ pubnum/3481358.html

Garner, J. T., & Garner, L. T. (2010). Volunteering an opinion. *Nonprofit and Voluntary Sector Quarterly, 40*(5), 813–828. https://doi.org/10.1177/0899764010366181

Gidron, B. (1983). Sources of job satisfaction among service volunteers. *Journal of Voluntary Action Research, 12*(1), 20–35. https://doi.org/10.1177/089976408301200105

Grano, C., Lucidi, F., Zelli, A., & Violani, C. (2008). Motives and determinants of volunteering in older adults: An integrated model. *The International Journal of Aging and Human Development, 67*(4), 305–326. https://doi.org/10.2190/ag.67.4.b

Greenslade, J. H., & White, K. M. (2005). The prediction of above-average participation in volunteerism: A test of the theory of planned behavior and the volunteers functions inventory in older Australian adults. *The Journal of Social Psychology, 145*(2), 155–172. https://doi.org/10.3200/SOCP.145.2.155-172

Grube, J. A., & Piliavin, J. A. (2000). Role identity, organizational experiences, and volunteer performance. *Personality and Social Psychology Bulletin, 26*(9), 1108–1119. https://doi.org/10.1177/01461672002611007

Hande, M. J., Taylor, D., & Keefe, J. (2021). The role of volunteers in enhancing resident quality of life in long-term care: Analyzing policies that may enable or limit this role. *Canadian Journal on Aging/la Revue Canadienne Du Vieillissement, 41*(2), 252–263. https://doi.org/10.1017/s0714980821000106

Haski-Leventhal, D., & Bargal, D. (2008). The volunteer stages and transitions model: Organizational socialization of volunteers. *Human Relations, 61*(1), 67–102. https://doi.org/10.1177/0018726707085

Hauser, B. K., Koontz, T. M., & Bruskotter, J. T. (2012). Volunteer participation in collaborative watershed partnerships: Insights from the Theory of Planned Behaviour. *Journal of Environmental Planning and Management, 55*(1), 77–94. https://doi.org/10.1080/09640568.2011.581535

Huang, Y., Aguilar, F., Yang, J., Qin, Y., & Wen, Y. (2021). Predicting citizens' participatory behavior in urban green space governance: Application of the extended theory of planned behavior. *Urban Forestry & Urban Greening, 61*, Article 127110. https://doi.org/10.1016/j.ufug.2021.127110

Hustinx, L., & Handy, F. (2009). Where do I belong? Volunteer attachment in a complex organization. *Administration in Social Work, 33*(2), 202–220. https://doi.org/10.1080/03643100902769129

Hustinx, L., & Lammertyn, F. (2003). Collective and reflexive styles of volunteering: A sociological modernization perspective. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations, 14*(2), 167–187. https://doi.org/10.1023/A:1023948027200

Hustinx, L., Cnaan, R. A., & Handy, F. (2010). Navigating theories of volunteering: A hybrid map for a complex phenomenon. *Journal for the Theory of Social Behaviour, 40*(4), 410. https://doi.org/10.1111/j.1468-5914.2010.00439.x

Hyde, M. K., & Knowles, S. R. (2013). What predicts Australian university students' intentions to volunteer their time for community service? *Australian Journal of Psychology, 65*(3), 135–145. https://doi.org/10.1111/ajpy.12014

Kappelides, P., Barry, S., Kim, E., Fredline, L., & Cuskelly, G. (2021). Volunteer experiences at the Gold Coast 2018 commonwealth games. *International Journal of Event and Festival Management, 12*(3), 331–345. https://doi.org/10.1108/ijefm-11-2020-0069

Knowles, S. R., Hyde, M. K., & White, K. M. (2012). Predictors of young people's charitable intentions to donate money: An extended theory of planned behavior perspective. *Journal of Applied Social Psychology, 42*(9), 2096–2110. https://doi.org/10.1111/j.1559-1816.2012.00932

Lachance, E. L., Bakhsh, J. T., Thompson, A., & Parent, M. M. (2021). What predicts the sport event volunteer experience? Examining motivation, satisfaction, commitment, and sense of community. *Event Management, 25*(6), 721–738. https://doi.org/10.3727/152599521x16106577965107

Lavenburg, P., & Bernt, F. M. (2011). Training and supporting hospice volunteers. *American Journal of Hospice and Palliative Medicine, 29*(5), 355–361. https://doi.org/10.1177/1049909111423527

Lee, S. J., & Lina Kim, H. (2018). Roles of perceived behavioral control and self-efficacy to volunteer tourists' intended participation via theory of planned behavior. *International Journal of Tourism Research, 20*(2), 182–190. https://doi.org/10.1002/jtr.2171

Lee, Y. J., Won, D., & Bang, H. (2014). Why do event volunteers return? Theory of planned behavior. *International Review on Public and Nonprofit Marketing, 11*, 229–241. https://doi.org/10.1007/s12208-014-0117-0

Liao-Troth, M. A. (2001). Attitude differences between paid workers and volunteers. *Nonprofit Management and Leadership, 11*(4), 423–442. https://doi.org/10.1002/nml.11403

MacGillivray, G. S., & Lynd-Stevenson, R. M. (2013). The revised theory of planned behavior and volunteer behavior in Australia. *Community Development, 44*(1), 23–37. https://doi.org/10.1080/15575330.2012.675578

Marta, E., Manzi, C., Pozzi, M., & Vignoles, V. L. (2014). Identity and the theory of planned behavior: Predicting maintenance of volunteering after three years. *The Journal of Social Psychology, 154*(3), 198–207. https://doi.org/10.1080/00224545.2014.881769

Masser, B. M., White, K. M., Hamilton, K., & McKimmie, B. M. (2012). Beliefs underlying blood donors' intentions to donate during two phases of an avian influenza outbreak. *Transfusion and Apheresis Science, 46*(1), 47–52. https://doi.org/10.1016/j.transci.2011.11.001

Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin, 108*(2), 171–194.

McDonald, R. P. (1999). *Test theory: A unified treatment*. Psychology press.

Meng, Y., Zhu, T., Chen, W., Zhou, H., Tao, L., Wang, X., Li, M., Zhang, X., Wang, D., Wu, X., Luo, S., & Hu, C. (2024). Understanding physical exercise among individuals with substance use disorders using an integrated theoretical perspective of the health action process approach and theory of planned behavior. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2024.1377430

Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Sage.

Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology, 78*(4), 538–551. https://doi.org/10.1037/0021-9010.78.4.538

More, K. R., & Phillips, L. A. (2022). The utility of the integrated behavior change model as an extension of the theory of planned behavior. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2022.940777

Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14*(2), 224–247.

Okun, M. A., & Sloane, E. S. (2002). Application of planned behavior theory to predicting volunteer enrollment by college students in a campus-based program. *Social Behavior and Personality, 30*(3), 243–249. https://doi.org/10.2224/sbp.2002.30.3.243

Omoto, A. M., & Snyder, M. (1995). Sustained helping without obligation: motivation, longevity of service, and perceived attitude change among AIDS volunteers. *Journal of Personality and Social Psychology, 68*(4), 671–686. https://doi.org/10.1037/0022-3514.68.4.671

Omoto, A. M., & Snyder, M. (2002). Considerations of community: The context and process of volunteerism. *American Behavioral Scientist, 45*(5), 846–867. https://doi.org/10.1177/000276420204500506

Ortega, V., & Martín-Quiros, M. A. (2003). An exploratory validation study of a Spanish version of Meyer, Allen, and Smith's revised Commitment Scales. In Presented at the 7th European Congress of Psychology, Málaga, Spain. https://www.researchgate.net/publication/278665241_An_exploratory_validation_study_of_a_Spanish_version_of_Meyer_Allen_and_Smith%27_s_revised_Commitment_Scales

Pavey, L., Greitemeyer, T., & Sparks, P. (2012). "i help because i want to, not because you tell me to." *Personality and Social Psychology Bulletin, 38*(5), 681–689. https://doi.org/10.1177/0146167211435940

Peachey, J. W., Lyras, A., Cohen, A., Bruening, J. E., & Cunningham, G. B. (2013). Exploring the motives and retention factors of sport-for-development volunteers. *Nonprofit and Voluntary Sector Quarterly, 43*(6), 1052–1069. https://doi.org/10.1177/0899764013501579

Penner, L. A. (2002). Dispositional and organizational influences on sustained volunteerism: An interactionist perspective. *Journal of Social Issues, 58*(3), 447–467. https://doi.org/10.1111/1540-4560.00270

Pierro, A., Mannetti, L., & Livi, S. (2003). Self-identity and the theory of planned behavior in the prediction of health behavior and leisure activity. *Self and Identity, 2*(1), 47–60. https://doi.org/10.1080/15298860309024

Pierucci, J., & Noel, R. C. (1980). Duration of participation of correctional volunteers as a function of personal and situational variables. *Journal of Community Psychology, 8*(3), 245–250. https://doi.org/10.1002/1520-6629(198007)8:3<245::AID-JCOP2290080308>3.0.CO;2-U

Prouteau, L., & Wolff, F. (2008). On the relational motive for volunteer work. *Journal of Economic Psychology, 29*(3), 314–335. https://doi.org/10.1016/j.joep.2007.08.001

Purwanto, B. M., & Rostiani, R. (2022). The influence of enthusiasm and personal constraints on the intention to continue volunteering in an uncertain and turbulent environment. *International Review on Public and Nonprofit Marketing*. https://doi.org/10.1007/s12208-022-00349-z

R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. https://www.R-project.org/.

Ramadhia, U., & Arfensia, D. S. (2023). Exploring motivations for online volunteering in emerging adults: A descriptive study. *Psychosophia: Journal of Psychology, Religion, and Humanity, 5*(2), 108–117. https://doi.org/10.32923/psc.v5i2.3622

Randall, D. M., & Gibson, A. M. (1991). Ethical decision making in the medical profession: An application of the theory of planned behavior. *Journal of Business Ethics, 10*, 111–122. https://doi.org/10.1007/BF00383614

Russell, A. R., Storti, M. A. H., & Handy, F. (2022). Volunteer retirement and well-being: Evidence from older adult volunteers. *International Journal of Community Well-Being, 5*(2), 475–495. https://doi.org/10.1007/s42413-021-00157-z

Sheeran, P., Conner, M., & Norman, P. (2001). Can the theory of planned behavior explain patterns of health behavior change? *Health Psychology, 20*(1), 12–19. https://doi.org/10.1037/0278-6133.20.1.12

Simon, B., Sturmer, S., & Steffens, K. (2000). Helping individuals or group members? The role of individual and collective identification in AIDS volunteers. *Personality and Social Psychology Bulletin, 26*(4), 497–506. https://doi.org/10.1177/0146167200266008

Smith, M. B., Thomas, N., & Hazeldine, S. (2019). Rethinking volunteering and cosmopolitanism: Beyond individual mobilities and personal transformations. *Geopolitics, 26*(5), 1353–1375. https://doi.org/10.1080/14650045.2019.1666106

Stephens, R. D., Dawley, D. D., & Stephens, D. B. (2004). Commitment on the board: A model of volunteer directors' levels of organizational commitment and self-reported performance. *Journal of Managerial Issues*, 483–504.

Stryker, S., & Burke, P. J. (2000). The past, present, and future of an identity theory. *Social Psychology Quarterly (63)*(4), 284–297. https://doi.org/10.2307/2695840

Tambs, K., Rønning, T., Prescott, C. A., Kendler, K. S., Reichborn-Kjennerud, T., Torgersen, S., & Harris, J. R. (2009). The Norwegian Institute of Public Health twin study of mental health: Examining recruitment and attrition bias. *Twin Research and Human Genetics, 12*(2), 158–168. https://doi.org/10.1375/twin.12.2.158

The jamovi project (2022). jamovi. (Version 2.3) [Computer Software]. Retrieved from https://www.jamovi.org.

Theodorakis, Y. (1994). Planned behavior, attitude strength, role identity, and the prediction of exercise behavior. *The Sport Psychologist, 8*(2), 149–165. https://doi.org/10.1123/tsp.8.2.149

Vecina, M. L., Chacón, F., Sueiro, M., & Barrón, A. (2012). Volunteer engagement: Does engagement predict the degree of satisfaction among new volunteers and the commitment of those who have been active longer? *Applied Psychology: An International Review, 61*(1), 130–148. https://doi.org/10.1111/j.1464-0597.2011.00460.x

Vecina, M. L., y& Chacón, F. (2017). Dropout predictors for volunteers in non-profit organizations: A 7-year survival analysis. *Revista Mexicana de Psicología, 34*(1), 13–23

Vecina, M. L., Chacón, F., & Sueiro, M. (2009). Satisfacción en el voluntariado: estructura interna y relación con la permanencia en las organizaciones [Satisfaction in volunteering: Internal structure and relationship with permanence in organizations]. *Psicothema, 21*(1), 112–118

Vecina, M. L., Chacón, F., & Sueiro, M. J. (2010). Differences and similarities among volunteers who drop out during the first year and volunteers who continue after eight years. *The Spanish Journal of Psychology, 13*(1), 343–352 https://doi.org/10.1017/S1138741600003905

Veludo-de-Oliveira, T., Pallister, J. G. & Foxall, G. R. (2013). Accounting for sustained volunteering by young people: An expanded TPB. *Voluntas, 24*, 1180–1198.https://doi.org/10.1007/s11266-012-9317-6

Wang, H., Ma'rof, A. A., Abdullah, H., Hamsan, H. H., Zhang, L., & We, Q. (2022). Research status and development trend of the theory of planned behavior: a visual analysis based between 2012–2022. *International Journal of Academic Research in Business and Social Sciences, 12*(12). https://doi.org/10.6007/ijarbss/v12-i12/15747

Wardell, F., Lishman, J., & Whalley, L. J. (2000). Who volunteers? *British Journal of Social Work, 30*(2), 227–248.

White, K. M., Thomas, I., Johnston, K. L., & Hyde, M. K. (2008). Predicting attendance at peer-assisted study sessions for statistics: Role identity and the theory of planned behavior. *The Journal of Social Psychology, 148*(4), 473–492. https://doi.org/10.3200/SOCP.148.4.473-492

Winterich, K. P., Aquino, K., Mittal, V., & Swartz, R. J. (2013). When moral identity symbolization motivates prosocial behavior: The role of recognition and moral identity internalization.

Journal of Applied Psychology, 98(5), 759–770. https://doi.org/10.1037/a0033177

Won, D., Chiu, W., Bang, H., & Bravo, G. (2021). Perceived organizational support on episodic volunteers' affective and behavioral outcomes: A case of the 2016 Rio Olympic Games. *International Journal of Event and Festival Management, 12*(2), 240–258. https://doi.org/10.1108/ijefm-10-2020-0060

Woodall, T., Pich, C., Armannsdottir, G., Allison, S., Howarth, R., & Poorrezaei, M. (2022). To be a marketer or to do what marketers do? Using a mixed methods approach to explore the aspiring marketer mind-set. *Journal of Vocational Behavior, 135*, Article 103716. https://doi.org/10.1016/j.jvb.2022.103716

Wu, W. L., Yu, H. Y., & Zhou, H. X. (2022). Identifying factors affecting willingness to participate in floating population health volunteer services by Chinese volunteers based on the theory of the planned behavior expansion model. *Frontiers in Psychology, 13*, Article 953575. https://doi.org/10.3389/fpsyg.2022.953575

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