Innovative Thinking in Volunteer Organizations: Addressing the Impact of Psychological Ownership on Volunteer Organizational Commitment

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Abstract: This study explores the impact of psychological ownership on volunteer commitment within volunteer organizations. By introducing psychological ownership as a new variable, this research aims to enhance volunteer commitment through improved management practices and innovations. The study involved a random sample of educational volunteers from primary schools, who completed questionnaires after being briefed by the researchers. An analysis of 212 valid responses revealed that psychological ownership significantly influences organizational commitment, with volunteer motivation acting as a partial mediator. Based on these findings, the study suggests two innovative strategies to promote volunteer commitment. First, developing a diverse knowledge base for volunteer managers to improve their leadership and collaboration skills. Second, integrating volunteers as a subsystem within the staff through decentralized decision making, thereby increasing their participation and sense of responsibility. These insights extend the concept of psychological ownership to volunteer settings, offering theoretical contributions and practical implications for enhancing volunteer retention rates and organizational effectiveness.

Keywords: innovation; volunteers; psychological ownership; organizational commitment; motivation; volunteer functions inventory

1. Introduction

In 2019, the Corporation for National and Community Service (CNCS) reported that approximately 30% of the U.S. population, or about 77.95 million people, engaged in volunteer service, contributing 5.8 billion hours valued at approximately USD 147 billion; additionally, volunteers under the U.S. Administration for Community Living (ACL) contributed USD 1.7 billion in that same year. The Australian Bureau of Statistics data from 2021 show that around 14.6 million Australians (44.2% of the population) engage in volunteer work at least once a week, with a total economic value of AUD 29 billion, accounting for 1.6% of the GDP. In Taiwan, the Ministry of Health and Welfare reported that, in 2021, over 1.04 million volunteers provided approximately 128 million hours of service, with a total economic value exceeding TWD 23.3 billion.

Volunteers provide significant economic value to society, yet Forner’s research based on Self-Determination Theory has identified a global decline in the number of volunteers, leading to intensified competition for volunteer resources and challenges in retaining volunteers. Poor leadership is identified as a crucial factor in volunteer turnover [1]. From the perspective of general organizational management practices, it is more advantageous to expect an organization to establish ‘good mechanisms’ to retain volunteers rather than hoping for a wise leader. Nguyen et al.’s study suggests the adoption of systems thinking as a driving factor in policy making. Systems thinking is an interdisciplinary approach
that integrates diverse perspectives and stakeholders into the policy-making process. A systematic leadership style facilitates internal organizational change and innovation, enhancing the organization’s ability to tackle complex challenges [2]. To integrate different viewpoints, leaders must possess extensive knowledge, innovative thinking, strategic vision, and leadership capabilities. Such leaders can drive organizational innovation, altering organizational structures, management styles, and processes to improve organizational efficiency, flexibility, and innovative capacity, thereby propelling overall business development and competitiveness [3].

From the perspective of volunteer management, traditional methods of using motivation and satisfaction to predict volunteers’ organizational commitment are due for a change. Warner, Newland, and Green applied the Kano method developed in the early 1980s to improve volunteer systems. They argue that merely measuring motivation and satisfaction might not provide sufficient insights to enhance volunteer systems. While understanding volunteers’ levels of motivation and satisfaction is important, these metrics may not predict key outcomes such as commitment to the organization, willingness to volunteer again, or the encouragement of others to volunteer [4]. Zievinger and Swint suggest that, to increase volunteer motivation and retention, organizations need to implement different methods and strategies. This includes providing appropriate training, recognition, and feedback, enhancing communication, offering support and assistance, and creating a positive working environment [5].

In the field of organizational behavior, psychological ownership, organizational identification, and psychological empowerment are three crucial concepts that have significant theoretical and practical implications for understanding employee behavior, attitudes, and job performance. Psychological ownership emphasizes employees’ emotional connection and sense of belonging to their work, making them feel in control of their job [6]. Organizational identification focuses on the alignment between employees’ identities and the organization’s goals, enhancing their sense of belonging and loyalty to the organization [7]. Psychological empowerment highlights employees’ intrinsic motivation and autonomy, making them feel capable and influential in completing their work [8].

In practical applications, psychological ownership can enhance employee commitment and responsibility, increasing job engagement and organizational citizenship behavior. Organizational identification can boost employee loyalty and job satisfaction, reducing turnover intentions. Psychological empowerment can improve job satisfaction and innovative behavior while reducing stress.

The causal relationships among these three concepts remain inconclusive. Ye et al. demonstrated that a “leading by example” leadership style can enhance employees’ organizational identification, indirectly influencing their organizational psychological ownership and job psychological ownership [9]. Research by Kim and So highlighted that psychological ownership is a widely recognized concept in the business domain, significantly affecting organizational and individual behaviors and outcomes. Studies suggest that fostering psychological ownership can enhance employee engagement, teamwork, innovation capability, satisfaction, and loyalty, thereby improving organizational performance and competitive advantage. Therefore, organizations should recognize the importance of psychological ownership and incorporate it into management strategies to achieve better performance and employee satisfaction [10].

This study infers from the literature that psychological ownership has a predictive ability for employee behavior and organizational processes distinct from organizational commitment and organizational identification. Organizational identification involves individuals seeing themselves as part of the organization and aligning with its values and goals. Psychological ownership, however, is a more personalized feeling that can arise without explicit identification and can drive individuals’ sense of ownership over specific jobs or tasks. Currently, there are few studies directly discussing the relationship between volunteer psychological ownership and organizational commitment. This study aims to pioneer the direct discussion of the impact of volunteer psychological ownership and the
VFI (Volunteer Functions Inventory) on organizational commitment, hoping to open a new perspective on psychological ownership for volunteer managers to promote organizational innovative thinking and enhance volunteer organizational commitment.

2. Literature Review

2.1. Volunteer Motivation

The core idea of volunteering motivations lies in understanding why people engage in such activities. Clary et al. introduced the Volunteer Functions Inventory (VFI), which explains that different people volunteer for various reasons [11]. The VFI identifies the following six key motives: “Career” for professional advancement, “Enhancement” for self-esteem, “Protective” to shield oneself from negative feelings, “Social” for social adaptation, “Understanding” for gaining knowledge, and “Values” for altruistic reasons [12].

Chaddha and Rai synthesized various studies to develop a conceptual model of volunteer motivation, acknowledging that volunteer service is a multifaceted structure. Factors include recognition, social interaction, reciprocity, responsiveness, self-esteem, social involvement, values, understanding, protection, and career development, aligning closely with the VFI [13].

Zievinger and Swint studied volunteers at festival events in the hospitality industry, identifying factors affecting volunteer retention such as lack of recognition and feedback, inadequate training, insufficient communication, and lack of support. They stressed the importance of volunteer management, ensuring that organizations provide adequate support, training, communication, and recognition to maintain volunteers’ enthusiasm and participation [5].

Newton, Smith, and Smith noted the increasing dependency on volunteers in Australia, emphasizing learning and development opportunities (LDOs) as a means to retain volunteers. They revealed that LDOs play a significant role in retaining volunteers, particularly those volunteering to build self-esteem (the Enhancement motivation), who are most likely to remain and show higher organizational commitment and intent to stay. Conversely, those volunteering for career purposes often transition to paid positions once they gain the desired skills. Social motivations were not predictive of volunteer retention [14].

Kim, Kim, and Lee assessed altruistic and egoistic motivations through the Values and Enhancement motivations, respectively, exploring their relationship with volunteer motivation, value internalization, and retention. They found that altruistic motivation negatively correlated with participation rates, whereas egoistic motivation showed a positive correlation. Value internalization also positively explained participation rates. The study suggests that recruitment should consider the alignment between volunteer motivations and the nature of the volunteer activities, and that enhancing value internalization during training can improve volunteer engagement and retention rates [15].

Merrilees, Miller, and Yakimova pointed out key determinants for volunteer retention, including job satisfaction, organizational commitment, and altruistic motivations. The importance of these factors may vary at different stages of a volunteer’s lifecycle, but altruistic motivation plays a significant role in the later stages of continued involvement [16].

Scholars continue to expand the theoretical framework and application breadth of the Volunteer Functions Inventory (VFI). Wood’s research posits that understanding volunteer motivations can help organizations better match volunteers with suitable service positions, thereby enhancing volunteer satisfaction and engagement. He attempts to integrate Maslow’s hierarchy of needs theory with the VFI, suggesting that this combination can guide organizations in better meeting volunteers’ diverse needs, thus promoting sustained participation and development [17].
Ozman et al. conducted an empirical analysis based on the VFI involving 7725 volunteers and found that different professions influence volunteer motivations in varied ways. The study results indicate that students are more likely to be driven by the “Career” motive, whereas they are less likely to prioritize the “Protective” motive compared to individuals without stable careers. Individuals across all professional fields, compared to those without stable careers, are more likely to cite “providing resources and skills” as a primary motivation for volunteering. This suggests that professions may create a spillover effect in volunteer decision making, where individuals wish to engage in work-related activities outside of their professional domains [18].

Monteiro et al.’s study on Portuguese volunteers found significant positive correlations between the six VFI factors and both organizational commitment and volunteer satisfaction. This demonstrates the applicability of the VFI across different cultural contexts, providing valuable insights for volunteer motivation research [19].

Zhou and Kodama conducted a meta-analysis using the VFI to examine volunteer motivations and found that these motivations significantly influence satisfaction, commitment, and behavior in volunteer activities. Specifically, the Values motive plays the most critical role in predicting volunteer satisfaction and commitment, followed by the Understanding motive. Meanwhile, the protective motive is highly significant in predicting volunteers’ intentions to continue participating. Geographical location, overall, does not serve as a significant moderating variable, indicating a degree of consistency in the VFI’s predictive power across different geographical contexts. This finding supports the cross-cultural applicability of the VFI [20]. Therefore, this study employs the VFI as a tool for measuring volunteer motivations in Taiwan.

2.2. Organizational Commitment

Organizational commitment is a crucial direction in the study of organizational behavior within the management sciences. This research area also extends to organizational psychology and organizational behavior [21]. Employee commitment is vital, as it necessitates the alignment of employees’ interests, goals, and needs with those of the organization to facilitate efficient work [22].

Pi, Chiu, and Lin investigated the impact of job stress, job satisfaction, and work values on organizational commitment among employees of different job types in an airline, finding divergent perspectives among employee categories on job satisfaction, work values, and organizational commitment. Employees with higher job accomplishment and self-fulfillment or those who experience professional knowledge tend to exhibit stronger organizational commitment [23]. Research by Al-Madi et al. confirms that employee motivation significantly impacts the affective commitment and the continuance of organizational commitment [24]. Altindis also found a positive relationship between organizational commitment levels and job motivation among healthcare professionals [25].

Jim et al. identified the positive impact of job stress, emotional burnout, and job satisfaction on organizational commitment among Indonesian healthcare workers, with these three factors explaining approximately 53% of the variance in organizational commitment. The study emphasizes the importance of addressing job stressors and enhancing job satisfaction to boost healthcare professionals’ commitment to the organization. By fostering a supportive work environment and recognizing employee contributions, healthcare institutions can cultivate organizational commitment and loyalty among staff [26].

Another study involving medical professionals, including doctors in four Turkish public hospitals, found that the organizational climate positively and linearly affects the organizational commitment and perceived organizational performance. Improving the organizational climate not only enhances employee commitment but also positively impacts employee performance and the overall performance of the organization [27].
Hosen et al. studied employees in star-rated hotels and found that training, skill enhancement, and career development influenced the organizational commitment, which, in turn, improved the job performance. Organizational commitment served as a mediator between skill-enhancing training and job performance, as well as career development and job performance [28]. Similarly, Chiampou et al. found that nurses’ participation in continuous training programs positively impacted their organizational commitment, particularly in enhancing professional service, collegial learning and interaction, personal benefits and job security, and personal commitment and reflection. These findings underscore the importance of continuous training for the personal and professional development of nurses and its positive impact on organizational commitment and the quality of patient care [29].

Research on volunteer commitment is also a significant topic. Gilbert et al. studied project volunteers in Australia, hypothesizing that volunteer commitment is influenced by purposive, affective, and situational factors. The study found that the three main factors influencing volunteer commitment should be labeled as “my contribution”, “relationships”, and “the project”, indicating that the project itself is a major factor in constructing commitment [30].

Benevene and West conducted a questionnaire survey of over 200 volunteers from nonprofit organizations providing social services in Northern Italy, exploring the relationship between leadership behavior and volunteer commitment. The study found that key leadership behaviors, such as helping volunteers grow and lead, and promoting learning and innovation, can enhance volunteer satisfaction and commitment levels. The conclusions highlight the importance of leadership behavior in fostering volunteer engagement and commitment [31].

Faroq et al. examined the relationship between intrinsic motivation, job satisfaction, and affective commitment among employees participating in five corporate social responsibility (CSR) projects. The results showed that employees’ intrinsic motivation for specific volunteer projects had different impacts on job satisfaction and affective commitment. The findings suggest that companies must consider employees’ intrinsic motivation when designing CSR projects to maintain job satisfaction and affective commitment and contribute to CSR initiatives accordingly [32].

Kao et al. explored the moderating role of volunteer motivation on perceived organizational support (POS) and organizational citizenship behavior (OCB). The study found that employees with stronger volunteer motivation were more likely to exhibit OCB at the same level of POS. Transformational leadership and organizational climate can enhance employees’ perceived organizational support, volunteer motivation, and promote OCB across all levels [33].

Forner et al. conducted a meta-analysis on volunteer turnover, finding that several factors significantly influence volunteer turnover. The strongest predictors of turnover among volunteers include communication, organizational support, job satisfaction, affective commitment, leader–member exchange, engagement, organizational commitment, psychological contract, support from paid staff, learning and development opportunities, and autonomous motivation. Favorable job attitudes and commitment were particularly strong indicators of volunteers’ turnover attitudes and behaviors. Additionally, HRM practices and social connections in the volunteer role had a significant influence on turnover, with correlation coefficients ranging from 0.43 to 0.62, indicating a moderate to strong association with volunteer turnover [34]. This study selects organizational commitment factors as one of the variables in the research framework.

2.3. Psychological Ownership

The concept of psychological ownership has been applied across various fields, including organizational behavior, marketing, and consumer behavior. In organizational behavior, it enhances employee engagement and job satisfaction by fostering a sense of ownership among employees.
Dawkins et al. reviewed 40 studies on employee psychological ownership, summarizing theoretical trends and distinguishing between organization-based and job-based psychological ownership. They discussed the antecedents of psychological ownership and its moderating effects [35]. Liu et al. found that employees’ power distance, mediated by organization-based psychological ownership, alleviated the impact of the participative decision-making and team self-management climate on work outcomes by enhancing organizational self-esteem and effective organizational commitment [36].

Muhammad and Rashid explored how employees’ psychological ownership of their jobs influenced their organizational commitment. Their findings indicated a correlation between psychological ownership and organizational commitment, suggesting that employees’ psychological ownership affects their level of commitment to the organization. They recommended that managers adopt strategies to motivate employees, emphasize collective roles, and implement reward systems to enhance employees’ sense of psychological ownership, thereby influencing the degree of organizational commitment [37].

Boonsiritomachai et al., studying employees in a state-owned telecommunications enterprise, found that psychological ownership significantly influenced organizational commitment, with key factors including a sense of belonging and job responsibility. The study highlighted that employees’ sense of belonging to the organization and responsibility for their work are crucial for enhancing organizational commitment [38].

Research based on psychological and spiritual levels starts with the individual, gradually extending the concept of psychological ownership to the social level, from the “home” to the “organization”; from psychological motivation to behavior; from management to marketing. This forms a significant research orientation across multiple disciplines. Renz and Posthuma provided a comprehensive review of the development of psychological ownership theory, emphasizing key points over the past 30 years, including the formation and influencing factors of individual psychological ownership towards an organization or job, its impact at the team and organizational levels, and how to manage and promote its perception. They also discussed the experience of psychological ownership in different cultural contexts and cross-national comparisons, as well as how leaders and managers influence employees’ perceptions of psychological ownership and apply this theory in management practice [39].

Jami et al. employed various methods to induce psychological ownership in seven experiments to investigate how the sense of ownership enhances altruistic behavior by boosting self-esteem. They concluded that psychological ownership positively impacts altruistic behavior. Their findings showed that, when people feel ownership of an object, they are more likely to take proactive actions when opportunities to help others arise. The positive effect of psychological ownership on altruistic behavior is mediated by increased self-esteem, independent of self-efficacy, perceived power, reciprocity, feelings of wealth, or emotional drives [40].

Preston and Gelman designed 12 scenarios set in natural environments such as forests, lakes, and gardens, categorized into the following four ownership states: psychological ownership, legal ownership, simultaneous psychological and legal ownership, and no ownership. They explored the effects of these states on participants’ willingness to enhance environmental protection. Their results indicated that psychological ownership was considered more effective than legal ownership in promoting individuals’ willingness to protect natural areas. Individuals with psychological ownership were more likely to exhibit emotional connections and personal ownership feelings, prompting them to engage more actively in actions to protect natural resources, including altruistic environmental behaviors like volunteering in conservation activities. Participants expressed a willingness to donate money or time to protect natural areas, including volunteering for cleanup activities and data collection [41].
Nabeel et al. investigated the impact of Green Human Resource Management (Green HRM) strategies on employees’ green volunteer behavior (GVB) in the banking sector. The study showed that Green HRM practices positively influenced employees’ psychological ownership, encouraging them to engage in green volunteer behavior. Psychological ownership played a significant role in the relationship between Green HRM and employees’ green behaviors, highlighting the importance of fostering employees’ psychological ownership of green practices in sustainability initiatives [42].

Despite the recognized importance of psychological ownership in organizational studies on employees and its positive influence on promoting altruistic volunteer behavior, its exploration in the volunteer domain, which is crucial for modern enterprises, is limited. Ainsworth shifted the focus to organizational volunteers, attempting to understand the relationship between ownership feelings and volunteerism. They examined how ownership awareness provided by nonprofit organizations influenced volunteers’ attitudes and motivations, studying psychological ownership as a factor in volunteer retention in community-based nonprofit organizations. The results showed that volunteering indeed increased the sense of ownership, and volunteers’ ownership feelings positively impacted the volunteer behavior. However, time pressure was a significant moderator of these relationships, with different volunteer behaviors observed under high- and low-time-pressure conditions [43]. Given the limited discussion on volunteers’ psychological ownership, this study attempts to introduce the concept of psychological ownership as an applicable variable in volunteer management and discuss its relationship with organizational commitment.

3. Research Hypotheses and Methods

3.1. Research Hypotheses

The utilization of volunteers has become a crucial element in organizational management. According to the literature, psychological ownership refers to the feelings of possessiveness and the connection that individuals experience towards a target, which can be an object, role, or organization. This concept is particularly pivotal in volunteer settings, where tangible rewards are absent. A sense of ownership can enhance a volunteer’s intrinsic motivation, making them feel more responsible for the outcomes of their efforts and more engaged in their roles. Consequently, deeper emotional investment in volunteer activities increases psychological ownership, which, in turn, leads to enhanced motivation [10,17,38,39]. Based on this, the following hypothesis is proposed:

**H1.** Psychological ownership has a significant positive effect on volunteer motivation.

Motivation, especially intrinsic motivation, is a critical driver of organizational commitment. In the context of volunteers, motivation can stem from various sources, such as personal values, community service, and interpersonal relationships. When volunteers are motivated by internal drivers and personal fulfillment, they are likely to develop a stronger commitment to the organization. This relationship underscores the importance of aligning volunteer roles with their personal interests and values to enhance their organizational commitment [11,15,17,21]. Hence, this study proposes the following hypothesis:

**H2.** Volunteer motivation has a significant positive effect on organizational commitment.

When volunteers feel a sense of ownership over their work or the organization, it directly enhances their level of commitment. Psychological ownership leads to a sense of belonging and responsibility, which are crucial for fostering a strong emotional attachment to the organization. This direct relationship highlights the role of psychological ownership as a foundational element that can drive deeper organizational ties without the mediating effect of motivation [36,37,44]. Therefore, the following hypothesis is proposed:
**H3.** Psychological ownership has a significant positive effect on organizational commitment.

The literature indicates that both psychological ownership and motivation can influence organizational commitment. This study aims to understand whether psychological ownership indirectly affects organizational commitment through its impact on volunteers’ motivation, establishing a mediating relationship. This relationship suggests that psychological ownership first enhances motivation by making volunteers feel more empowered and valued, thereby strengthening their commitment to the organization. The mediating role of motivation explains the process by which psychological ownership translates into organizational commitment, highlighting the importance of fostering a sense of ownership among volunteers to maintain their engagement and loyalty [21,38,39,44]. Therefore, this study establishes the following hypothesis:

**H4.** Psychological ownership significantly positively influences organizational commitment through volunteer motivation.

The framework formed by the above four hypotheses is shown in Figure 1.

![Figure 1. Research framework.](image)

### 3.2. Questionnaire Development

The psychological ownership scale used in this study is based on the following five indicators: Accountability, Self-Efficacy, Self-Identity, Sense of Place or Belongingness, and Territoriality. This scale was developed by Avey et al. [44] with 16 items, and was adapted into Chinese following semantic validation by Chen, Hui, and Xi [45]. The Territoriality indicator, being negative, was omitted in this study. After the questionnaire was collected, the statistical coding for the indicators were as follows: POA, POSE, POSP, and POSI.

Volunteer motivation was measured using the Volunteer Functions Inventory (VFI), which includes the following six indicators: Career, Enhancement, Protective, Social, Understanding, and Values. This scale, developed by Clary et al. [11], comprises a 30-item questionnaire that was translated into Chinese by Ho et al. [46]. This study references the questionnaire used by Lee [47] in his research on Hong Kong volunteers. The questionnaire coding for these indicators were as follows: MC, ME, MP, MS, MU, and MV.

Organizational commitment is based on the concepts of Buchanan [48], Mowday [49], and Meyer and Allen [50], encompassing the following three dimensions: value commitment, retention commitment, and effort commitment. This study designed an 18-item Chinese scale to measure these dimensions. The coding for these three indicators were as follows: OCV, OCS, and OCE. The measurement codes for the variables mentioned above are presented in the SEM model in Figure 2.
Data from the volunteer survey conducted by the Government of the Republic of China (Taiwan) indicate that Taichung City has the second-highest volunteer participation rate among the six major municipalities, with 27.5% of the general population engaging in volunteer activities. Furthermore, 41.3% of these volunteers participate through schools, a rate higher than other channels. Taichung City is also known for its highly competitive environment, where elementary school graduates vie for admission to private junior high schools, making it the most competitive city in Taiwan in this regard. This study focuses on the organizational commitment of educational volunteers. Therefore, Taichung City, where the concern for education is generally stronger than in other cities, was chosen as the sample area for this study.

Questionnaires were distributed among the volunteer service management units at 13 primary schools in Taichung City and were randomly administered to the schools’ volunteers. Before filling out the questionnaires, the researchers explained the purpose of the study and the de-identification process through coding, ensuring informed consent from the participants. A total of 227 questionnaires were collected, with 212 valid responses used for the data analysis.

### 3.4. Instruments

#### 3.4.1. Reliability and Convergent Validity

All of the constructs demonstrated robust composite reliability and average variance extracted (AVE), meeting the recommended standards [51–53]. The standard deviations and composite reliabilities of each construct ranged from 0.724 to 0.982. These results confirm the excellent reliability and convergent validity.

The goodness-of-fit of the confirmatory factor analysis (CFA) measurement model was as follows: $\chi^2 = 1837.92$; $DF = 1146$; $\chi^2/df = 1.604$; SRMR = 0.065; RMSEA = 0.053; GFI = 0.896; AGFI = 0.884; CFI = 0.958; TLI = 0.953. These fit indices provide evidence of an adequate fit between the CFA model and the observed data.

#### 3.4.2. Item Parceling

For the structural equation modeling, this study employed the maximum likelihood (ML) estimation method, which necessitates a large sample size and multivariate normal distribution of data. However, achieving multivariate normality is nearly impossible in latent model analysis due to the constructs needing to be measured by multiple items, and a prerequisite is that the measurement items must be moderately to highly correlated with
each other. Thus, Hair et al. suggest that item parceling has several advantages for the measurement model, including enhancing the stability, reducing the violations of the normal distribution assumption, reducing the number of estimated parameters, increasing the item-to-sample ratio, more stable parameter estimates, reducing the uniqueness in measurement issues, and simplifying the model interpretation. Item parceling can be defined as an aggregate level indicator composed of the mean (or sum) of two or more construct items [54].

With a total of 212 samples, this study qualifies as a small sample size in the context of structural equation modeling. To achieve stability in the survey results, the method of item parceling was used to simplify the research structure [55].

### 3.4.3. Discriminant Validity

Discriminant validity was assessed following the method proposed by Fornell and Larcker [51]. The results show that the square root of most of the Average Variance Extracted (AVE) values exceeded the correlation coefficients (see Table 1), except for the square root of the AVE for MO, which was slightly less than the correlation coefficient between MO and OC. Given that the discrepancy was less than 0.1, this difference was considered negligible [51,56]. Consequently, the model still possessed adequate discriminant validity. As evidenced in Table 1, all correlation coefficients were less than the square roots of AVE, confirming discriminant validity. The items on the diagonal in bold represent the square roots of the AVE; off-diagonal elements are the correlation estimates.

#### Table 1. Results of the discriminant validity by the AVE.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Factor Loading</th>
<th>CR</th>
<th>AVE</th>
<th>PO</th>
<th>MO</th>
<th>OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>0.663–0.908</td>
<td>0.872</td>
<td>0.634</td>
<td>0.796</td>
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<td></td>
</tr>
<tr>
<td>MO</td>
<td>0.696–0.935</td>
<td>0.948</td>
<td>0.754</td>
<td>0.709</td>
<td>0.868</td>
<td></td>
</tr>
<tr>
<td>OC</td>
<td>0.934–0.969</td>
<td>0.969</td>
<td>0.912</td>
<td>0.737</td>
<td>0.885</td>
<td>0.955</td>
</tr>
</tbody>
</table>

Note: PO, psychological ownership; MO, motivation; OC, organizational commitment.

### 4. Results

#### 4.1. Sample Profile

The research encompasses a sample size of 212 individuals. The average age is 48.59 ± 9.78. The average working hours per week is 6.396 ± 33.77. The descriptive statistics for the study variables are summarized as follows. The sample consisted predominantly of females (94.3%, n = 200), with males comprising 5.2% (n = 11) and 0.5% (n = 1) missing responses. Educational backgrounds varied, with 67.5% (n = 143) having a college or university education, 16.5% (n = 35) having a senior high school or vocational school education, 10.8% (n = 23) holding graduate degrees or higher, 3.8% (n = 8) having completed junior high school, and 0.5% (n = 1) having an elementary school education or below; 0.9% (n = 2) of the responses were missing. Marital status showed that 85.4% (n = 181) were married with a spouse, 4.7% (n = 10) were unmarried, 5.2% (n = 11) were widowed, and 3.3% (n = 7) were divorced or separated, with 1.4% (n = 3) missing responses. Regarding the training intensity, 50.5% (n = 107) occasionally participated in training, 24.5% (n = 52) frequently participated, 13.2% (n = 28) never participated, and 8.0% (n = 17) always participated, with 3.8% (n = 8) missing responses. In terms of religious belief, 57.1% (n = 121) of the participants had a religious belief, while 42.9% (n = 91) did not. The reasons for volunteering were primarily personal decisions (70.3%, n = 149), followed by family influence (17.0%, n = 36), commitments to service organizations (11.8%, n = 25), and religious reasons (0.9%, n = 2). All responses in the reasons for volunteering category were accounted for with no missing data (n = 212). This summary provides a comprehensive overview of the demographic and behavioral characteristics of the study participants, ensuring clarity and adherence to the APA 7.0 reporting standards. (See Table 2)
Table 2. Sample profile.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Label</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1. Male</td>
<td>11</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>2. Female</td>
<td>200</td>
<td>94.3</td>
</tr>
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<td></td>
<td>missing</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Education</td>
<td>1. Elementary school or below</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>2. Junior high school</td>
<td>8</td>
<td>3.8</td>
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<tr>
<td></td>
<td>3. Senior high school or vocational school</td>
<td>35</td>
<td>16.5</td>
</tr>
<tr>
<td></td>
<td>4. College or university</td>
<td>143</td>
<td>67.5</td>
</tr>
<tr>
<td></td>
<td>5. Graduate studies or above</td>
<td>23</td>
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<td></td>
<td>2. Married with spouse</td>
<td>181</td>
<td>85.4</td>
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<tr>
<td></td>
<td>3. Widowed</td>
<td>11</td>
<td>5.2</td>
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<tr>
<td></td>
<td>4. Divorced or separated</td>
<td>7</td>
<td>3.3</td>
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<td></td>
<td>missing</td>
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<td>1.4</td>
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<tr>
<td>Training intensity</td>
<td>1. Never participated</td>
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<td>13.2</td>
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<td></td>
<td>2. Occasionally participate</td>
<td>107</td>
<td>50.5</td>
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<tr>
<td></td>
<td>3. Frequently participate</td>
<td>52</td>
<td>24.5</td>
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<tr>
<td></td>
<td>4. Always participate</td>
<td>17</td>
<td>8.0</td>
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<td></td>
<td>missing</td>
<td>8</td>
<td>3.8</td>
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<tr>
<td>Religion</td>
<td>1. No religious belief</td>
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<td>42.9</td>
</tr>
<tr>
<td></td>
<td>2. Have religious belief</td>
<td>121</td>
<td>57.1</td>
</tr>
<tr>
<td>Reasons of volunteering</td>
<td>1. Religion</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>2. Organizations committed to service</td>
<td>25</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>3. Family</td>
<td>36</td>
<td>17.0</td>
</tr>
<tr>
<td></td>
<td>4. Personal decision</td>
<td>149</td>
<td>70.3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>212</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2. Model Fit

Tiffany and Schumacker recommend reporting nine widely accepted fit indices to assess the model fit. A good model fit is typically indicated by a chi-square to degrees of freedom ratio of less than three [57]. Additionally, Hu and Bentler suggest independently evaluating each fit index while using stricter model fit criteria for the control, such as a Comparative Fit Index (CFI) > 0.90, Standardized Root Mean Square Residual (SRMR) < 0.08, and Root Mean Square Error of Approximation (RMSEA) < 0.08 (see Table 3) [58].

Table 3. Model fit.

<table>
<thead>
<tr>
<th>Model Fit</th>
<th>Criteria</th>
<th>Model Fit of Research Model</th>
<th>Model Fit of Bollen–Stine</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \chi^2 )</td>
<td>The smaller the better</td>
<td>414.444</td>
<td>86.174</td>
</tr>
<tr>
<td>DF</td>
<td>The larger the better</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>Normed Chi-sqr (( \chi^2/DF ))</td>
<td>1 &lt; ( \chi^2/DF &lt; 3 )</td>
<td>6.685</td>
<td>1.390</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt;0.08</td>
<td>0.164</td>
<td>0.043</td>
</tr>
<tr>
<td>SRMR</td>
<td>&lt;0.08</td>
<td>0.053</td>
<td>0.053</td>
</tr>
<tr>
<td>TLI (NNFI)</td>
<td>&gt;0.9</td>
<td>0.864</td>
<td>0.991</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt;0.9</td>
<td>0.892</td>
<td>0.993</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt;0.9</td>
<td>0.771</td>
<td>0.974</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt;0.9</td>
<td>0.663</td>
<td>0.968</td>
</tr>
</tbody>
</table>
4.3. Path Analysis

As shown in Table 4, the results of the path analysis indicate significant relationships between the constructs. Psychological ownership (PO) significantly affects motivation (MO) (with a coefficient of \( b = 1.032, p < 0.001 \)), explaining 50.2% of the variance in MO.

Both motivation (MO) (\( b = 0.793, p < 0.001 \)) and psychological ownership (PO) (\( b = 0.347, p < 0.001 \)) have significant effects on organizational commitment (OC). The combined effect of these values explains 80.8% of the variance in OC.

Table 4. Regression coefficient.

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>Unstd</th>
<th>S.E.</th>
<th>Unstd/S.E.</th>
<th>p-Value</th>
<th>Std.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO</td>
<td>PO</td>
<td>1.032</td>
<td>0.122</td>
<td>8.45</td>
<td>0.000</td>
<td>0.709</td>
<td>0.502</td>
</tr>
<tr>
<td>OC</td>
<td>MO</td>
<td>0.793</td>
<td>0.067</td>
<td>11.855</td>
<td>0.000</td>
<td>0.730</td>
<td>0.808</td>
</tr>
<tr>
<td></td>
<td>PO</td>
<td>0.347</td>
<td>0.09</td>
<td>3.851</td>
<td>0.000</td>
<td>0.219</td>
<td></td>
</tr>
</tbody>
</table>

4.4. Mediation Effects

The most commonly employed method to assess the indirect effects of mediating variables is the bootstrapping method. Compared to the causal steps approach and the Sobel test, bootstrapping has the advantage of not requiring the assumption of a normal distribution, making it suitable for situations with small sample sizes or skewed data distributions. Additionally, by repeatedly sampling randomly from the original dataset, calculating statistics, and repeating this process 1000 times or more, a sampling distribution of the indirect effects can be generated. This method produces confidence intervals that are more robust than those generated by traditional methods [59,60].

The confidence intervals (C.I.s) obtained through the bootstrapping method are statistically robust, and it is preferable to use the bias-corrected bootstrapping approach. A significant mediating effect is indicated when zero is not found between the lower and upper limits of the confidence interval [60,61].

As shown in Table 5, the analysis reveals that zero is not present between the confidence intervals, indicating a significant mediating effect. The total indirect effect demonstrates the mediating role of \( \text{PO} \rightarrow \text{MO} \rightarrow \text{OC} \) (C.I. [0.513 to 1.125]), supporting the four research hypotheses.

Table 5. Mediating effects.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Point Estimate</th>
<th>Bootstrap 1000 Times</th>
<th>Bias-Corrected 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \text{PO} \rightarrow \text{OC} )</td>
<td>1.165</td>
<td>0.993</td>
<td>1.395</td>
</tr>
<tr>
<td>Total indirect effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \text{PO} \rightarrow \text{MO} \rightarrow \text{OC} )</td>
<td>0.818</td>
<td>0.513</td>
<td>1.125</td>
</tr>
<tr>
<td>Direct effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \text{PO} \rightarrow \text{OC} )</td>
<td>0.347</td>
<td>0.036</td>
<td>0.732</td>
</tr>
</tbody>
</table>

Note: PO, psychological ownership; MO, motivation; OC, organizational commitment.

5. Discussion and Future Research Recommendations

5.1. Discussion and Findings

Numerous past studies have utilized the Volunteer Functions Inventory (VFI) to assess the motivational underpinnings of volunteer commitment, consistently finding that motivations influence organizational commitment [7,20,21]. Even when categorizing the VFI into the most frequently discussed altruistic and egoistic motives, it was found that altruism significantly impacted organizational commitment [14,16]. Studies concerning
psychological ownership among corporate employees have also demonstrated that psychological ownership affects organizational commitment [36–39].

This study, focusing on educational volunteers in Taiwan, further substantiates the conclusions of previous research, effectively expanding the foundational research by introducing the concept of psychological ownership into the field of volunteer management. The study examined the relationships between psychological ownership, motivation, and organizational commitment among educational volunteers, also comparing the relative impact strengths of psychological ownership and motivation on organizational commitment. The findings reveal the following significant effects: psychological ownership significantly influences volunteer motivation; volunteer motivation positively impacts organizational commitment; psychological ownership positively influences organizational commitment.

The research found that psychological ownership indirectly influences organizational commitment through volunteer motivation, demonstrating a mediating effect of volunteer motivation between psychological ownership and organizational commitment. Comparatively, the total effect of psychological ownership (1.165) was greater than its direct effect on organizational commitment (0.347), indicating that, besides the direct impacts, psychological ownership also indirectly influences organizational commitment through motivational pathways. Moreover, the indirect effect of motivation on organizational commitment (0.818) highlights its mediating role between psychological ownership and organizational commitment.

The research findings extend the study of psychological ownership theory to the volunteer field, indicating that psychological ownership influences organizational commitment among both employees and volunteers within an organization. The results support the notion that ‘psychological ownership among volunteers is a significant factor influencing organizational commitment’. This equates to recommending a new method to volunteer managers for enhancing volunteer organizational commitment by leveraging the concept of psychological ownership. Expanding the mindset and knowledge of leaders about fostering volunteer commitment provides the first pathway to organizational innovation, that is, leadership transformation. When leadership knowledge is diversified, as Yang and Wang suggest in their recommendations for cross-sectoral collaboration in sustainable contexts, trust can achieve better information sharing, collaboration, and problem solving. An innovatively assembled team with diverse viewpoints and expertise can foster creativity and innovative solutions [3]. Leaders can enhance volunteers’ psychological ownership, thereby increasing their commitment to the organization, particularly their continuance commitment, which can reduce turnover and ensure the sustainability of volunteer services.

5.2. Management Implications

This study has demonstrated that “psychological ownership is a significant factor influencing organizational commitment”. Managers can reflect on the development of the concept of psychological ownership starting from “formal and informal property rights”. To promote increased organizational commitment among volunteers, the strategy can begin with “enabling volunteers to physically possess an item”. Managers can first analyze the interests of their volunteers in terms of formal and informal possessions, such as exclusive seniority badges, scarves, or arm patches for different work categories. Through these small “possessions”, even uniforms, volunteers can be identified by category and seniority, and their symbolic meanings can be discerned. This leads to the formation of personal psychological ownership towards the organization or identity, thereby enhancing the volunteers’ value, retention, and commitment. Integrating the design of volunteer attire and appearance into volunteer management policies or systems equates to organizational procedural innovation.
In terms of practical measures involving space and hardware, managers can include providing volunteers with a designated workspace or rest area, equipped with fixed furniture, to establish a “base” that fosters a sense of belonging, such as a “dining area” or “personal storage area”. Managers can authorize volunteers to organize and decorate their own spaces, allowing these tangible assets to acquire personalized significance through the volunteers’ involvement, thereby generating psychological ownership. This enables volunteers to perceive the base as their “second home”.

Additionally, while salaried employees receive “rewards” for achieving work targets, volunteers who complete assigned tasks or perform exceptionally well can also be rewarded by managers in a similar manner. These rewards need not be monetary; they can be in the form of certificates of appreciation, commemorative items, or prizes, allowing volunteers to share in the organization’s honor. A volunteer reward system can make volunteers feel recognized for their efforts by the organization, motivating other volunteers to learn and strive for the same honors. This conveys the organization’s recognition of volunteers’ contributions, enhancing their sense of value and commitment to continue serving.

Under Taiwan’s compulsory education system, elementary schools promote the participation of educational volunteers in school work. These volunteers, who are often local residents or parents of students, assist with traffic control to ensure student safety during school arrival and departure times, tell moral education stories during morning self-study sessions, provide after-school homework help for children whose parents work late, organize library resources and help students with book borrowing, and assist with school recycling programs, aiding in waste sorting. School volunteers thus constitute an effective operational system within the school, linking students, teachers, and staff, and closely integrating school and family life.

When principals integrate resources, centering psychological ownership as the core axis of the volunteer system’s operation, and merge the volunteer system with the school staff system through a decentralized decision-making structure, this represents an organizational innovation. This validates the findings of Lee et al. that granting more decision-making authority can enhance members’ sense of participation and responsibility, increase organizational flexibility and responsiveness, and encourage active employee engagement, new ideas, and continuous innovation and improvement [62].

5.3. Research Limitations and Suggestions

Although this study confirms the potential of psychological ownership as a tool to promote organizational commitment and applies it to elementary school volunteers, the sample is limited to Taichung City. To generalize the findings to all educational volunteers, a larger sample size is necessary to achieve greater representativeness. Thus, the explanatory power of this exploratory study with a small sample is limited, and different results may be observed depending on the types of volunteers.

Additionally, this study only conducted a preliminary investigation into the relationships among the three main variables. Each variable has its own indicators; for instance, this study utilized the following four indicators of psychological ownership: Accountability, Self-Efficacy, Self-Identity, and Sense of Place or Belongingness. However, the statistical analysis did not delve into which indicator had the strongest influence. Therefore, future researchers interested in the topic of volunteer psychological ownership are encouraged to compare the impact of different indicators or to conduct in-depth studies on individual indicators.

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**Conflicts of Interest:** The authors declare no conflict of interest.

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