

Development and Validation of the *Amuma Sa Barangay* (Nourish the Barangay) Program Participants' Perception Scale

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Abstract

Aim/Purpose: This study aimed to develop a measurement scale to assess key constructs related to the perceptions of *Amuma Sa Barangay* (Nourish the Barangay) participants. This instrument was designed to systematically capture participants' views of how this program influences them. As such, it serves as a valuable tool for policymakers, particularly the Department of the Interior and Local Government (DILG)–Region VII, in evaluating the program's outcomes and informing evidence-based improvements to strengthen the program further and expand women's empowerment across the country at the barangay level.

Introduction/Background: The *Amuma Sa Barangay* program was initiated by the Department of the Interior and Local Government (DILG) Region VII to support women from marginalized sectors through capacity-building interventions, particularly in financial literacy and savings habits. This study examines participants' perceptions across three core dimensions: Women's Empowerment, Financial Management, and Community-Based Engagement. These dimensions constitute the conceptual foundation of the program as contextualized by DILG Region VII. Drawing on the interrelated nature of these dimensions, an instrument was developed to assess the extent to which each construct is associated with and reinforces the others from the perspective of program participants.

Methodology: This study employed a literature-informed sequential exploratory design to ensure that the instrument was conceptually grounded in existing frameworks of women empowerment, financial behavior, and community engagement, while remaining culturally responsive to the *Amuma Sa Barangay* program context. The combination of qualitative content validation through literature and program document analysis with rigorous quantitative psychometric testing strengthened the methodological robustness of the scale development process. This approach supported the reliability of the instrument for program evaluation and policy-relevant assessment.

Findings: Content validity, as assessed by expert comments, led to the removal of 14 of the initial 50 items. Specifically, three items were removed from the Women's Empowerment dimension, seven from Financial Management, and four from Community-Based Engagement. This refinement resulted in a total of 36 items retained after content validation—14 items under Women's Empowerment, 5 under Financial Management, and 17 under Community-Based Engagement. Subsequently, Exploratory Factor Analysis (EFA) was performed using SPSS Version 26, employing Principal Axis Factoring and Varimax Rotation. During EFA, 22 items were progressively removed due to low factor loadings and cross-loadings, leaving 14 items with satisfactory communalities ranging from .344 to .770. The total variance explained by the final EFA model was 66.61%. Following EFA, Confirmatory Factor Analysis (CFA) was conducted using AMOS Version 20 to test the hypothesized factor structure. The CFA model showed strong standardized loadings for all indicators under the three latent constructs: Women Empowerment, Financial Management, and Community-Based Engagement. Covariances were introduced between select indicators to improve model fit. The final model

demonstrated acceptable fit indices: Comparative Fit Index and Tucker-Lewis Index $> .90$, Root Mean Square Error of Approximation = .077, Standardized Root Mean Squared Residual = .051, and $\chi^2/df = 2.295$. These values confirmed a good model fit and validated the factorial structure of the Amuma Participants' Perception Scale (APPS) instrument. Convergent validity was confirmed through strong standardized loadings, with each construct meeting the thresholds for Composite Reliability and Average Variance Extracted. Discriminant validity was also established, as the inter-construct correlations were below the .85 threshold, confirming that each construct was empirically distinct. Lastly, internal consistency reliability was assessed using Cronbach's alpha. Each construct, as well as the overall APPS scale, demonstrated excellent reliability, with an overall alpha coefficient of .90, indicating strong consistency in measuring participants' perceptions of the program.

Contribution/Impact on Society: This study provides a validated instrument (APPS) to assess women's empowerment outcomes of the *Amuma Sa Barangay* program, emphasizing financial literacy and savings behavior. The tool supports evidence-based policy and program evaluation by enabling local government units and the DILG to monitor impact, refine interventions, and promote economic inclusion among marginalized women in the Philippines.

Recommendations: Based on the findings, it is recommended that DILG Region VII integrate the APPS instrument into routine program monitoring to support evidence-based evaluation and scaling of the Amuma Sa Barangay program in Region VII. APPS results can also guide facilitator training, module refinement, and targeted interventions in barangays with low engagement or weak financial behaviors, thereby strengthening women's empowerment and community participation.

Research Limitation: The study was limited to selected barangays in Region VII, so findings may not be generalizable to all regions or in urban contexts. The study also focused on participant perceptions; thus, such self-reported data might be subject to response biases, such as social desirability or recall limitations. Lastly, a cross-sectional design was employed, which cannot establish causality between financial literacy and empowerment outcomes.

Future Research: Building on this study, future researchers could use the APPS instrument in other regions and across urban-rural divides to test its generalizability. Long-term studies may also be conducted to assess how perceptions and behaviors evolve, particularly after every cycle. Inclusion of male participants could also be used to compare outcomes. Lastly, future researchers could combine participant self-assessments with external program metrics to validate findings across data types.

Keywords: *Community-based engagement, financial management, women's empowerment*

Introduction

Globally, gender inequality remains a major social issue, especially affecting women. Despite policies mandated to promote gender equality and to protect women's rights, approximately 70 percent of women still experience different forms of inequality in society (Gupta et al., 2024). A crucial step toward achieving gender equality and building an inclusive society is through women's empowerment, and when women are empowered, they drive progress in communities and contribute to economic growth (Chikwe et al., 2024). Women's empowerment can take many forms, all of which aim to create equal opportunities, rights, and resources among women.

One effective approach to promoting women's empowerment is through financial literacy, which provides women with proper guidance and financial information and thus empowers them (Arini, 2018). A high level of financial literacy helps not only women but also their families establish good financial management and savings behavior, thus teaching them to invest their money wisely (Pecson et al., 2019). In the Philippines, self-rated poverty remains a challenge, with 42 percent of the population considering themselves poor (Cervantes, 2024). Among this group are women, particularly those belonging to marginalized groups. Enhancing their well-being requires expanding their access to basic financial services such as savings, payments, and investments (Fronteras & Gaylican, 2022).

To address this problem, the Department of the Interior and Local Government (DILG) Region VII launched the *Amuma Sa Barangay* program in 2022. The term “*amuma*” means to “nourish,” reflecting the sole goal of the program, which is to empower women through financial literacy and weekly savings meetings. It operates as a community-managed savings and credit association, with plans for implementation across all local government units nationwide. The initiative also provides technical assistance to local governments to help marginalized women become self-reliant and recognize the importance of savings and good financial management (Partlow, 2023).

While this initiative has expanded rapidly across geographically isolated barangays in Region VII, its current monitoring system relies exclusively on group ledger balances and monthly reports. Without a psychometrically sound instrument to measure participants’ perceptions, governments cannot determine whether low savings stem from weak facilitation or from unfinished capability building. This study endeavored to fill this gap by aiming to understand how financial knowledge influences women’s attitudes, behaviors, and access to resources, and how it contributes to their ability to make informed life decisions.

Literature Review

The *Amuma Sa Barangay* program, implemented by the Department of the Interior and Local Government (DILG) Region VII, is a community-based initiative designed to empower women from marginalized sectors (Department of the Interior and Local Government, 2023). It primarily focuses on women’s empowerment, financial literacy, savings formation, and community-based engagement as its core objectives, aiming to strengthen women’s economic capacity at the barangay level.

Women Empowerment

Women, although regarded as pillars in their respective households and communities, continue to encounter structural limitations in accessing formal avenues of power, resources, and decision-making. Kabeer (2015) argued that empowerment ought to be understood as a process that enables individuals, including women, to exercise agency, mobilize resources, and achieve their desired outcomes, including control over financial decisions, freedom of movement, and the ability to assert preferences in household and communal affairs. In developing countries such as the Philippines, women from geographically isolated and disadvantaged areas often lack autonomy due to long-standing socio-cultural and institutional barriers (Bayang et al., 2022). Initiatives such as Self-Help Groups, supplemented with financial literacy training and local government collaboration, strengthen solidarity, share knowledge, and increase bargaining power among women (Deepa & Noronha, 2024; Parikh & Sharma, 2023), suggesting a shift of mindsets, systems, and structures that have historically marginalized their capacities and contributions.

Financial Management Behavior

Financial management is a holistic approach to managing financial resources that integrates financial decisions with strategy, rather than mere daily financial management activities such as budgeting or cash flow (Deakins et al., 2002). Among cooperatives and organizations, practices like credit, budgeting, and dividend management influence performance, though effects vary (Sofoluwe et al., 2024). In the Philippine context, Flores (2025) investigated Filipinos’ financial freedom, revealing pervasive literacy challenges, such as a “come-what-may” attitude and reliance on traditional savings, which may lead to inadequate emergency preparedness and high debt. Such findings emphasize the need for financial education programs to promote financial discipline.

Community-based Social Engagement

Collaboration and engagement are central to community practice; a cooperative spirit is the “very essence of community organization,” along with strategies that emphasize active resident involvement (Ohmer et al., 2022; Vanaja et al., 2024). In the Philippines, major barriers persist, including communication gaps, limited facilities, funding shortages, and poorly trained public servants,

who lack knowledge of effective engagement methods (Arante et al., 2024). As a case in point, a program called the *Kapit-Bisig Laban sa Kahirapan* (Linking Arms Against Poverty)–Comprehensive and Integrated Delivery of Social Services, which aimed to improve welfare in communities with high poverty, was met with criticisms (The Kalahi-CIDSS Project, 2018). Hence, this leads to the disregard of genuine public participation (Bulloch, 2017; Saguin, 2018).

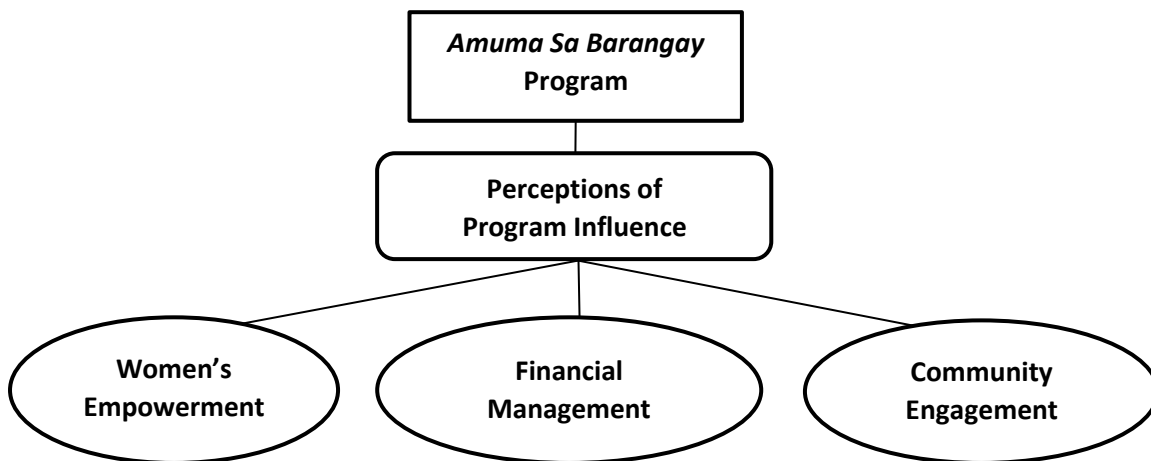
Interlinkages Between Constructs

In programs such as *Amuma Sa Barangay*, women's empowerment, financial management, and community engagement act as a cohesive, unified system, creating a cycle where each aspect strengthens the others to promote meaningful change. As women gain financial skills through local community groups, they gain confidence to manage money and participate in household decisions, while communal solidarity supports financial discipline and bargaining power against sociocultural barriers (Gangadhara & Krishna, 2025; Prasad, 2024). This interconnectedness is particularly evident in rural Asian areas, where combining financial education and training alongside community involvement leads to lasting independence, giving women a powerful voice and better long-term security (Magbanua & Sanchez, 2025; Rao & Devi, 2023).

Conceptual Framework

The study's conceptual framework is shown below in Figure 1.

Figure 1 *Conceptual Framework*



Using this framework, the study aimed to determine members' perceptions of the *Amuma Sa Barangay* program on three issues: (a) women's empowerment, (b) financial management, and (c) community engagement. The women's empowerment construct among participants reflects the confidence and autonomy that participants feel during and/or after program participation. The financial management construct describes improvements in their financial knowledge and literacy. Community-based engagement indicates their social attitudes toward the program through collaboration and active interaction with others. These constructs, as aspects of the members' perceptions of the program's influence, are based on the program's objectives that cater to women's network groups. Collectively, they serve as the foundation for the development and validation of this scale.

Research Objectives

The study aimed to develop and validate a measurement scale that assesses *Amuma Sa Barangay* participants' perceptions of program influence. Specifically, it pursued the following objectives:

1. To explore and confirm the underlying structure of the measurement scale through factor analysis, and

2. To identify the scale's psychometric properties through content and construct validation methods.

Methodology

In this study, a literature-informed sequential exploratory design was adopted, beginning with a qualitative content-validation stage and progressing to quantitative psychometric testing. Field work was carried out in barangays within Region VII where the Department of the Interior and Local Government had launched the *Amuma Sa Barangay* women's savings program. These communities represent the settings in which participant perceptions of empowerment, financial behavior, and engagement are formed.

Following Hair et al.'s guidance that factor analyses should draw no fewer than five respondents per observed variable and that confirmatory analyses require an absolute minimum of 200 cases (Hair et al., 2019; Hair et al., 2010), about 200 participants from barangays across Region VII were surveyed.

The construction of the scale was inductive in nature, and the items were adapted from three previously validated scales authored by Nhleko (2017), Dew and Xiao (2011), and Baldus et al. (2015), each contributing distinct constructs to the instrument. In particular, 18 items, derived from Nhleko's scale, assessed the empowerment of women, focusing on diverse dimensions of women's agency and decision-making capacities. Financial management comprised 12 items, adapted from Dew and Xiao's validated measures of financial behavior, knowledge, and self-efficacy. Community-based engagement consisted of 21 items, based on Baldus et al.'s paper emphasizing participation, leadership, and social influence in community settings. The items, 51 in total, were carefully reviewed for clarity, relevance, and fit within a five-point Likert scale format before adaptation. Revisions were made to ensure cultural and contextual alignment with the participants, while maintaining the original constructs' validity and reliability. This process allowed the integrated questionnaire to comprehensively capture several aspects of women's empowerment, financial management, and community engagement as reflected in the adapted instrument.

Following content validation, the full-scale survey was administered by distributing survey questionnaires to the heads of groups in the participating barangays within Region VII, guaranteeing respondents' privacy. After collecting the responses, they were analyzed through Exploratory Factor Analysis to determine the underlying factor structure, followed by Confirmatory Factor Analysis in AMOS, using Comparative Fit Index (CFI)/Tucker-Lewis Index (TLI) $\geq .90$ and Root Mean Square Error of Approximation/Standardized Root Mean Squared Residual $\leq .08$ as fit cut-offs to validate the model (Hair et al., 2019). Internal consistency was judged by Cronbach's α (acceptable $\geq .70$) and Composite Reliability (Hair et al., 2010), while Average Variance Extracted (AVE $\geq .50$) confirmed convergent validity (Fornell & Larcker, 1981). Using the Hererotrait-Monotrait Ratio (HTMT), discriminant validity was confirmed when the values between constructs were below the recommended threshold of .85, which signified the three constructs as distinct (Henseler et al., 2015).

The APPS was developed by adapting three previously validated scales. Every revision was made for cultural relevance while safeguarding the original constructs' validity and reliability. All procedures observed the Belmont Report principles of beneficence (National Commission for the Protection of Human Subjects, 1979), respect for human dignity, and justice: informed consent was obtained from participants after full disclosure of study aims, procedures, risks, and benefits. Participation was voluntary, no personally identifiable information was collected, and data was stored in secured, password-protected files to maintain privacy and prevent misuse. Proper citation of all source instruments was maintained, and the resulting APPS is credited to the research team.

Research Findings

Content Validity of the Scale for Evaluating Participants' Perception of Amuma

This section reports the content validation of the *Amuma* Participant Perception Scale (APPS). A five-member expert panel reviewed the adapted items for relevance and clarity, and item-level content-validity indices (I-CVI). Fleiss' κ was also calculated to ensure each statement accurately

represented the women's empowerment, financial management behavior, and community-based engagement attributes targeted in *Amuma* participants.

The initial APPS item pool was drawn from three validated instruments and re-worded into first-person Likert statements that referenced *Amuma* participation across the constructs of women's empowerment, financial management behavior, and community-based engagement. A panel of five subject-matter experts (two *Amuma* focal team heads, the DILG regional director, and two DILG facilitators) independently classified each item as "keep," "revise," or "remove," ensuring clear wording, non-redundancy, and accurate construct alignment. Content validity was quantified with item-level CVI and Fleiss' κ , and only items meeting the $I-CVI \geq .78$ and $\kappa \geq .40$ thresholds were retained for the quantitative phase (Cicchetti & Sparrow, 1981; Fleiss, 1981; Polit & Beck, 2006). The results of the scale evaluation process are shown below in Table 1.

Table 1 Experts' Evaluation of the Scale

Items	I-CVI	pc	κ^* (Kappa)	Interpretation	Decision
Women's Empowerment (WE)					
1, 2, 3, 7, 9, 10, 11, 12, 13, 15, 17	1	1	1	Excellent	Keep
4, 14, 16	1	1	1	Excellent	Revise
5, 6, 8	.90	.68	.38	Poor	Remove
<i>Note.</i> Items 4, 14, and 16 were revised because of the comments from the content experts					
Financial Management (FM)					
1, 2, 3, 4	1	1	1	Excellent	Keep
8	1	1	1	Excellent	Revise
7, 9, 10	.80	.68	.38		
5, 11, 12	.60	.52	.17	Poor	Remove
6	.40	.52	-.25		
<i>Note.</i> Item 8 was revised because of comments from the content experts					
Community-based Engagement (CB)					
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20	1	1	1	Excellent	Keep
21	1	1	1	Excellent	Revise
14, 15, 16, 17	.80	.68	.38	Poor	Remove
<i>Note.</i> Item 21 was revised because of comments from the content experts					

Applying the Cicchetti-Sparrow and Fleiss (κ^*) cut-points to the expert-rating results in Table 1, any item with $\kappa^* < .40$ was judged as "Poor" and removed from the pool. Three women empowerment statements (items 5, 6, and 8), seven financial management behavior statements (items 5, 6, 7, 9, 10, 11, and 12), and four community-based engagement statements (items 14, 15, 16, and 17) fell below this threshold, leaving thirty-six items that either met "Excellent" criteria outright or were flagged for minor wording revision. After these deletions and revisions, the working version of APPS retained 14 women empowerment items, five financial management behavior items, and 17 community-based engagement items, indicating solid expert agreement and strong content coverage across the three target constructs.

Construct Validity of the Scale for Evaluating Participants' Perception of Amuma

Construct validity for APPS was demonstrated by linking each item construct through an exploratory factor analysis that revealed a clear three-factor solution, followed by a confirmatory factor analysis that verified this structure; convergent validity was supported by strong loadings and $AVE \geq .50$, and discriminant validity by the Heterotrait-Monotrait Ratio (HTMT) criterion.

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was applied to the APPS item pool to uncover its latent structure: repeated cycles of extraction, varimax rotation, and item pruning were run until each statement

loaded strongly on a single factor and showed minimal cross-loadings, ultimately revealing three coherent constructs.

Principal Axis Factoring (PAF) was used to identify the shared variance among items. This method aims to reveal the core dimension of “*Amuma Sa Barangay*” participant perceptions. PAF, paired with varimax rotation, was used to clarify factor loadings. This combination successfully revealed distinct, theory-based perception factors (Costello & Osborne, 2005; Kaiser, 1958).

The results after 22 EFA iterations revealed a Kaiser-Meyer-Olkin (KMO) value of .870, which was above the recommended threshold of .80. This indicates that the variables shared sufficient common variance, a prerequisite for factor analysis (Hair et al., 2019). Meanwhile, Bartlett’s test of sphericity yielded a p -value of $< .001$, indicating that the correlation matrix was not an identity matrix. This supported the decision to proceed with factor analysis (Hair et al., 2019).

Table 2 KMO and Bartlett’s Test Results

Iteration	KMO	Bartlett’s χ^2	df	p-value
Baseline	.909	6103.809	630	$< .001$
Final	.870	1680.986	91	$< .001$

Table 3 presents the iterations during the Exploratory Factor Analysis (EFA) process based on the best-practice guidelines recommended by Stevens (1992). Items with factor loadings below .40 and cross-loadings with differences below .20 were removed. The EFA also followed the repetition after each deletion cycle to refine the structure (Worthington & Whittaker, 2006). Therefore, EFA resulted in removing 22 items (e.g., WE11, WE4, WE14, etc.), which yielded three factors with all remaining items loading above .40 and without cross-loadings.

Table 3 Exploratory Factor Analysis

Iteration	Modification	# of Factors	Key Observation
Baseline	Baseline (post-Fleiss Kappa)	7	Several items loading $< .40$ (WE4 & WE11); Several items cross-loadings with differences of < 0.20 (CB17, CB15, CB7, CB8, CB5, CB14, WE13, & WE7)
Final	Removed items WE11, WE4, WE14, CB14, CB9, CB4, CB6, WE10, CB15, WE12, WE8, WE1, CB8, CB7, CB3, WE2, FM1, WE9, CB1, CB2, FM5, & WE13 consecutively.	3	Resolved cross-loadings with differences that were $< .20$; all items loaded $> .40$

Following the removal of several items during content validation and factor analysis, the remaining items were reorganized and renumbered in ascending order to maintain a clear and logical sequence. This restructuring was undertaken to simplify the presentation of the instrument, enhance readability, and reduce potential confusion for respondents. Reordering the items did not alter the substantive content or meaning of the constructs; rather, it ensured a more coherent flow of questions and improved the overall usability of the scale for data collection.

Table 4 presents the communalities for the 14 items generated after EFA. The communalities of each item indicate the proportion of variance explained by the extracted factors. All values in the extraction column surpassed the .20 threshold for item retention in factor analysis (Samuels, 2017).

Table 5 presents the total variance explained, highlighting that three factors with eigenvalues greater than one accounted for 66.612% of the total variance; this exceeded the recommended 50% threshold for a stable factor solution (Field, 2013; Samuels, 2017). Extraction was performed using Principal Axis Factoring with varimax rotation to enhance interpretability (Costello & Osborne, 2005). These results confirm the adequacy of the three-factor structure in capturing participants’ perceptions of “*Amuma Sa Barangay*” and provide a strong foundation for further analysis.

Table 4 *Communalities of the 14 Items*

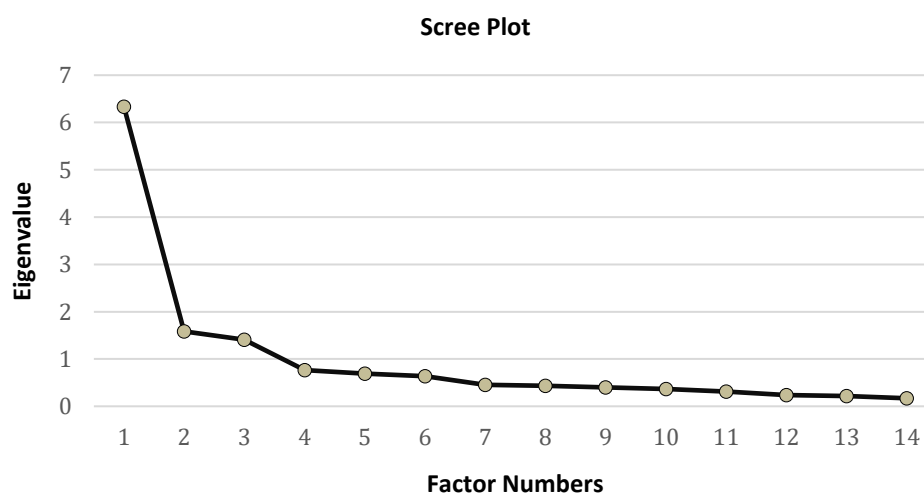
Items	Extraction	Items	Extraction
WE1	.513	CB1	.612
WE2	.625	CB2	.636
WE3	.676	CB3	.601
WE4	.319	CB4	.599
FM1	.582	CB5	.435
FM2	.714	CB6	.344
FM3	.770	CB7	.771

Table 5 *Total Variance Explained in the Exploratory Factor Analysis*

TOTAL VARIANCE EXPLAINED									
Initial Eigenvalues				Extraction Sums of Squared Loadings			Rotations Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.335	45.252	45.252	5.940	42.430	42.430	3.699	26.418	26.418
2	1.582	11.300	56.552	1.184	8.456	50.886	2.259	16.135	42.553
3	1.408	10.060	66.612	1.072	7.657	58.543	2.239	15.990	58.543
4	.762	5.446	72.058						

The rotated sums of squared loadings further supported the generated three-factor structure, showing that each retained factor contributed meaningfully to the cumulative explained variance. Specifically, Factor 1 accounted for 26.42%, Factor 2 for 16.14%, and Factor 3 for 15.99%, totaling 58.543% of the total variance. This redistribution of variance after rotation suggested that the underlying constructs were more distinct and interpretable, a key advantage of using orthogonal rotation methods such as Varimax (Tabachnick & Fidell, 2019). There was a steep drop in eigenvalues after the third factor, which supported the factor retention decision, aligning with the scree plot criteria and further validating the dimensional structure of the instrument.

Figure 2 presents the scree plot, with factor numbers on the x-axis and eigenvalues on the y-axis. According to Costello and Osborne (2005), factors are retained by identifying the point just before the curve levels off. In this case, the inflection occurs at Factor 3, indicating that three factors were retained in the final analysis.

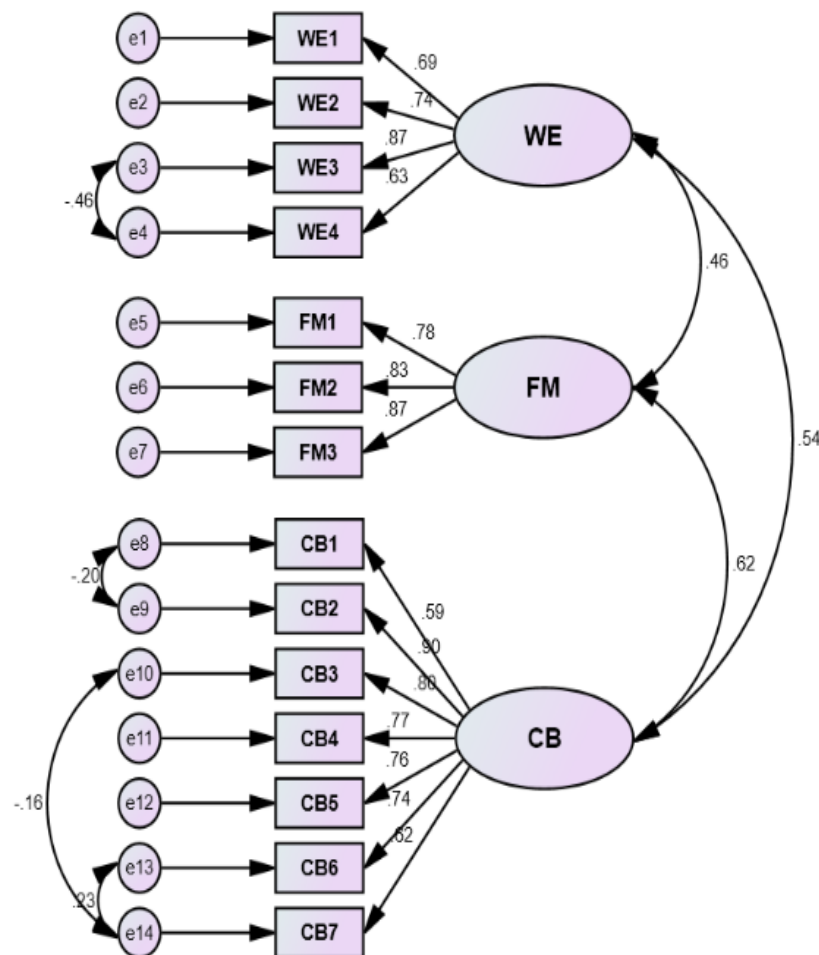
Figure 2 *Scree Plot*

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a hypothesis-driven technique used to evaluate whether observed variables align with a predefined factor structure based on theory or prior research (Campbell & Fiske, 1959; Jöreskog, 1969). In CFA, researchers specify in advance which items load onto which latent constructs and then assess model fit using indices such as CFI, TLI, RMSEA, and SRMR (Kline, 2010; Schermelleh-Engel et al., 2003). This approach allows for rigorous testing of construct validity by confirming that the measurement model accurately represents the relationships between indicators and their underlying factors, making CFA an essential step in validating this scale for evaluating participants' perception of *Amuma*.

Figure 3 illustrates the Confirmatory Factor Analysis (CFA) model of the study, showing the relationships among the three latent constructs and their corresponding observed indicators. This final model was developed to assess the strength, structure, and validity of the interrelationships, ensuring their conceptual coherence and empirical support.

Figure 3 Path Diagram



The Women's Empowerment factor comprised four indicators, with standardized loadings ranging from .69 to .87, signifying strong correlations between the items and the underlying construct (Hair et al., 2010). For the Financial Management construct, all indicators demonstrated strong loadings above .78; the Community-Based Engagement construct exhibited loadings ranging from .52 to .90. CB2 showed a strong relationship with this construct, whereas CB7 reflected a more moderate association.

Relationships among the latent constructs revealed significant estimates; Financial Management was strongly associated with Community-Based Engagement (.62). Women's Empowerment was

moderately related to Financial Management (.46), while it had an above-moderate relationship with Community-Based Engagement (.54).

To improve model fit, covariances were added between selected indicators. WE3 and WE4 were covaried due to their shared focus on the training programs aimed at empowering participants. CB1 and CB2 were covaried as both related to participants' willingness to collaborate and engage in shared experiences and questions. CB3 and CB7 were covaried because both reflected the purpose of *Amuma Sa Barangay*. Similarly, CB6 and CB7 were covaried due to their overlapping focus on spreading financial literacy and supporting community engagement. Overall, the model demonstrated good construct validity and internal consistency, providing a theoretically sound and empirically supported structure for measuring participants' perceptions of the program.

Table 6 summarizes the confirmatory factor analysis fit indices for APPS. The baseline model already approached acceptable criteria, but after minor error-covariance adjustments, the final model exceeded all conventional thresholds. CFI and TLI rose above the $\geq .90$ benchmark, RMSEA fell below the $\leq .08$ limit (.077), SRMR remained low at .051, and the χ^2/df ratio improved from 2.620 to 2.295. Together, these results indicated that the constructs' structure provides a satisfactory representation of the observed data.

Table 6 Model Data Fit Indices Results

Model Fit Indices	Proposed Threshold Value	Baseline Model	Final Model
CFI	>.90	.927	.944
TLI	>.90	.910	.928
RMSEA	<.08	.086	.077
SRMR	$\leq .08$	.059	.051
Chi-square/df Ratio	<3	2.620	2.295

Table 7 presents the evidence for convergent validity and internal consistency of the APPS. For each construct, it lists the standardized factor loadings of the retained items alongside the construct-level Composite Reliability (CR) and Average Variance Extracted (AVE). The standardized factor loadings are values that show how strongly each statement reflects its underlying factor. According to Hair et al. (2018), loadings of at least .50 and CR values of .70 or higher indicate that items cohere well and the factor is measured reliably, while an AVE of .50 or more confirms that each construct explains at least half of the variance in its indicators, satisfying the convergent-validity criterion first proposed by Fornell and Larcker (1981).

Table 7 Convergent and Internal Consistency Results of the Scale

Constructs	Item	Standardized Factor Loading	Composite Reliability	Average Variance Explained
Women's Empowerment (WE)	WE1	.687	.826	.558
	WE2	.743		
	WE3	.873		
	WE4	.633		
Financial Management (FM)	FM1	.775	.865	.681
	FM2	.826		
	FM3	.872		
Community-Based Engagement (CB)	CB1	.590	.897	.558
	CB2	.896		
	CB3	.802		
	CB4	.773		
	CB5	.764		
	CB6	.742		
	CB7	.616		

The table shows that all retained items loaded strongly onto their intended factors, each construct's composite reliability exceeded the .70 benchmark for internal consistency, and every average variance extracted (AVE) value was above the .50 threshold, confirming that the three APPS constructs were measured both reliably and with satisfactory convergent validity.

Table 8 presents the Heterotrait-Monotrait (HTMT) ratio matrix for the APPS constructs, conducted via R software. HTMT compares the average correlations between items of different constructs with the average correlations between items of the same construct. Discriminant validity is supported when every HTMT value is below the recommended ceiling, indicating that each factor is empirically distinct from the others (Henseler et al., 2015).

Table 8 Discriminant Validity Results

Variable	WE	FM	CB
WE	1	.581	.588
FM	.581	1	.495
CB	.588	.495	1

The table reports the Heterotrait-Monotrait (HTMT) ratios among the three APPS constructs. Each off-diagonal value is well below the recommended .85 ceiling, demonstrating that the constructs were empirically distinct and satisfied discriminant validity requirements.

Reliability Testing

Reliability reflects the consistency of scores derived from an instrument and can be estimated in several ways (DeVellis et al., 2021). Because reliability underpins validity, Cronbach's alpha was computed for each construct and for the overall APPS to gauge internal consistency (Biasutti & Frate, 2017). The reliability coefficient ranges between 0 and 1, with values nearer 1 denoting good or high reliability, as Table 9 illustrates.

Table 9 Reliability (Internal Consistency) Results

Construct	Cronbach's Alpha	Interpretation
Women Empowerment	.798	Acceptable
Financial Management	.860	Good
Community-Based Engagement	.893	Good
Overall Reliability	.903	Excellent

The Cronbach alpha values in Table 9 demonstrated that the overall scale of the instrument was excellent. George and Mallery (2003) defined alpha values as excellent (greater than .90), good (.80-.89), acceptable (.70-.79), questionable (.60-.69), poor (.50-.59), and unacceptable (less than .50). The interpretations suggested that the measurement instrument demonstrates solid reliability across its constructs. The Women's Empowerment construct showed acceptable internal consistency, indicating that the items were sufficiently correlated and consistently measured the intended construct. The Financial Management and Community-Based Engagement constructs exhibited good internal consistency, reflecting strong alignment among items and reliable measurement of financial management and social behaviors. Overall, the instrument showed excellent reliability, supporting its use as a dependable tool for measuring all constructs.

Discussion

The study began with the content validity of the *Amuma Sa Barangay* Participant's Perception Scale (APPS), which was established through review by a five-member expert panel. Items were evaluated for relevance, clarity, and alignment with the constructs of women's empowerment, financial management behavior, and community-based engagement. Statements with I-CVI $\geq$.78 and $\kappa \geq$.40 were retained, while those falling below were either revised or removed. Following this process, the

scale was refined to 36 items—14 for women empowerment, five for financial management, and 17 for community-based engagement. These statements demonstrated strong expert agreement and comprehensive coverage of the constructs.

The 36 items, after conducting EFA, were reduced to 14 due to having been loaded in more than one factor or failing to meet the threshold value of .40 for factor loadings. The roster of 14 items consisted of four from Women's Empowerment, three from Financial Management, and seven from Community-Based Engagement. These items were then subjected to CFA, a process that confirmed their factor structure.

As evidenced in the path diagram for CFA, strong associations among the three latent constructs were observed, particularly between Financial Management and Community-Based Engagement and between Women's Empowerment and Community-Based Engagement. This confirmed that financial management has a direct impact on community involvement among women beneficiaries. FM2 and FM3 showed the highest communalities, with standardized loadings exceeding .80 in the CFA path diagram. This supported the strong influence of financial management practices on the respondents' perception of the program. Similarly, CB2 had the highest communality and loading, which signified that interactions between members and the community were central to their experiences.

The constructs measured by the *Amuma Sa Barangay* Participant's Perception Scale (APPS) were meaningfully related to program effectiveness and aligned directly with the objectives of the Department of the Interior and Local Government - Region 7 in creating the program. The scale captured how Women's Empowerment, Financial Management, and Community-Based Engagement reflected the program's goals of enhancing women's participation, improving household financial practices, and fostering community involvement. Strong associations among the constructs, such as the influence of financial management on community engagement, demonstrated their relevance to the intended outcomes of the program. By assessing these participant characteristics on a yearly cycle, the APPS provides a structured mechanism to monitor and evaluate program effectiveness over time, ensuring that participant experiences accurately reflect the impact of the program's initiatives at the barangay level.

Implications and Contributions

This study was beneficial to the local communities by assessing across three dimensions the effectiveness of the implementation of a financial savings group for women. In this way, effectiveness is determined by subjective means aided by methodological procedures such as content validation, EFA, and CFA. Thus, the APPS scale raises awareness of this initiative for women's empowerment, allowing women to achieve financial management and freedom in the process. Therefore, this initiative is seen to have a positive effect on its beneficiaries. The efficient dissemination of the scale by the leaders to their members indicates a strong sense of cooperation among the participants.

Limitations and Suggestions for Future Research

Despite the acceptable values rendered by the scale, some limitations were noted. First, some responses were in uniformly high agreement across items, suggesting possible limited item scanning during data collection. Second, although validation was already conducted, the exact perspectives of beneficiaries have not been extracted. This is understandable, given the occurrence of constraints related to time and distance. Thus, future studies are encouraged to integrate qualitative approaches to capture insightful opinions. Finally, long-term application of the APPS would be valuable for understanding how women's empowerment evolves after prolonged involvement in the program. First-hand exposure to the project, such as attending group meetings, is recommended for future researchers as a way of acquiring depth regarding the study and its implications.

Author Contributions

Sether Josh Marfa: Conceptualization, software, data curation, formal analysis, methodology, project administration, writing—original draft; **John Ezekiel Tumulak:** Conceptualization, data curation,

formal analysis, investigation, methodology, project administration, resources, supervision, validation, writing—original draft, writing—review & editing; **Remy Jane Saysis** Conceptualization, data curation, investigation, methodology, resources, visualization, writing—original draft, writing—review & editing; **Angel Marie Napuli**: Resources, writing—original draft, writing—review & editing, validation, investigation, data curation.

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