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Client satisfaction, service quality, and health outcomes among community recipients of a nursing college massage therapy extension project

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Abstract

Aim: Community-based massage therapy extension programs in Philippine higher education institutions lack empirical evidence on user-centered outcomes. This study examined the perceived outcomes of the BulSU College of Nursing Skills Training for Massage Therapy NC II Extension Project by assessing client satisfaction, perceived service quality, and perceived health and wellness outcomes among community service recipients, and determining whether significant relationships existed between demographic profile and the three outcome variables.

Methods: A descriptive-correlational quantitative design was employed. All 52 eligible community service recipients from San Jose del Monte, Bulacan participated in the study using a researcher-developed 45-item questionnaire adapted from five validated instruments. Data were analyzed using means, standard deviations, Spearman rho, Mann-Whitney U test, and Kruskal-Wallis H test at $\alpha = .05$.

Results: Client satisfaction was rated "Very Satisfied" ($M = 3.40$, $SD = 0.42$), perceived service quality was rated "High Quality" ($M = 3.24$, $SD = 0.41$), and perceived health and wellness outcomes were rated "High" ($M = 3.12$, $SD = 0.41$). The number of sessions availed was the only demographic factor significantly associated with client satisfaction ($\rho = .474$, $p < .001$) and perceived service quality ($\rho = .483$, $p < .001$) after Bonferroni correction (adjusted $\alpha = .008$). The association with perceived health and wellness outcomes ($\rho = .298$, $p = .032$) was significant at the unadjusted level but did not survive Bonferroni correction. No significant associations were found for age, sex, civil status, educational attainment, or income.

Conclusion: The massage therapy extension project was associated with favorable perceived outcomes among community recipients, particularly in client satisfaction and perceived service quality. Repeated engagement with the service was significantly associated with more favorable evaluations of satisfaction and service quality, with a weaker association observed for health and wellness outcomes.

Keywords: *massage therapy, extension program, client satisfaction, service quality, health outcomes, community health*

INTRODUCTION

Globally, traditional and complementary medicine is utilized in 170 of 194 WHO member states, with demand projected to rise from USD 213.81 billion in 2025 to USD 359.37 billion by 2032 (WHO, 2025). Massage therapy, one of the most widely practiced complementary modalities, has accumulated a growing evidence base supporting its effectiveness in reducing pain, alleviating anxiety, and improving health-related quality of life (Mak et al., 2024; Furlan et al., 2015). The WHO Global Traditional Medicine Strategy 2025–2034, adopted by the Seventy-eighth World Health Assembly, sets strategic objectives for strengthening evidence, ensuring regulation, and integrating traditional medicine into health systems (WHO, 2025). Despite this momentum, less than one percent of global health research funding is dedicated to traditional medicine (WHO, 2025), underscoring the urgency of generating locally grounded empirical evidence on community-based complementary health services.

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In the Philippines, massage therapy — particularly its indigenous form, *hilot* — occupies a culturally significant position in health-seeking behavior. The Technical Education and Skills Development Authority (TESDA) has recognized *hilot* through the Hilot (Wellness Massage) National Certificate II (NC II) qualification, a 120-hour training program equipping individuals with standardized massage therapy competencies (TESDA, 2008). This recognition has enabled higher education institutions (HEIs) to integrate massage therapy training into community extension programs, consistent with CHED Memorandum Order No. 52, Series of 2016. At the Bulacan State University (BulSU) College of Nursing, the Skills Training for Massage Therapy NC II Extension Project provides TESDA-aligned training to Bantay Kalusugang Pampamayanan (BKP), community-based health volunteer workers organized at the barangay level, and Pantawid Pamilyang Pilipino Program (4Ps), the national conditional cash transfer program for low-income households. Trained beneficiaries in San Jose del Monte, Bulacan subsequently render free massage therapy services during Sambalaran, the university's community extension outreach activity, and other extension events.

A broader gap exists in Philippine extension service literature. Most HEI extension evaluations rely on activity-based metrics — attendance, outputs, and completion rates — with limited attention to user-centered community-level impact (Angco, 2026; Corpuz et al., 2022). In massage therapy specifically, existing Philippine studies have primarily employed qualitative, cultural, or phenomenological perspectives (Rondilla et al., 2021; Cerio, 2020; Lasco et al., 2025), while quantitative assessments of client satisfaction, perceived service quality, and health outcomes among community beneficiaries of HEI-based massage therapy extension programs remain virtually absent.

Unlike previous Philippine studies that assessed massage therapy through qualitative or cultural lenses (Rondilla et al., 2021; Cerio, 2020; Lasco et al., 2025) and HEI extension evaluations that relied on activity-based output metrics (Angco, 2026; Corpuz et al., 2022), this study is among the first to apply a quantitative, user-centered outcome evaluation integrating client satisfaction, perceived service quality, and perceived health and wellness outcomes within a single community-based nursing extension program. The study contributes to community health nursing by generating empirical evidence on the perceived impact of a nursing college extension service — an area where program evaluation has remained largely process-oriented rather than outcome-oriented. Specifically, this study examined the perceived outcomes of the BulSU College of Nursing Massage Therapy NC II Extension Project by assessing client satisfaction, perceived service quality, and perceived health and wellness outcomes among community service recipients, and determining whether significant relationships existed between demographic profile and the three outcome variables.

Review of Related Literature and Studies

The evidence base on massage therapy has expanded considerably, yet gaps persist in community-based contexts. Mak et al. (2024) conducted a systematic review of 129 systematic reviews on massage therapy for pain in adults (2018–2023) published in JAMA Network Open; most conclusions carried low or very low certainty of evidence, with only seven rated as moderate certainty, all indicating beneficial associations between massage and pain outcomes. The Cochrane review by Furlan et al. (2015), synthesizing 25 randomized controlled trials involving 3,096 participants with low back pain, found short-term improvements in pain and function compared to inactive controls, though evidence quality was limited by performance and measurement bias. Collectively, these reviews demonstrate that while massage therapy shows therapeutic promise, the field relies heavily on clinical trial designs and pain-specific endpoints, with minimal attention to client-reported satisfaction, perceived service quality, and broader health outcomes — particularly within non-clinical, community-based delivery models such as HEI extension programs.

Beyond the massage therapy literature, recent evidence on community nursing interventions and patient-reported outcome measurement provides relevant context. Yata et al. (2025), in their systematic review of 17 studies across diverse countries, found that community nursing interventions — including nurse-led health assessments, self-management support, and care coordination in non-hospital settings — were associated with enhanced patient satisfaction, improved self-efficacy, and reduced emergency department utilization. However, the review noted persistent methodological heterogeneity and reliance on self-reported outcome measures with variable validation, underscoring the need for rigorously developed instruments in community nursing outcome evaluation. In complementary health specifically, Taylor et al. (2024) documented the challenges of measuring patient-reported outcomes for complementary and integrative health therapies, identifying complications arising from varied delivery formats, unclear dosing requirements, and the breadth of potential health and well-being outcomes. Their development of a multi-domain patient experience survey capturing pain, mental health, physical health, and quality

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of life outcomes provides methodological precedent for the present study's integration of satisfaction, service quality, and health outcome measurement within a single community-based complementary health program.

The theoretical literature further supports multidimensional program evaluation. Oliver's (1980) Expectancy Disconfirmation Theory (EDT) posits that satisfaction results from comparing pre-existing expectations against perceived performance, where positive disconfirmation leads to satisfaction. Zhang et al. (2022), in their meta-analysis in Public Administration Review, confirmed the expectancy-disconfirmation model as the predominant approach for explaining citizen satisfaction with public services. Complementing this, Donabedian's (1966, 1988) Structure-Process-Outcome model provides a systematic framework for evaluating healthcare quality by linking organizational inputs to service delivery processes and health outcomes. De Rosis et al. (2024) advanced this framework by integrating Patient-Reported Outcome Measures (PROMs) and Patient-Reported Experience Measures (PREMs), arguing that patient-centeredness must be operationalized at the macro level of quality measurement. Despite these well-established foundations, their combined application to community-based massage therapy extension programs in Philippine HEIs remains absent. The present study addresses this gap by providing the first quantitative, user-centered outcome evaluation of an HEI-based massage therapy extension program integrating client satisfaction, perceived service quality, and perceived health and wellness outcomes within a single measurement framework anchored in EDT and the Donabedian model.

Theoretical Framework

This study was anchored on two complementary frameworks: the Expectancy Disconfirmation Theory (EDT) by Oliver (1980) and the Donabedian Structure-Process-Outcome Model (Donabedian, 1966, 1988). The EDT posits that satisfaction is a cognitive evaluation resulting from comparing pre-existing expectations against perceived performance; when perceived performance exceeds expectations (positive disconfirmation), satisfaction increases (Oliver, 1980, 2010). This theory underpins the measurement of client satisfaction, as recipients evaluated the massage therapy services based on subjective judgments of service accessibility, therapist competence, and overall satisfaction. The EDT also accounts for variability across individuals with different demographic characteristics, aligning with the study's correlational objective.

The Donabedian Model posits that quality of care can be assessed through three interrelated domains — structure, process, and outcome — with the assumption that good structure increases the likelihood of good process, which in turn increases the likelihood of good outcomes (Donabedian, 1988). In this study, structure corresponds to the TESDA-aligned training and extension infrastructure; process corresponds to service delivery assessed through perceived service quality (perceived effectiveness, comfort and safety, willingness to recommend); and outcome corresponds to perceived health and wellness outcomes (pain relief, daily functioning improvement, overall well-being).

Together, the EDT explains the psychological mechanism through which recipients form satisfaction judgments, while the Donabedian Model organizes the three main variables along a quality chain — from client satisfaction (structure-process interface) to perceived service quality (process) to perceived health and wellness outcomes (outcome). Their complementary use ensures the study captures both cognitive-evaluative processes and the healthcare quality pathway linking program delivery to community-level impact.

Figure 1 presents the conceptual framework of the study. The diagram illustrates the relationships between the independent variable (demographic profile: age, sex, civil status, highest educational attainment, household monthly income, and number of sessions availed) and the three dependent variables (client satisfaction, perceived service quality, and perceived health and wellness outcomes). The Expectancy Disconfirmation Theory anchors the measurement of client satisfaction as a cognitive evaluation of perceived performance against expectations, while the Donabedian Structure-Process-Outcome Model organizes the dependent variables along a quality evaluation chain: client satisfaction at the structure-process interface, perceived service quality at the process level, and perceived health and wellness outcomes at the outcome level.

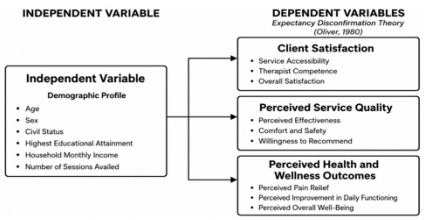

Figure 1. Conceptual Framework of the study

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Statement of the Problem

Massage therapy in the Philippines is culturally embedded and institutionalized through TESDA's Hilot (Wellness Massage) NC II qualification, which enables HEIs to integrate massage therapy training into community extension programs (TESDA, 2008; CHED Memorandum Order No. 52, Series of 2016). Despite this infrastructure, evidence on user-centered outcomes of HEI massage therapy extension projects is scarce. Philippine HEI extension evaluations have leaned on activity-based metrics rather than community-level impact (Angco, 2026; Corpuz et al., 2022), and Philippine massage therapy research has been largely qualitative (Rondilla et al., 2021; Cerio, 2020; Lasco et al., 2025), leaving quantitative beneficiary-centered assessments largely absent.

The BulSU College of Nursing Massage Therapy NC II Extension Project provides free services to Bantay Kalusugang Pampamayanan (BKP) and Pantawid Pamilyang Pilipino Program (4Ps) beneficiaries in San Jose del Monte, Bulacan, but its perceived outcomes have not been documented. This study addressed that gap by examining client satisfaction, perceived service quality, and perceived health and wellness outcomes among service recipients, and by determining whether these outcomes varied across demographic profile — generating Philippine empirical data aligned with the WHO Global Traditional Medicine Strategy 2025–2034 (WHO, 2025).

Objectives

This study assessed the impact of the Skills Training for Massage Therapy NC II Extension Project of the BulSU College of Nursing by examining client satisfaction, perceived service quality, and perceived health and wellness outcomes among community service recipients in San Jose del Monte, Bulacan. Specifically, it sought to: (1) describe the demographic profile of the respondents; (2) determine the level of client satisfaction in terms of service accessibility, therapist competence, and overall satisfaction; (3) evaluate perceived service quality in terms of perceived effectiveness, comfort and safety, and willingness to recommend; (4) assess perceived health and wellness outcomes in terms of perceived pain relief, perceived improvement in daily functioning, and perceived overall well-being; and (5–7) determine whether significant relationships existed between demographic profile and each of the three outcome variables.

Research Questions

This study sought to answer the following research questions:

1. What is the demographic profile of the community service recipients in terms of age, sex, civil status, highest educational attainment, household monthly income, and number of sessions availed?
2. What is the level of client satisfaction with the massage therapy extension services in terms of: 2.1 service accessibility; 2.2 therapist competence; and 2.3 overall satisfaction?
3. What is the level of perceived service quality of the massage therapy extension services in terms of: 3.1 perceived effectiveness; 3.2 comfort and safety; and 3.3 willingness to recommend?
4. What is the level of perceived health and wellness outcomes from the massage therapy extension services in terms of: 4.1 perceived pain relief; 4.2 perceived improvement in daily functioning; and 4.3 perceived overall well-being?
5. Is there a significant relationship between the respondents' demographic profile and their level of client satisfaction with the massage therapy extension services?
6. Is there a significant relationship between the respondents' demographic profile and their level of perceived service quality of the massage therapy extension services?
7. Is there a significant relationship between the respondents' demographic profile and their level of perceived health and wellness outcomes from the massage therapy extension services?

All hypotheses were tested at a 0.05 level of significance.

Ho_1: There is no significant relationship between the respondents' demographic profile and their level of client satisfaction with the massage therapy extension services.

Ho_2: There is no significant relationship between the respondents' demographic profile and their level of perceived service quality of the massage therapy extension services.

Ho_3: There is no significant relationship between the respondents' demographic profile and their level of perceived health and wellness outcomes from the massage therapy extension services.

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METHODS

Research Design

This study employed a descriptive-correlational quantitative research design. The descriptive component characterized the demographic profile of community service recipients and determined their levels of client satisfaction, perceived service quality, and perceived health and wellness outcomes. The correlational component examined whether significant relationships existed between respondents' demographic profile and the three outcome variables. This design was appropriate because the extension services had already been delivered prior to data collection, requiring retrospective assessment of perceived impact rather than experimental manipulation (Polit & Beck, 2021; Siedlecki, 2020). Data were collected at a single point in time using a structured survey questionnaire, consistent with the cross-sectional nature of descriptive-correlational studies (Creswell & Creswell, 2023).

This design is appropriate for evaluating community-based nursing extension service outcomes by capturing beneficiary-reported assessments of satisfaction, service quality, and health outcomes — patient-reported indicators central to healthcare quality evaluation (Donabedian, 1988; De Rosis et al., 2024).

Population and Sampling

The respondents were community service recipients who availed of free massage therapy services provided by trainees of the BulSU College of Nursing Massage Therapy NC II Extension Project during Sambalaran (the university's community extension outreach activity) and other extension activities in San Jose del Monte, Bulacan. The target population comprised approximately 50 to 60 community members. Inclusion criteria required that respondents were: (a) residents of San Jose del Monte, Bulacan; (b) recipients of at least one massage therapy session from extension project trainees; and (c) at least 18 years of age. Excluded were program trainees, facilitators, or implementers, and individuals unable or unwilling to provide informed consent.

Given the small, well-defined population, total enumeration was employed rather than probability sampling. Applying sampling techniques to fewer than 60 individuals would yield a computed sample size nearly equivalent to the total population, rendering sampling impractical (Polit & Beck, 2021; Creswell & Creswell, 2023). Of the approximately 60 community members in the target population, 52 met the inclusion criteria and consented to participate, yielding a response rate of approximately 86.7%. The remaining individuals were either unreachable during the data collection period or did not meet the inclusion criteria.

Instruments

A researcher-developed 45-item questionnaire measured three variables: client satisfaction, perceived service quality, and perceived health and wellness outcomes. Since no single existing instrument captured all three constructs within a community-based extension massage therapy context, items were adapted and integrated from five validated instruments.

The SERVQUAL Model (Parasuraman et al., 1988), a gap-based service quality measurement framework comparing expectations against perceptions, and the SERVPERF Model (Cronin & Taylor, 1992), a performance-only alternative that measures perceived service quality directly, informed the construction of service accessibility, therapist competence, perceived effectiveness, and comfort and safety items. The performance-only approach of SERVPERF was adopted as more appropriate for community respondents who may not have had clearly formed prior expectations of a free extension service. The Client Satisfaction Questionnaire-8 (CSQ-8; Attkisson & Zwick, 1982), with reported Cronbach's alpha of .93, informed the overall satisfaction and willingness to recommend items. The WHOQOL-BREF (WHO, 1998), validated in Philippine populations with alpha values of .66 to .84 across domains (Skevington et al., 2004), informed the perceived improvement in daily functioning and perceived overall well-being items. The Patient Global Impression of Change (PGIC; Hurst & Bolton, 2004) framework informed the perceived pain relief items, expanded from a single-item format into five items.

The final instrument consisted of four parts: Part I — demographic profile (6 items); Part II — client satisfaction across service accessibility, therapist competence, and overall satisfaction (15 items); Part III — perceived service quality across perceived effectiveness, comfort and safety, and willingness to recommend (15 items); and Part IV — perceived health and wellness outcomes across perceived pain relief, perceived improvement in daily functioning, and perceived overall well-being (15 items). All 45 Likert-scale items used a 4-point scale (4 = Strongly Agree, 1 = Strongly Disagree) to eliminate neutral responses. Mean scores were interpreted using four equal intervals of 0.75 derived from the scale range. For client satisfaction: 3.26–4.00 = Very Satisfied, 2.51–3.25 = Satisfied, 1.76–2.50 = Dissatisfied, 1.00–1.75 = Very Dissatisfied. For perceived service quality: 3.26–4.00 = Very

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High Quality, 2.51–3.25 = High Quality, 1.76–2.50 = Low Quality, 1.00–1.75 = Very Low Quality. For perceived health and wellness outcomes: 3.26–4.00 = Very High, 2.51–3.25 = High, 1.76–2.50 = Low, 1.00–1.75 = Very Low.

Content validation was conducted by a panel of three experts in community health nursing, extension program management, and research methodology. Validators independently evaluated each item for clarity, relevance, representativeness, and contextual appropriateness; items receiving critical feedback were revised iteratively until all three validators approved the final pool (Polit & Beck, 2021). The validated questionnaire was translated into Filipino and back-translated into English by an independent bilingual translator to verify semantic equivalence.

Internal consistency was assessed using Cronbach's alpha (N = 52). At the subscale level, alpha coefficients ranged from .800 (perceived improvement in daily functioning) to .891 (overall satisfaction), all exceeding the .70 threshold (Polit & Beck, 2021). At the main variable level: client satisfaction (15 items), $\alpha = .906$; perceived service quality (15 items), $\alpha = .880$; perceived health and wellness outcomes (15 items), $\alpha = .874$. The total instrument (45 items) yielded $\alpha = .953$. Corrected item-total correlations ranged from .42 to .89, with no item falling below .30 (Field, 2024).

Data Collection

Approval was secured from the Dean of the BulSU College of Nursing, the Director of Extension Services, and barangay officials of the target communities. Following ethics clearance (see Ethical Considerations), the researcher personally administered the questionnaires during scheduled community visits coordinated with barangay officials and BKP leaders. Each respondent was briefed on the study's purpose, signed a written informed consent, and completed the questionnaire in approximately 10 to 15 minutes. Data collection was conducted from March 2 to March 21, 2026, a period of approximately three weeks.

Treatment of Data

All data were analyzed using IBM SPSS Statistics (SPSS). Frequency counts and percentages summarized demographic data (RQ1). Means and standard deviations were computed per sub-variable and main variable, interpreted using the 4-point Likert scoring guide (RQ2–RQ4). For the correlational analyses (RQ5–RQ7), normality was assessed using the Shapiro-Wilk test, with skewness and kurtosis values evaluated against the ±2.0 range (George & Mallery, 2020). Based on normality results and measurement levels of demographic variables, the following non-parametric tests were employed: Spearman rank-order correlation for ordinal and continuous variables (age, educational attainment, household income, number of sessions), Mann-Whitney U test with rank-biserial correlation for the dichotomous variable (sex), and Kruskal-Wallis H test for the polytomous nominal variable (civil status) (Field, 2024; Polit & Beck, 2021). All tests were evaluated at $\alpha = .05$. Because six demographic variables were tested against each outcome variable, Bonferroni correction was applied to control the familywise error rate, yielding an adjusted significance threshold of $\alpha = .008$ per variable. Effect size magnitudes for correlation coefficients were interpreted using Cohen's (1988) conventions: small ($\rho = .10$), medium ($\rho = .30$), and large ($\rho = .50$). For the rank-biserial correlation (r_{rb}), the same thresholds were applied. For epsilon-squared (ε^2), benchmarks of .01 (small), .06 (medium), and .14 (large) were used (Cohen, 1988).

Ethical Considerations

This study adhered to the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) and the PHREB National Ethical Guidelines for Research Involving Human Participants (PHREB, 2022). Ethics clearance was obtained from the BulSU ERC prior to data collection. Informed consent forms in Filipino explained the study's purpose, procedures, risks, benefits, and right to withdraw without penalty. Participation was voluntary with no coercion. Confidentiality was ensured by assigning numerical codes in lieu of names and securing data access exclusively to the researcher, in compliance with the Data Privacy Act of 2012 (Republic Act No. 10173). The study posed no foreseeable harm, as it involved only a self-administered questionnaire. All eligible recipients were given equal opportunity to participate regardless of demographic characteristics. Data will be retained consistent with institutional and PHREB policies before proper disposal.

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RESULTS and DISCUSSION

This section presents findings organized by research question. All analyses were conducted using SPSS at α = .05. The study sample comprised 52 community service recipients with no missing data.

Table 1.

Frequency and Percentage Distribution of Respondents According to Demographic Profile

Demographic Variable	Category	*f*	%
Age			
	18–25	5	9.6
	26–35	11	21.2
	36–45	18	34.5
	46–55	11	21.2
	56–65	7	13.5
Sex			
	Male	12	23.1
	Female	40	76.9
Civil Status			
	Single	8	15.4
	Married	34	65.4
	Widowed	6	11.5
	Separated	4	7.7
Highest Educational Attainment			
	Elementary Level/Graduate	8	15.4
	High School Level/Graduate	18	34.6
	Senior High School Level/Graduate	14	26.9
	College Level/Graduate	9	17.3
	Postgraduate	3	5.8
Household Monthly Income			
	Below ₱10,000	14	26.9
	₱10,001–₱20,000	20	38.5
	₱20,001–₱30,000	10	19.2
	₱30,001–₱40,000	5	9.6
	Above ₱40,000	3	5.8
Number of Sessions Availed			
	1 session	8	15.4
	2–3 sessions	20	38.5
	4–5 sessions	15	28.8
	More than 5 sessions	9	17.3

Note. N = 52. Percentages adjusted by ±0.1% in the largest category for Age due to rounding.

The respondents were predominantly middle-aged females who were married, reflecting the typical composition of BKP and 4Ps beneficiaries. The 36–45 age group comprised the largest segment (n = 18, 34.5%), females outnumbered males nearly three to one (76.9% vs. 23.1%), and married respondents accounted for 65.4%.

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The majority had completed at most a high school education (n = 18, 34.6%), with only 5.8% (n = 3) holding postgraduate credentials. The income profile skewed lower, with 65.4% earning ₱20,000 or below monthly. Most were repeat users (84.6% availed more than one session), with 2–3 sessions as the modal category (n = 20, 38.5%).

This demographic composition confirmed that the extension project reached its intended beneficiaries — lower-income, community-based women with moderate educational attainment — consistent with profiles documented in Philippine HEI extension studies (Corpuz et al., 2022; Angco, 2026). The high repeat engagement rate (84.6%) is a favorable programmatic indicator consistent with Oliver's (1980, 2010) EDT, where positive disconfirmation fosters satisfaction and repeat patronage. The limited representation of males (23.1%), younger adults aged 18–25 (9.6%), and higher-income respondents (5.8%) should temper generalizability.

Table 2.
Level of Client Satisfaction Among Community Service Recipients

Indicator	*M*	*SD*	Verbal Interpretation
A. Service Accessibility			
5. The massage therapy service was offered free of charge, making it financially accessible.	3.52	0.58	Very Satisfied
1. The massage therapy service was easy to access in terms of location.	3.44	0.67	Very Satisfied
3. The process of availing the massage therapy service was simple and hassle-free.	3.42	0.70	Very Satisfied
2. The schedule of the massage therapy service was convenient.	3.33	0.73	Very Satisfied
4. The waiting time before receiving the service was reasonable.	3.27	0.74	Very Satisfied
Subscale Mean	**3.40**	**0.57**	**Very Satisfied**
B. Therapist Competence			
2. The massage therapist performed the procedures with skill and confidence.	3.40	0.63	Very Satisfied
5. The massage therapist maintained professionalism throughout the session.	3.40	0.69	Very Satisfied
1. The massage therapist demonstrated adequate knowledge of massage therapy techniques.	3.35	0.59	Very Satisfied
4. The massage therapist was attentive to my comfort and needs during the session.	3.33	0.62	Very Satisfied
3. The massage therapist explained the procedure before and during the session.	3.25	0.68	Satisfied
Subscale Mean	**3.35**	**0.49**	**Very Satisfied**
C. Overall Satisfaction			
3. I felt that the massage therapy session was worth my time.	3.58	0.50	Very Satisfied
1. Overall, I was satisfied with the massage therapy service I received.	3.50	0.58	Very Satisfied
5. I would avail of the same massage therapy service again if given the opportunity.	3.48	0.61	Very Satisfied
2. The massage therapy service met my expectations.	3.37	0.69	Very Satisfied
4. I was satisfied with the way the service was organized and delivered.	3.35	0.62	Very Satisfied
Subscale Mean	**3.45**	**0.50**	**Very Satisfied**
Overall Client Satisfaction	**3.40**	**0.42**	**Very Satisfied**

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Note. N = 52. Items ranked from highest to lowest mean within each subscale. Weighted mean computed as arithmetic mean of equally weighted items. Interpretation: 3.26–4.00 = Very Satisfied; 2.51–3.25 = Satisfied; 1.76–2.50 = Dissatisfied; 1.00–1.75 = Very Dissatisfied.

Client satisfaction was "Very Satisfied" overall (M = 3.40, SD = 0.42). Overall satisfaction obtained the highest subscale mean (M = 3.45, SD = 0.50), driven by the item "the session was worth my time" (M = 3.58) — the highest single-item mean across the entire variable. Service accessibility ranked second (M = 3.40, SD = 0.57), with the free-of-charge nature of the service rated most favorably (M = 3.52). Therapist competence obtained the lowest subscale mean (M = 3.35, SD = 0.49), with therapist explanation of procedures rated lowest across all 15 items (M = 3.25, "Satisfied") — the only item that did not reach "Very Satisfied."

The "Very Satisfied" rating suggests perceived performance met or exceeded expectations — a positive disconfirmation outcome under Oliver's (1980) EDT. Zhang et al. (2022) confirmed that perceived performance is the strongest direct predictor of citizen satisfaction across public service contexts. Corpuz et al. (2022) reported similar positive beneficiary ratings in Philippine HEI extension programs when services addressed felt community needs. The actionable gap was therapist explanation of procedures (M = 3.25); Ferreira et al. (2023), in their systematic review of 157 studies on patient satisfaction determinants, identified practitioner communication as one of the most consistently critical factors. Within Donabedian's (1988) framework, enhancing trainee communication skills represents a process-level improvement that could close this gap. For community health nursing practice, this finding reinforces the centrality of therapeutic communication as a core competency in nurse-led extension services — a process indicator that training programs may explicitly target to strengthen patient-centered care delivery.

Table 3.
Level of Perceived Service Quality Among Community Service Recipients

Indicator	*M*	*SD*	Verbal Interpretation
A. Perceived Effectiveness			
1. The massage therapy service effectively addressed my physical discomfort.	3.13	0.66	High Quality
2. I noticed positive changes in my body after receiving the massage therapy.	3.13	0.69	High Quality
5. The massage therapy service delivered results that I could feel immediately.	3.13	0.71	High Quality
3. The massage therapy techniques used were appropriate for my condition.	3.10	0.60	High Quality
4. The duration of the massage therapy session was sufficient to address my needs.	3.06	0.73	High Quality
Subscale Mean	**3.11**	**0.56**	**High Quality**
B. Comfort and Safety			
5. The massage therapist ensured my comfort before, during, and after the session.	3.38	0.66	Very High Quality
2. The materials and supplies used during the session were hygienic and appropriate.	3.37	0.69	Very High Quality
1. The environment where the massage therapy was conducted was clean and comfortable.	3.35	0.56	Very High Quality
3. I felt physically safe throughout the massage therapy session.	3.35	0.59	Very High Quality
4. My privacy was respected during the massage therapy session.	3.31	0.73	Very High Quality
Subscale Mean	**3.35**	**0.52**	**Very High Quality**
C. Willingness to Recommend			
2. I would recommend this massage therapy service to my friends and	3.35	0.68	Very High Quality

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neighbors.			
5. I would speak positively about this massage therapy service to others.	3.33	0.71	Very High Quality
1. I would recommend this massage therapy service to my family members.	3.25	0.68	High Quality
3. I believe this massage therapy service would benefit other community members.	3.25	0.68	High Quality
4. I would encourage others to participate in future extension activities of the College of Nursing.	3.17	0.68	High Quality
Subscale Mean	**3.27**	**0.56**	**Very High Quality**
Overall Perceived Service Quality	**3.24**	**0.41**	**High Quality**

Note. N = 52. Items ranked from highest to lowest mean within each subscale. Interpretation: 3.26–4.00 = Very High Quality; 2.51–3.25 = High Quality; 1.76–2.50 = Low Quality; 1.00–1.75 = Very Low Quality. Weighted mean computation as in Table 2.

Perceived service quality was "High Quality" overall (M = 3.24, SD = 0.41). Comfort and safety obtained the highest subscale mean (M = 3.35, "Very High Quality"), with all five items exceeding the 3.26 threshold. Willingness to recommend also reached "Very High Quality" (M = 3.27), with recipients most willing to recommend the service to friends and neighbors (M = 3.35). Perceived effectiveness obtained the lowest subscale mean (M = 3.11, "High Quality"), with session duration sufficiency rated lowest (M = 3.06, SD = 0.73).

The overall mean fell just below the "Very High Quality" threshold (3.24 vs. 3.26) — a 0.02-point gap that, while consequential for categorical classification, represents a negligible substantive difference. The program excelled in comfort, safety, and social endorsement, consistent with Oliver's (1980) proposition that positive disconfirmation extends into behavioral intentions such as recommendation. Perceived effectiveness scored lowest, with session duration sufficiency as the weakest item (M = 3.06), aligning with Donabedian's (1988) distinction between process and outcome evaluations. McCullough et al. (2023) similarly observed that outcome evaluations are more conservative than process evaluations. Extending session duration or managing client volume during Sambalaran events could address this gap, supported by Furlan et al.'s (2015) Cochrane finding that session duration moderated massage therapy outcomes. From a healthcare systems perspective, these findings suggest that extension program administrators may use process-level quality indicators — particularly session adequacy and perceived effectiveness — as actionable benchmarks for service delivery improvement.

Table 4.
Level of Perceived Health and Wellness Outcomes Among Community Service Recipients (N = 52)

Indicator	*M*	*SD*	Verbal Interpretation
A. Perceived Pain Relief			
2. The muscle tension I felt before the session was relieved after the massage therapy.	3.25	0.79	High
1. I experienced a noticeable reduction in body pain after the massage therapy session.	3.08	0.68	High
3. The back pain or body heaviness I experienced was reduced after the session.	3.04	0.79	High
5. Overall, the massage therapy helped manage the physical pain I was experiencing.	3.02	0.67	High
4. The pain relief I experienced lasted beyond the day of the session.	2.85	0.78	High
Subscale Mean	**3.05**	**0.59**	**High**
B. Perceived Improvement in Daily Functioning			
1. After the massage therapy, I was able to perform my daily activities more comfortably.	3.15	0.57	High

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4. My quality of sleep improved after receiving the massage therapy.	3.13	0.63	High
5. The massage therapy helped me feel more physically capable in my everyday routine.	3.13	0.63	High
2. I experienced improved mobility or ease of movement after the session.	2.98	0.75	High
3. I felt less fatigued in carrying out my household or work tasks after the massage therapy.	2.94	0.67	High
Subscale Mean	**3.07**	**0.49**	**High**
C. Perceived Overall Well-Being			
1. I felt a general sense of relaxation and comfort after the massage therapy session.	3.29	0.61	Very High
3. I felt less stressed after receiving the massage therapy service.	3.27	0.63	Very High
5. I believe that receiving massage therapy services through the extension project was beneficial to my health.	3.25	0.68	High
2. The massage therapy contributed positively to my overall sense of well-being.	3.19	0.63	High
4. The massage therapy session improved my overall mood and disposition.	3.17	0.58	High
Subscale Mean	**3.23**	**0.47**	**High**
Overall Perceived Health and Wellness Outcomes	**3.12**	**0.41**	**High**

Note. N = 52. Items ranked from highest to lowest mean within each subscale. Interpretation: 3.26–4.00 = Very High; 2.51–3.25 = High; 1.76–2.50 = Low; 1.00–1.75 = Very Low. Weighted mean computation as in Table 2.

Perceived health and wellness outcomes were "High" overall (M = 3.12, SD = 0.41). Perceived overall well-being obtained the highest subscale mean (M = 3.23, SD = 0.47), with general relaxation and comfort (M = 3.29) and stress relief (M = 3.27) crossing into the "Very High" range. Perceived pain relief obtained the lowest subscale mean (M = 3.05, SD = 0.59), with pain relief lasting beyond the day of the session rated lowest across the entire 45-item instrument (M = 2.85, SD = 0.78). Fatigue reduction (M = 2.94) and improved mobility (M = 2.98) were the only other sub-3.00 items, bringing the total to three.

The descending gradient — satisfaction (M = 3.40) > service quality (M = 3.24) > health outcomes (M = 3.12) — is consistent with Donabedian's (1988) expectation that outcome judgments are more conservative than experiential and process judgments. The program's strongest perceived impact was psychological: relaxation and stress relief were the only items to reach "Very High," consistent with Mak et al.'s (2024) finding that these benefits were most consistently reported across 129 systematic reviews. The weakest was sustained pain relief (M = 2.85); Furlan et al. (2015) found that massage therapy effects attenuated over time, and Groninger et al. (2023) reported in their RCT (N = 387) that treatment frequency predicted sustained improvement while session length predicted only short-term gains. The extension project's episodic delivery model structurally limits sustained analgesic effects. Supplementing sessions with self-care education (stretching, posture correction, stress management) could strengthen physical outcomes — a process modification targeting outcome-level indicators within the Donabedian framework. In public health terms, the favorable psychological outcomes (relaxation and stress relief rated "Very High") position community-based massage therapy as a non-pharmacologic wellness intervention that may complement conventional preventive health services, particularly in underserved populations with limited access to formal healthcare.

Preliminary Analysis: Normality Assessment

Prior to inferential analyses, normality was assessed using the Shapiro-Wilk test. Client satisfaction scores were not normally distributed (W = .929, p = .004, skewness = −0.724, kurtosis = −0.180), while perceived service quality (W = .974, p = .308, skewness = −0.241, kurtosis = −0.730) and perceived health and wellness outcomes (W = .966, p = .141, skewness = −0.634, kurtosis = 0.376) satisfied the normality assumption. All skewness and kurtosis values were within the ±2.0 range (George & Mallery, 2020). Given the non-normal distribution of client

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satisfaction and the ordinal nature of most demographic predictors, non-parametric tests were employed for all correlational analyses to maintain statistical consistency.

Table 5.
Relationship Between Demographic Profile and Client Satisfaction

Demographic Variable	Test Used	Test Statistic	*p*	Effect Size	Magnitude	Decision
Age	Spearman ρ	ρ = .044	.758	ρ = .044	Small	Not Significant
Sex	Mann-Whitney U	U = 332.5	.045	r_rb = .385	Medium	Significant*
Civil Status	Kruskal-Wallis H	H(3) = 0.18	.980	ε^2 = .004	Small	Not Significant
Highest Educational Attainment	Spearman ρ	ρ = −.025	.860	ρ = .025	Small	Not Significant
Household Monthly Income	Spearman ρ	ρ = −.123	.386	ρ = .123	Small	Not Significant
Number of Sessions Availed	Spearman ρ	ρ = .474	< .001	ρ = .474	Medium	Significant

Note. N = 52. α = .05, two-tailed. 95% CI for Sessions: [.231, .661]. Spearman ρ used for ordinal/continuous variables. Mann-Whitney U with rank-biserial r for dichotomous variable. Kruskal-Wallis H for polytomous nominal variable. Effect size magnitudes interpreted using Cohen's (1988) conventions: small (.10), medium (.30), large (.50). *Significant at unadjusted α = .05 but does not survive Bonferroni correction (adjusted α = .008; p = .045 > .008).

Only the number of sessions availed was significantly correlated with client satisfaction (ρ = .474, p < .001, 95% CI [.231, .661]), indicating a medium positive association (Cohen, 1988) that survived Bonferroni correction (adjusted α = .008). The sex variable reached unadjusted significance (U = 332.5, p = .045, r_rb = .385), with males reporting higher satisfaction (M = 3.61, SD = 0.33) than females (M = 3.34, SD = 0.43), but did not survive Bonferroni correction (p = .045 > .008). Age (ρ = .044, p = .758), civil status (H(3) = 0.18, p = .980), education (ρ = −.025, p = .860), and income (ρ = −.123, p = .386) were not significant. Ho_1 was partially rejected.

The medium session–satisfaction correlation supports a cumulative exposure interpretation under EDT: repeated encounters accumulate experiential evidence reinforcing positive disconfirmation (Oliver, 1980). This parallels Groninger et al.'s (2023) finding that treatment frequency predicted sustained quality-of-life improvement. The non-significance of sociodemographic variables may reflect the sample's relative homogeneity and the free, standardized delivery model that equalized the satisfaction experience — unlike the fee-based clinical settings where income and education predict satisfaction (Al-Hammouri et al., 2024). The overall pattern indicates that what recipients *did* (returned for more sessions) mattered more than who they *were*.

Table 6.
Relationship Between Demographic Profile and Perceived Service Quality

Demographic Variable	Test Used	Test Statistic	*p*	Effect Size	Magnitude	Decision
Age	Spearman ρ	ρ = .043	.763	ρ = .043	Small	Not Significant
Sex	Mann-Whitney U	U = 307.5	.145	r_rb = .281	Small	Not Significant
Civil Status	Kruskal-Wallis H	H(3) = 2.20	.531	ε^2 = .043	Small	Not Significant
Highest Educational Attainment	Spearman ρ	ρ = −.018	.897	ρ = .018	Small	Not Significant
Household Monthly Income	Spearman ρ	ρ = .009	.952	ρ = .009	Small	Not Significant
Number of Sessions	Spearman ρ	ρ = .483	< .001	ρ = .483	Medium	Significant

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Availed

Note. N = 52. α = .05, two-tailed. 95% CI for Sessions: [.242, .668]. Statistical tests and effect size conventions as in Table 5.

Only the number of sessions availed was significantly associated with perceived service quality (ρ = .483, p < .001, 95% CI [.242, .668]) — a medium positive effect (Cohen, 1988) surviving Bonferroni correction (adjusted α = .008). Age (ρ = .043, p = .763), sex (U = 307.5, p = .145, r_rb = .281), civil status (H(3) = 2.20, p = .531), education (ρ = −.018, p = .897), and income (ρ = .009, p = .952) were not significant. Only the number of sessions availed retained significance after Bonferroni correction.

This reinforces the RQ5 pattern. Within Donabedian's (1988) framework, quality assessment requires direct experiential knowledge, and recipients with more sessions possessed a richer evaluative basis. The slightly stronger correlation (ρ = .483 vs. .474 for satisfaction) suggests cumulative exposure may be marginally more relevant to quality judgments, which demand evaluation of specific process attributes, than to global satisfaction. The sex variable, which reached unadjusted significance for satisfaction (p = .045), was non-significant here (p = .145), suggesting sex-based differences may be more relevant to global evaluations than to specific quality judgments. The non-significance of all sociodemographic variables contrasts with hospital-based research where patient characteristics influence quality perceptions (De Rosis et al., 2024). The free, standardized delivery conditions may have minimized structural inequities, though the limited statistical power of this study (N = 52) precludes definitive conclusions about equitable service delivery.

Table 7.
Relationship Between Demographic Profile and Perceived Health and Wellness Outcomes

Demographic Variable	Test Used	Test Statistic	*p*	Effect Size	Magnitude	Decision
Age	Spearman ρ	ρ = −.047	.739	ρ = .047	Small	Not Significant
Sex	Mann-Whitney U	U = 293.0	.253	r_rb = .221	Small	Not Significant
Civil Status	Kruskal-Wallis H	H(3) = 0.71	.871	ε^2 = .014	Small	Not Significant
Highest Educational Attainment	Spearman ρ	ρ = .039	.782	ρ = .039	Small	Not Significant
Household Monthly Income	Spearman ρ	ρ = −.248	.076	ρ = .248	Small	Not Significant
Number of Sessions Availed	Spearman ρ	ρ = .298	.032	ρ = .298	Small	Not Significant†

Note. N = 52. α = .05, two-tailed. 95% CI for Sessions: [.027, .528]. 95% CI for Income: [−.488, .026]. Statistical tests and effect size conventions as in Table 5. †Significant at unadjusted α = .05 but not significant after Bonferroni correction (adjusted α = .008; p = .032 > .008).

The number of sessions availed was associated with perceived health and wellness outcomes at the unadjusted α = .05 level (ρ = .298, p = .032, 95% CI [.027, .528]); however, this association did not survive Bonferroni correction (adjusted α = .008; p = .032 > .008) and is therefore not considered statistically significant under the corrected threshold. Age (ρ = −.047, p = .739), sex (U = 293.0, p = .253, r_rb = .221), civil status (H(3) = 0.71, p = .871), education (ρ = .039, p = .782), and income (ρ = −.248, p = .076) were not significant, though income approached significance. No demographic variable was significantly associated with perceived health and wellness outcomes after Bonferroni correction.

The correlation of ρ = .298 (small effect) was substantively weaker than those for satisfaction (ρ = .474, medium) and service quality (ρ = .483, medium), revealing a meaningful gradient: repeated engagement was associated at the medium level with service experience evaluations but only at the small level with health outcome evaluations. Within Donabedian's (1988) framework, satisfaction and quality are anchored in the structure and process domains that recipients observe directly, while health outcomes are shaped by biological, lifestyle, and contextual factors beyond the service encounter. Mak et al. (2024) documented that even under controlled conditions, the relationship between massage exposure and health change carries mostly low certainty. Income (ρ =

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−.248, p = .076) approached significance, suggesting lower-income recipients perceived slightly more favorable outcomes — possibly reflecting lower pre-service expectations producing greater positive disconfirmation under EDT (Oliver, 1980), though this remains speculative.

Across RQ5 through RQ7, session frequency was the only demographic variable associated with favorable evaluations, with effect sizes diminishing from medium (satisfaction, ρ = .474; service quality, ρ = .483) to small (health outcomes, ρ = .298) as the evaluative target moved from service experience to health outcomes. Only the associations with client satisfaction and perceived service quality survived Bonferroni correction.

Conclusions

The BulSU College of Nursing Massage Therapy NC II Extension Project was associated with favorable perceived outcomes across all three domains. Client satisfaction was "Very Satisfied" (M = 3.40), perceived service quality was "High Quality" (M = 3.24), and perceived health and wellness outcomes were "High" (M = 3.12), forming a descending gradient consistent with both the Donabedian Structure-Process-Outcome model and the Expectancy Disconfirmation Theory — recipients evaluated the service encounter more favorably than its therapeutic effects. The project reached its intended beneficiaries — predominantly middle-aged, married, lower-income women — with 84.6% returning for more than one session. The number of sessions availed was the only demographic variable significantly associated with client satisfaction (ρ = .474, p < .001) and perceived service quality (ρ = .483, p < .001) at the Bonferroni-corrected level. A weaker association with perceived health and wellness outcomes (ρ = .298, p = .032) reached significance at the unadjusted α = .05 level but did not survive Bonferroni correction. No sociodemographic variable retained significance after correction, suggesting no detectable differential in service evaluations across demographic groups, though limited statistical power (N = 52) tempers this interpretation. The strongest perceived benefits were psychological (relaxation, stress relief), while sustained pain relief was the weakest indicator across all 45 items (M = 2.85), reflecting the structural limitation of episodic delivery. The only satisfaction item not reaching "Very Satisfied" was therapist explanation of procedures (M = 3.25), pointing to a localized communication gap.

These findings carry implications across multiple domains. For nursing practice, the results underscore the role of nursing colleges in generating community-level health outcomes through extension services and the importance of embedding therapeutic communication training in massage therapy curricula. For healthcare systems, the integrated satisfaction–quality–outcomes measurement framework demonstrated here may serve as an evaluation model for HEI extension programs seeking to move beyond activity-based metrics toward patient-reported outcome assessment. For public health, the favorable perceived outcomes — particularly in psychological well-being — support the potential of community-based complementary health services as non-pharmacologic wellness interventions. For health policy, the findings contribute locally grounded empirical evidence aligned with the WHO Global Traditional Medicine Strategy 2025–2034 (WHO, 2025), informing decisions on complementary medicine integration and resource allocation for HEI-based community health extension programs.

Recommendations

The training curriculum may integrate a communication skills module requiring trainees to explain procedures before and during sessions. Multiple service days per community cycle may be scheduled with a minimum session duration of 20–30 minutes. A one-page self-care handout (stretching, posture correction, stress management) may be distributed post-session to reinforce sustained physical outcomes. Outreach may be expanded to underrepresented groups — males, younger adults, and higher-income residents — through evening scheduling and coordination with barangay youth councils.

Future studies may replicate with a larger, multi-site sample (N ≥ 150) to strengthen statistical power for the near-significant sex (p = .045) and income (p = .076) associations; employ pre-post designs with objective health indicators; conduct qualitative follow-up to contextualize the satisfaction–quality–outcomes gradient; and test the dose-response relationship quasi-experimentally across varying session frequencies.

This study was delimited to one extension project in San Jose del Monte, Bulacan (N = 52). Key limitations include restricted statistical power, cross-sectional design precluding causal inference, self-report and social desirability bias, single-locale scope, retrospective measurement without objective physiological indicators, and a researcher-developed instrument not yet independently replicated.

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