

## Residents' evaluation of community center revitalization with murals: Aesthetics, local identity, and ownership

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### Abstract

A mural project was implemented as a visual enhancement for the community center. This study examines residents' perspectives on mural interventions and evaluates the effectiveness of measurement tools. The mural project took one month to complete, but preparation, including discussions with the community head, also required one month. Post-project surveys were gathered online via a Likert scale, employing a quantitative descriptive method. Item validity and internal reliability were assessed using item-total correlations and Cronbach's alpha. Twenty respondents participated in the survey. The instrument demonstrated strong reliability ( $\alpha = 0.78$ ) with 14 valid items. The findings indicate that the average perception across dimensions falls within the mid-range, with social interaction leading at 58.20%, followed by sense of ownership at 55.60%, revitalization evaluation at 55.32%, aesthetic perception at 55.00%, local identity at 54.60%, and community pride at 53.20%, which is the lowest. The findings indicate that murals effectively stimulate social interaction, though they have not yet fully realized their potential to build community pride. Practical implications involve enhancing theme curation rooted in local identity, engaging residents in maintenance, and creating regular activity programs to boost pride.

Keywords: Community Center, Local Identity, Mural, Revitalization, Sense of Ownership

### Abstrak

Proyek mural dilaksanakan sebagai solusi visual untuk revitalisasi balai warga. Studi ini menganalisis perspektif warga terhadap intervensi mural dan mengevaluasi efektivitas alat pengukuran. Proyek mural memakan waktu satu bulan, namun persiapan, termasuk diskusi dengan kepala RW, juga membutuhkan waktu satu bulan. Survei pasca-proyek dikumpulkan secara daring melalui skala Likert, menggunakan metode deskriptif kuantitatif. Validitas item dan reliabilitas internal dievaluasi menggunakan korelasi item-total dan Cronbach's alpha, dimana dua puluh responden berpartisipasi dalam survei. Alat ukur menunjukkan reliabilitas yang kuat dengan  $\alpha=0.78$  dan 14 item menunjukkan hasil yang valid. Hasil menunjukkan bahwa persepsi rata-rata di seluruh dimensi berada dalam rentang tengah, dengan interaksi sosial memimpin di 58,20%, diikuti oleh rasa kepemilikan di 55,60%, evaluasi revitalisasi di 55,32%, persepsi estetika di 55,00%, identitas lokal di 54,60%, dan kebanggaan komunitas di 53,20%, yang merupakan yang terendah. Temuan menunjukkan bahwa mural secara efektif merangsang interaksi sosial, meskipun belum memaksimalkan potensinya dalam membangun kebanggaan komunitas. Implikasi praktis meliputi peningkatan kurasi tema yang berakar pada identitas lokal, melibatkan warga dalam pemeliharaan, dan menciptakan program kegiatan rutin untuk meningkatkan nilai kebanggaan.

Kata kunci: Balai Warga, Identitas Lokal, Mural, Rasa Kepemilikan, Revitalisasi.

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## 1. Introduction

The community center in Bumijo Kulon Village serves as a social hub and communal space for regular meetings, neighborhood discussions, cultural arts activities, non-formal education, and micro-scale disaster coordination (Kelurahan Bumijo, n.d.). Community centers are essential components of several communities, serving as venues for social interaction and the cultivation of social bonds, which can enhance social capital, foster a sense of belonging, and promote community cohesion (Colistra et al., 2019), especially in densely populated area. This position means that the physical quality and image of the hall directly affect the level of participation and sense of belonging of residents to the environment. Prior to the revitalization program, the space capacity and visual quality of the community center did not fully support its diverse activities.

The community center in Kampung Bumijo Kulon exhibited physical deterioration before revitalization, affecting its communal role. The deteriorated exterior, flaking paint, leaking roof, worn flooring, inconsistent lighting, inadequate ventilation, and echoing acoustics diminished comfort. The furniture lacked consistency and flexibility, accessibility for the elderly and disabled was inadequate, and signage was sparse, resulting in the building being less identifiable as a landmark. The unattractive view of the nearby building diminished the facade's appeal. Therefore, fixing the wall of the building next to it was the first step in the revitalization process.



Figure 1. Community Center Prior Revitalization

Public art offers various benefits, including enhancing creativity, beautifying urban spaces, improving quality of life, and increasing community value (Cheung et al., 2021). Mural art-based interventions were chosen because they could enhance visual appeal, enrich local narratives, and spark interaction among residents without heavy structural investment (Nursanty et al., 2025). As a first step in revitalization, murals were chosen to cover the unsightly appearance of the adjacent building's walls while strengthening the legibility of the hall's facade as a landmark. Theoretically, clear visual cues enhance the image and legibility of a space, thereby strengthening its identity (Lynch, 1960). Culturally relevant visual interventions also contribute to the formation of place

attachment through symbols and repeated experiences (Lewicka, 2011). As participatory public art, murals have been shown to support the production of local identity, pride, and social cohesion when they meaningfully involve residents (Irwandi et al., 2023; Stern & Seifert, 2003). The increased vitality of the street corridor where the mural is located clearly demonstrates their impact (Jeong & Hu, 2025).

The choice of murals is consistent with the tactical urbanism framework, which emphasizes rapid, low-cost, and scalable interventions to trigger long-term change (Lydon & Garcia, 2015). In the area renewal agenda, public art is used for placemaking and urban renewal to strengthen the image of the environment and user orientation (Matthews & Gadaloff, 2022). Mural art-based interventions were chosen because they could enhance visual appeal, enrich local narratives, and spark interaction among residents without heavy structural investment (Nursanty et al., 2025). This context positions the community center as a small laboratory to test how visual and symbolic improvements can stimulate social engagement at the village level.

## 2. Method

This study focuses on evaluating the initial post-revitalization through mural interventions that cover the untidy appearance of the adjacent building walls while clarifying the legibility of the hall's facade. While the mural project was completed in one month (August 2025), the preparation phase, which included discussions with the community leader, also required one month (July 2025). The location of the project was shown in Figure 2. Further, the survey was conducted on September 2025, after the project was finished, with 20 respondent completing the survey.



Figure 2. Bumijo Kulon Community Center

The instruments were deductively constructed from the theories of communal space user satisfaction, place identity–attachment, legibility, and social interaction, then piloted in Google Forms to test clarity, item validity, and internal reliability before being used to measure residents' perceptions. The planning process was carried out through consultation with the neighborhood association (RW) chairperson; efforts to encourage broad participation were unsuccessful, so active involvement in the early stages came



mainly from the RW chairperson. This study produced two main outputs: (1) a valid, concise instrument for periodic monitoring, and (2) an empirical portrait of the benefits and gaps post-intervention in six dimensions of evaluation. The results are expected to form the basis for improving the visual design and subsequent activity programs, as well as serving as a baseline for a cycle of revitalization and more participatory community involvement in the advanced stages.

User satisfaction with communal spaces is understood as an evaluative response to the physical quality, function, and management of post-occupancy spaces; it is commonly measured within the framework of post-occupancy evaluation (POE) to assess the performance of buildings/spaces from the perspective of everyday users (comfort, legibility, ease of use, and support for activities). POE emphasizes structured measurement, ranging from indicative to diagnostic levels, so that findings can directly guide improvements in design and management (Preiser et al., 1988). In communal spaces, physical qualities that support “life between buildings” correlate with the intensity of social activity and positive user experiences (Gehl, 2011).

This study used a post-project cross-sectional design at the Bumijo Kulon Community center, with respondents being residents who use the hall through non-probability sampling based on availability (Setia, 2016). The satisfaction instrument was developed deductively from the constructs of communal space satisfaction, place identity–attachment, legibility, social interaction, and revitalization evaluation; the draft was prepared in Google Forms, piloted for clarity, then distributed through environmental channels in coordination with the RW (neighborhood association) chairperson. The scale used a multi-item Likert format (Likert, 1932). Empirical validity was evaluated using item–total correlation and a retention threshold of  $r \geq 0.30$  (Ferketich, 1991; Hair et al., 2019). Internal reliability was calculated using Cronbach's  $\alpha$  with a target of  $\geq 0.70$  as the threshold for initial usability ((DeVellis & Thorpe, 2021; Nunnally & Bernstein, 1994; Tavakol & Dennick, 2011).



Figure 3. Mural Design

Inclusion criteria were adult residents who had used the hall after the intervention, and incomplete entries were eliminated. Each dimension score was normalized to 0–

100, thenf interpreted using Arikunto's criteria: 80–100 very satisfactory, 70–79 outstanding, 60–69 moderate, 50–59 poor, 0–49 very poor; these categories were used to conclude the level of satisfaction and set priorities for improvement (Arikunto, 2016). The analysis included descriptive statistics per item and per dimension, score normalization, and graphical visualization; 95% confidence intervals were reported when the sample size was adequate (OECD, 2008). The context of participation is noted because widespread community mobilization has not yet been achieved, so initial active involvement came mainly from the neighborhood association (RW) chairperson. Ethical procedures included informed consent, data anonymization, and limited use for academic purposes. Final implementation of mural design is shown in Figure 3.

### 3. Results

#### The Validity and Reliability of The Satisfaction Instrument

The construct validity test was analyzed using item–total correlation coefficients at a significance level of 5% (0.05). In this test, the corrected item–total correlation value is referred to as the calculated  $r$ . The corresponding  $r$ -table value is determined based on the degrees of freedom (df), calculated as  $n - 2$  ( $25 - 2 = 23$ ). For  $n = 23$  at a 5% significance level, the  $r$ -table value is 0.413.

Table 1. Descriptive Statistics of Statement Items Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Note
PE1	68.65	76.976	0.538	0.759	Valid
PE2	68.65	75.292	0.668	0.751	Valid
PE3	68.55	76.050	0.674	0.752	Valid
PE4	68.15	86.029	0.076	0.787	Invalid
PE5	68.20	96.274	-0.355	0.824	Invalid
IL1	68.50	78.053	0.466	0.764	Valid
IL2	68.55	77.208	0.602	0.757	Valid
IL3	68.60	76.042	0.628	0.754	Valid
IL4	67.95	86.576	0.074	0.785	Invalid
IL5	68.10	87.779	-0.002	0.789	Invalid
RK1	68.50	79.632	0.589	0.761	Valid
RK2	68.70	79.484	0.567	0.761	Valid
RK3	68.35	80.976	0.543	0.764	Valid
RK4	68.10	86.516	0.056	0.788	Invalid
RK5	68.10	86.305	0.089	0.785	Invalid
IS1	68.40	84.253	0.241	0.777	Invalid
IS2	68.45	84.050	0.312	0.774	Invalid
IS3	68.55	82.155	0.438	0.769	Valid
IS4	68.40	83.621	0.423	0.771	Valid
IS5	68.30	84.747	0.228	0.778	Invalid
KK1	68.65	80.976	0.425	0.768	Valid
KK2	68.70	80.853	0.431	0.767	Valid
KK3	68.75	80.513	0.419	0.768	Valid
KK4	68.10	84.832	0.114	0.787	Invalid
KK5	68.05	82.787	0.224	0.779	Invalid

The basis for decision-making is to compare the calculated  $r$  with the  $r$ -table value. If the calculated  $r$  is greater than 0.413, the item is considered valid; if it is less than 0.413, the item is deemed invalid and should be removed from the analysis. All items with a minimum correlation coefficient of 0.413 are thus declared to meet the validity requirements. Validity test analysis was conducted based on the data presented in Table 1. The sample consisted of 20 respondents. Analysis of the total item statistics showed that, out of 25 questions or statements, 14 items were valid, exceeding the criterion of 0.413. The 11 items deemed invalid were PE 4, PE 5, IL 4, IL 5, RK 4, RK 5, IS 1, IS 2, IS 5, KK 4, and KK 5.

The reliability of the instrument was calculated using SPSS 17 for Windows, employing the Cronbach's Alpha coefficient method. An instrument is considered reliable if it meets the minimum criterion of 0.70.

Tabel 2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha	N of Items
.781	.805	25

Based on the table above, it can be concluded that the instrument is reliable because the reliability coefficient value is  $0.781 > 0.70$ .

### Evaluation Survey Results

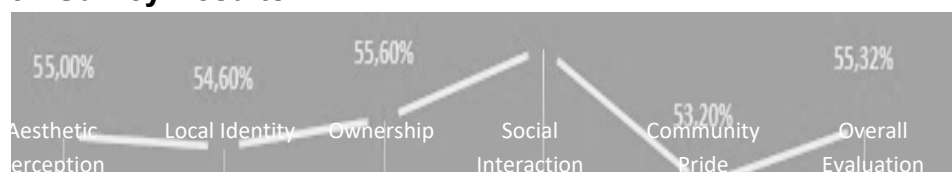


Figure 4. Evaluation Result Post Revitalization

The survey is comprised of 25 items, with five assigned to each category (see Table 1). Further, the scores for each aspect were standardized to a range of 0–100, and then they were interpreted according to Arikunto's criteria: The categories 80–100 very satisfactory, 70–79 exceptional, 60–69 moderate, 50–59 poor, and 0–49 very poor were utilized to determine the level of satisfaction and establish goals for improvement (Arikunto, 2016). There is also an overall satisfactory result that takes into account all variables.

The results, as shown in Figure 4, indicate that post-revitalization satisfaction is at a low level. The average is 55.32% with a range of 53.20–58.20, which falls into the “poor” category according to Arikunto (2016). The highest score was for social interaction at 58.20%, followed by sense of ownership at 55.60%, revitalization evaluation at 55.32%, aesthetic perception at 55.00%, local identity at 54.60%, and the lowest was community pride at 53.20%. The instrument is adequate for initial monitoring. Fourteen of the 25 items were valid, and the total reliability was  $\alpha=0.781$ . This pattern is consistent with the nature of the intervention, which focused on visually tidying up the side walls, thereby quickly sparking encounters and conversations but not yet producing a strong collective meaning. The limited involvement of residents, restricted to the neighborhood association (RW) chairperson, also hindered increasing a sense of belonging and pride. The follow-up priorities include curating the mural

theme to align with the village narrative, adding interpretive signage to the facade, establishing routine joint maintenance activities, and organizing intergenerational programs in the community center. After the program, re-measure using the same instrument to observe trends. Note the small sample size and availability-based sampling when interpreting the findings.

The results indicate that all dimensions of satisfaction are in the low category, with the highest pattern in social interaction and the lowest in community pride. The instrument is adequate for initial monitoring (14/25 valid items;  $\alpha=0.781$ ), so the findings can be used as a basis for improvement in the next cycle (DeVellis & Thorpe, 2021; Nunnally & Bernstein, 1994; Tavakol & Dennick, 2011).

The composition of respondents, who were predominantly aged 40–60 years, had the potential to influence the assessment. This age group tends to have a strong attachment to place but is more conservative toward visual change, so indicators of local identity and pride move more slowly than indicators of interaction (Lewicka, 2011). Simple segmentation such as age, length of residence, frequency of community center use, can reveal differences in needs between groups.

Limited participation in the process by the neighborhood association chair explains the weakness of collective meaning-based indicators. Furthermore, considering that the survey was carried out by local citizen volunteers, it is probable that selection and social-desirability biases contributed to the results. The literature on participatory mural art shows that co-creation from the planning stage to maintenance correlates with increased pride and social cohesion (Stern & Seifert, 2003). Without broad involvement, murals function primarily as conversation starters, not as vehicles for identity production.

Data collection via Google Forms has the potential to cause digital access and self-selection bias; convenience sampling limits generalization. Nonresponse bias may occur if less active residents are underrepresented (Bethlehem, 2010; Dillman et al., 2014). The findings should therefore be read as preliminary indicators, not precise population estimates.

The narrow scope of the intervention—focusing on a single wall to tidy up the appearance of the adjacent building—had a rapid impact on visual legibility, in line with the principles of tactical urbanism, but its effect on collective meaning was still limited (Lydon & Garcia, 2015). To enhance imageability and user orientation, murals need to be supported by interpretive markers, wayfinding, and micro-space qualities that encourage “life between buildings,” such as seating, facade lighting, and shade (Gehl, 2011; Lynch, 1960). In terms of measurement, the absence of pre-intervention data weakens causal inference. The small sample size restrains further construct validity analysis. In the future, conduct a pre-post design, add more sensitive items for “community pride,” and retest reliability and dimension structure on a larger sample (Ferketich, 1991; Hair et al., 2019).



The study is grounded in field data that captures residents' perceptions, not just opinions. The ensuing recommendations are correlated with designated indicators, and it is acknowledged that the resultant findings are predicated on subjective perceptions, are cross-sectional in nature, and do not imply causation.

#### 4. Conclusion

Post-intervention monitoring indicates that all five dimensions of satisfaction fall within the lower range, with an overall score of 55.32%. Among these dimensions, social interaction ranks the highest at 58.20%, followed by sense of ownership at 55.60%, aesthetic perception at 55.00%, local identity at 54.60%, and community pride at the lowest with a score of 53.20%. The instrument exhibited satisfactory internal consistency (Cronbach's  $\alpha=0.781$ ) and maintained 14 out of 25 items following item-total correlation screening (threshold  $r \geq 0.413$ ), thereby affirming its appropriateness for early-cycle monitoring. The observed patterns suggest that the mural primarily facilitated interactions, yet it has not yet established a unified interpretation among the collective. In alignment with our objectives, we emphasize actionable strategies that correspond to the lagging indicators: expanding cross-generational co-creation from motif curation to maintenance to enhance identity and pride; incorporating interpretive signage and wayfinding to increase clarity; executing comfort micro-interventions (such as facade lighting, seating, and shade) alongside a cross-generational activity calendar to transform encounters into ongoing engagement; and establishing quarterly monitoring with an improved instrument, which includes a pre-post design and qualitative triangulation on a more representative sample. The findings are cross-sectional in nature, derived from convenience sampling and self-reported data; therefore, they do not establish causation and should be regarded as preliminary observations.

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