



## The relationship between depressive symptoms and positive and negative affect among participants of the Sanggah Jiwa program in Tejosari Urban Village.

### Hubungan antara Gejala Depresi dengan Afek Positif dan Negatif pada Peserta Program Sanggah Jiwa di Kelurahan Tejosari

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#### ABSTRACT

This study aimed to examine the relationship between depressive symptoms and positive affect and negative affect among participants of the Sanggah Jiwa program in RW 02, Tejosari Urban Village, East Metro District, Metro City. This quantitative observational study employed a cross-sectional design. Data were collected from 21 participants using the Patient Health Questionnaire-9 (PHQ-9) and the Positive and Negative Affect Schedule–Expanded Form (PANAS-X). Descriptive statistics, internal consistency analysis, the Shapiro–Wilk test, and Pearson correlation were performed, with Spearman correlation used as a sensitivity analysis. The mean PHQ-9 score was 9.43 (SD = 5.510), while the mean positive affect and negative affect scores were 29.86 (SD = 3.275) and 28.67 (SD = 4.066), respectively. The most frequent PHQ-9 category was mild depressive symptoms (47.6%). Pearson correlation showed a moderate positive association between depressive symptoms and negative affect ( $r = 0.531$ , 95% CI [0.129, 0.783],  $p = 0.013$ ), whereas the association between depressive symptoms and positive affect was small and not statistically significant ( $r = 0.073$ , 95% CI [-0.370, 0.489],  $p = 0.754$ ). Spearman correlation produced a similar pattern for negative affect ( $\rho = 0.469$ ,  $p = 0.032$ ). These findings indicate that higher depressive symptom scores were associated with higher negative affect in this sample. However, because of the cross-sectional design and small sample size, the findings should be interpreted as statistical associations rather than causal relationships, and they do not provide evidence regarding the effectiveness of the Sanggah Jiwa program.

**Keywords:** affect; mental health; PHQ-9; screening

**Abstrak.** Penelitian ini bertujuan untuk menganalisis hubungan antara gejala depresi dengan afek positif dan afek negatif pada peserta program Sanggah Jiwa di RW 02, Kelurahan Tejosari, Kecamatan Metro Timur, Kota Metro. Penelitian observasional kuantitatif ini menggunakan desain cross-sectional. Data dikumpulkan dari 21 peserta menggunakan Patient Health Questionnaire-9 (PHQ-9) dan Positive and Negative Affect Schedule–Expanded Form (PANAS-X). Analisis yang dilakukan meliputi statistik deskriptif, analisis konsistensi internal, uji Shapiro–Wilk, dan korelasi Pearson, sedangkan korelasi Spearman digunakan sebagai analisis sensitivitas. Rata-rata skor PHQ-9 adalah 9,43 (SD = 5,510), sedangkan rata-rata skor afek positif dan afek negatif masing-masing sebesar 29,86 (SD = 3,275) dan 28,67 (SD = 4,066). Kategori PHQ-9 yang paling banyak ditemukan adalah gejala depresi ringan (47,6%). Analisis korelasi Pearson menunjukkan hubungan positif dengan kekuatan sedang antara gejala depresi dan afek negatif ( $r = 0,531$ , 95% CI [0,129, 0,783],  $p = 0,013$ ). Sementara itu, hubungan antara gejala depresi dan afek positif tergolong lemah dan tidak signifikan secara statistik ( $r = 0,073$ , 95% CI [-0,370, 0,489],  $p = 0,754$ ). Analisis korelasi Spearman menunjukkan pola yang serupa untuk afek negatif ( $\rho = 0,469$ ,  $p = 0,032$ ). Temuan ini menunjukkan bahwa skor gejala depresi yang lebih tinggi berhubungan dengan tingkat afek negatif yang lebih tinggi pada sampel penelitian ini. Namun, karena penelitian menggunakan desain cross-sectional dan melibatkan ukuran sampel yang kecil, temuan ini harus diinterpretasikan sebagai hubungan statistik dan bukan sebagai hubungan kausal. Selain itu, hasil penelitian ini tidak memberikan bukti mengenai efektivitas program Sanggah Jiwa.

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Kata kunci: afek; kesehatan mental; PHQ-9; skrining

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## INTRODUCTION

Depressive symptoms are an important mental health concern because they may affect emotional functioning, social participation, and overall psychological well-being. In community settings, depressive symptoms may vary considerably in severity and may not always be recognized at an early stage. Screening instruments such as the Patient Health Questionnaire-9 (PHQ-9) can assist in identifying the severity of depressive symptoms and are commonly used in both clinical and research settings. The PHQ-9 assesses nine depressive symptoms experienced during the previous two weeks and provides an overall severity score. Importantly, the PHQ-9 is a screening and severity-assessment instrument and should not be interpreted as a substitute for a clinical diagnosis (Kroenke et al., 2001; Negeri et al., 2021).

Depressive symptoms are also closely related to affective functioning. Affect refers to the degree to which an individual experiences positive and negative affective states. Positive affect reflects experiences such as enthusiasm, alertness, and engagement, whereas negative affect reflects unpleasant affective states such as distress, upset, or nervousness. Positive and negative affect represent related but distinguishable dimensions rather than simply opposite ends of a single continuum (Watson et al., 1988). The PANAS-X provides a broader assessment of affect and has demonstrated utility for assessing affective experiences in both cross-sectional and intensive longitudinal research (Haney et al., 2023).

Previous research suggests that depressive symptoms may be particularly related to negative affect. At the same time, the relationship between depression and positive affect may be more complex. Reduced positive affect and difficulties in maintaining positive affective experiences have been associated with depressive symptoms, but the strength of this relationship may depend on the construct and measurement approach used (Bean et al., 2022). Recent psychometric research also indicates that PANAS-X scales can reliably distinguish individual differences in affect, although affective experiences may vary according to context and measurement conditions (Haney et al., 2023).

Within Indonesia, community-based mental health initiatives are important for strengthening early recognition and support for psychological problems. The Sanggah Jiwa program provides a community context in which mental health conditions and psychological well-being can be observed outside conventional clinical settings. Understanding the relationship between depressive symptoms and affect among program participants may therefore provide preliminary information regarding the psychological characteristics of the community served by the program.

However, empirical evidence examining depressive symptoms simultaneously in relation to positive affect and negative affect among participants of community-based mental health programs remains limited, particularly in the local context of Tejosari Urban Village. Moreover, distinguishing positive affect from negative affect is important because the two dimensions may demonstrate different patterns of association with depressive symptoms.

Therefore, this study aimed to examine the relationship between depressive symptoms and positive affect and negative affect among participants of the Sanggah Jiwa program in RW 02, Tejosari Urban Village, East Metro District, Metro City. The study focused on identifying statistical associations between the variables and did not aim to establish causal relationships or evaluate the effectiveness

## LITERATURE OR CONCEPTUAL REVIEW

Depressive symptoms comprise a range of psychological and behavioral experiences, including depressed mood, reduced interest or pleasure, sleep disturbance, fatigue, changes in appetite, feelings of worthlessness, difficulty concentrating, psychomotor changes, and thoughts related to death or self-harm. The PHQ-9 was developed to assess the frequency of nine depressive symptoms over the previous two weeks and to quantify the severity of depressive symptoms (Kroenke et al., 2001). The instrument is widely used as a screening and symptom-severity measure. Evidence from a large

individual participant data meta-analysis indicates that the PHQ-9 has useful diagnostic accuracy for detecting major depression when used as a screening instrument, although screening results should not be equated with a formal psychiatric diagnosis (Negeri et al., 2021).

The conventional PHQ-9 severity categories are minimal (0–4), mild (5–9), moderate (10–14), moderately severe (15–19), and severe (20–27) (Kroenke et al., 2001). These categories describe symptom severity and should be interpreted within the context of clinical assessment rather than as diagnostic classifications.

Positive affect and negative affect represent two distinguishable dimensions of affective experience. Watson et al. (1988) conceptualized positive affect as reflecting the extent to which a person feels enthusiastic, active, and alert, whereas negative affect reflects the extent to which a person experiences aversive affective states. The two dimensions are not necessarily mutually exclusive; an individual may experience positive and negative affect to different degrees at the same time.

The PANAS-X extends the original PANAS framework by providing broader affective dimensions. Contemporary psychometric research has provided support for the reliability of PANAS-X scales for distinguishing between-person differences and for assessing within-person affective changes in daily-life contexts (Haney et al., 2023). Consequently, positive affect and negative affect should be treated as conceptually distinct outcomes rather than as opposite manifestations of a single affective dimension.

Depressive symptoms may be expected to demonstrate a positive association with negative affect because depression commonly involves persistent unpleasant emotional experiences. Individuals experiencing greater depressive symptoms may report greater levels of distress, sadness, irritability, fear, or other unpleasant affective states. This conceptual relationship is consistent with the present study's finding that higher PHQ-9 scores were associated with higher negative affect. The association should nevertheless be interpreted as correlational because the cross-sectional design does not establish whether depressive symptoms contribute to negative affect, whether negative affect contributes to depressive symptoms, or whether both are influenced by other psychological or contextual factors.

The relationship between depressive symptoms and positive affect may be less straightforward. Depression has been associated with reduced positive emotional experience and difficulties in maintaining positive affect. A meta-analysis by Bean et al. (2022), for example, found a meaningful association between depressive symptoms and dampening responses to positive affect and reported evidence of bidirectional longitudinal relationships between depressive symptoms and dampening tendencies.

Nevertheless, positive affect and negative affect should not be assumed to behave as mirror images of one another. An individual may report relatively preserved positive affect while simultaneously experiencing depressive symptoms or negative affect. Therefore, the absence of a statistically significant association between PHQ-9 scores and positive affect in the present study does not necessarily contradict previous literature. It may instead indicate that the relationship between depressive symptoms and positive affect is influenced by contextual, interpersonal, cognitive, or measurement-related factors.

## RESEARCH DESIGN

This study employed a quantitative observational approach with a cross-sectional design, involving 21 respondents participating in the Sanggah Jiwa activity in RW 02, Tejosari Urban Village. The independent variable was the total PHQ-9 score, while the dependent variables were General Positive Emotion and General Negative Emotion from the PANAS-X scale. Data analysis included descriptive statistics, Cronbach's alpha reliability testing, the Shapiro-Wilk normality test, and Pearson correlation analysis. Spearman correlation was used for sensitivity analysis. The Shapiro-

Wilk test results indicated that all three primary variables had p-values  $> 0.05$ ; therefore, Pearson correlation was used as the primary analysis. During data processing, the Basic Negative Affect variable from the PANAS-X scale was registered as a "String" variable in SPSS, resulting in valid data for only 12 respondents. Consequently, this variable was excluded from the primary analysis, and the study focused on the three variables for which valid data existed for all 21 respondents.

## HASIL

This study employed a quantitative approach with a cross-sectional design to analyze depressive symptoms and affective states among participants of the Sanggah Jiwa program in RW 02, Tejosari Urban Village. The analyzed sample consisted of 21 respondents with complete data for the primary research variables. The variables analyzed included total PHQ-9 scores as an indicator of depressive symptoms, as well as General Positive Emotion and General Negative Emotion as indicators of affective states based on the PANAS-X scale.

Data processing and analysis were conducted using IBM SPSS Statistics. The analysis proceeded in stages, comprising descriptive analysis to describe the score distributions for each variable, reliability testing using Cronbach's alpha, normality testing using the Shapiro-Wilk test, and bivariate analysis using Pearson correlation. Spearman correlation was utilized as a supplementary analysis to assess the consistency of the relationships between variables.

**Table 1.** Descriptive statistics of study variables

| Variable                                           | N  | Min | Max | Mean $\pm$ SD     |
|----------------------------------------------------|----|-----|-----|-------------------|
| PHQ-9 total                                        | 21 | 2   | 23  | 9,43 $\pm$ 5,510  |
| Positive Affect (PANAS-X General Positive Emotion) | 21 | 25  | 38  | 29,86 $\pm$ 3,275 |
| Negative Affect (PANAS-X General Negative Emotion) | 21 | 22  | 39  | 28,67 $\pm$ 4,066 |

Among the 21 respondents, the mean PHQ-9 score was  $9.43 \pm 5.510$  (range: 2–23), indicating variation in depressive symptom levels. The mean scores for General Positive Emotion and General Negative Emotion were  $29.86 \pm 3.275$  (range: 25–38) and  $28.67 \pm 4.066$  (range: 22–39), respectively. These findings indicate variability in both depressive symptoms and affective states among respondents. The results were subsequently analyzed to determine the relationship between depressive symptoms and positive and negative affect.

**Tabel 2.** Hasil Uji Normalitas Shapiro–Wilk

| Variabel                 | Shapiro-Wilk p | Keputusan |
|--------------------------|----------------|-----------|
| PHQ-9 total              | 0,054          | Normal    |
| General Positive Emotion | 0,291          | Normal    |
| General Negative Emotion | 0,479          | Normal    |

Reliability testing yielded a Cronbach's alpha of 0.829, indicating good internal consistency for the PHQ-9. The Shapiro–Wilk test showed  $p > 0.05$  for all variables, meaning the data met the assumption of normality. Consequently, Pearson correlation could be used to analyze the relationships between the variables.

Based on Figure 1, the distribution of PHQ-9 severity categories among the 21 respondents. The most frequently observed category was mild depressive symptoms, comprising 10 respondents (47.6%). This was followed by the moderate category with 5 respondents (23.8%), the minimal category with 3 respondents (14.3%), the severe category with 2 respondents (9.5%), and the moderately severe category with 1 respondent (4.8%). The distribution demonstrates variation in

depressive symptom severity among the participants. However, these categories represent symptom severity based on PHQ-9 screening scores and should not be interpreted as clinical diagnoses.

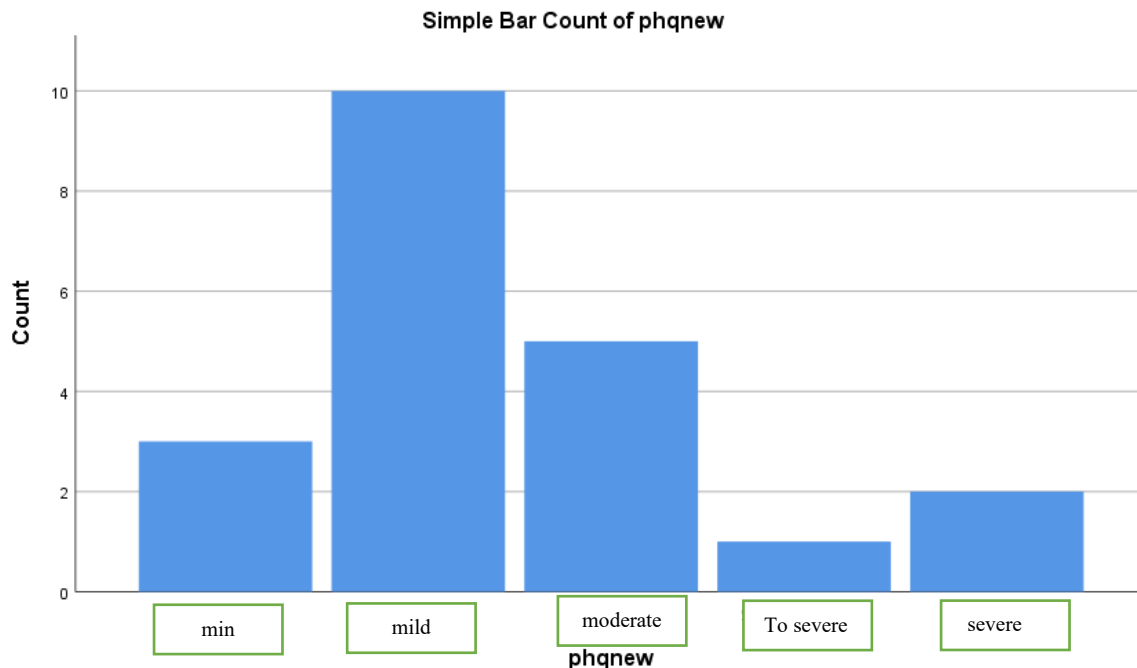


**Figure 1.** Distribusi kategori skor PHQ-9 pada 21 responden.

**Tabel 3.** Distribusi Kategori Skor PHQ-9 pada Responden

| Category          | n  | %    |
|-------------------|----|------|
| Minimal           | 3  | 14.3 |
| Mild              | 10 | 47.6 |
| Moderate          | 5  | 23.8 |
| Moderately Severe | 1  | 4.8  |
| Severe            | 2  | 9.5  |

Based on Table 3, the mild depressive symptom category was the most common, comprising 10 respondents (47.6%). Five respondents (23.8%) were classified as having moderate symptoms, three (14.3%) as having minimal symptoms, two (9.5%) as having severe symptoms, and one (4.8%) as having moderately severe symptoms. Thus, the sample included participants across all five PHQ-9 severity categories. These findings describe the distribution of screening scores and do not establish the presence or absence of a clinical depressive disorder.

**Table 4.** Results of Correlation Analysis between PHQ-9 Scores and Affect.

| Variabel Pair                     | r/p   | 95%CI           | p     | Conclusion      |
|-----------------------------------|-------|-----------------|-------|-----------------|
| PHQ-9 – Positive Affect           | 0,073 | –0.370 to 0.489 | 0,754 | Not significant |
| PHQ-9 – Negative Affect           | 0,531 | 0.129 to 0.783  | 0,013 | Significant     |
| Spearman: PHQ-9 – Positive Affect | 0,249 |                 | 0,277 | Not significant |
| Spearman: PHQ-9 – Negative Affect | 0,469 |                 | 0,032 | Significant     |

The analysis results indicate no significant relationship between PHQ-9 scores and General Positive Emotion ( $r = 0.073$ ;  $p = 0.754$ ). Conversely, there is a positive and significant relationship between PHQ-9 scores and General Negative Emotion ( $r = 0.531$ ;  $p = 0.013$ ). This means that the higher the depressive symptoms, the greater the respondents' tendency toward negative affect.

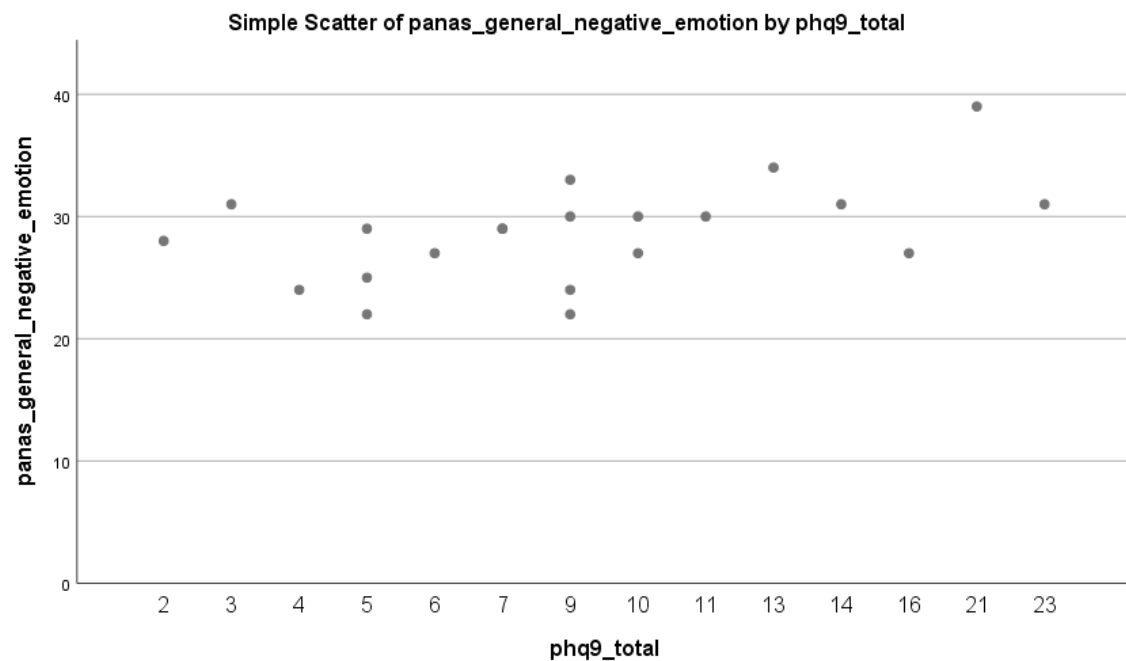


**Figure 2.** Scatterplot hubungan skor PHQ-9 dengan General Negative Emotion.

Figure 2 shows a trend of a positive relationship between PHQ-9 scores and General Negative Emotion. This means that respondents with higher depressive symptom scores tend to exhibit higher negative affect. These findings align with the Pearson results ( $r = 0.531$ ;  $p = 0.013$ ) and indicate a significant relationship, rather than a causal one.

## DISCUSSION

The present study found a statistically significant positive association between depressive symptoms and negative affect, whereas the association between depressive symptoms and positive affect was not statistically significant. The association between depressive symptoms and negative affect was moderate in magnitude ( $r = 0.531$ ), while the confidence interval (95% CI [0.129, 0.783]) indicates that the estimated effect should be interpreted with caution because of the small sample size.

The significant association between depressive symptoms and negative affect is conceptually consistent with the nature of depressive symptomatology. Higher levels of depressive symptoms may coexist with greater experiences of unpleasant affective states. The finding is also consistent with the conceptual distinction proposed by Watson et al. (1988), in which positive affect and negative affect represent distinguishable dimensions of affective experience. Therefore, an increase in depressive symptoms does not necessarily imply a corresponding and proportional decrease in positive affect; instead, depressive symptoms may be more directly reflected in elevated negative affect.

The absence of a statistically significant relationship between depressive symptoms and positive affect requires a more cautious interpretation. The result does not demonstrate that depressive symptoms are unrelated to positive affect in the broader population. Rather, it indicates that an association could not be detected in this particular sample. The estimated correlation was very small ( $r = 0.073$ ), and its 95% confidence interval was wide and crossed zero ( $-0.370$  to  $0.489$ ). Therefore, the result should not be interpreted as evidence that depressive symptoms have no relationship with positive affect.

One possible explanation is that positive affect and negative affect represent partially independent dimensions. A person can experience some degree of positive affect while also experiencing depressive symptoms or negative affect. Consequently, depressive symptoms may be more readily

expressed through increases in negative affect than through reductions in positive affect at a single measurement point. The PANAS-X framework supports treating positive and negative affect as distinguishable constructs rather than assuming that they are simple opposites (Watson et al., 1988; Haney et al., 2023).

Another possible explanation concerns the distinction between depressive symptoms measured over a two-week period and affect measured at the time of assessment. The PHQ-9 captures the frequency of depressive symptoms during the preceding two weeks, whereas affective measures capture affective experiences according to the temporal instructions of the PANAS-X administration. This difference in measurement timeframe may reduce the strength of the association between depressive symptoms and positive affect. In contrast, negative affect may be more closely aligned with the unpleasant psychological experiences represented by depressive symptom severity.

Previous research also indicates that the relationship between depression and positive affect is complex. Bean et al. (2022) reported that responses involving the dampening of positive affect were associated with depression in both cross-sectional and longitudinal research. Their findings suggest that difficulties in sustaining or responding to positive affect may be relevant to depression, but this does not mean that every measure of positive affect will necessarily show a strong cross-sectional correlation with depressive symptom severity. The present non-significant finding may therefore reflect differences in the construct being measured, the characteristics of the participants, the measurement timeframe, or limited statistical power.

The sample size is an important consideration in interpreting the findings. Only 21 respondents were included in the analysis. With such a small sample, the study has limited statistical power to detect small or moderate associations, and the estimated correlation coefficients are subject to considerable sampling uncertainty. This is reflected in the wide confidence intervals, particularly for the relationship between PHQ-9 and positive affect. Consequently, the non-significant association with positive affect should not be interpreted as definitive evidence of the absence of an association.

The study also has limitations related to generalizability. The participants were drawn from a single community-based Sanggah Jiwa setting in RW 02, Tejosari Urban Village, and the sample was relatively small. Therefore, the findings may not be generalizable to participants in other communities, geographical areas, age groups, or mental health programs. Future studies should recruit larger and more diverse samples to obtain more precise estimates and improve external validity.

The data-management problem involving the Basic Negative Affect variable represents an additional methodological limitation. The variable was recorded as a string variable in SPSS and consequently could not be included in the primary analysis for all 21 respondents. This issue highlights the importance of checking variable types, coding, missing values, and data-entry accuracy before statistical analysis. Because only 12 respondents had analyzable data for this variable, including it in the primary analysis would also have substantially reduced the available sample and potentially introduced bias. Future studies should establish a standardized data-entry and data-quality-control procedure before analysis.

Finally, the cross-sectional design limits interpretation of temporal relationships. Although higher depressive symptoms were statistically associated with higher negative affect, the analysis cannot establish whether depressive symptoms lead to higher negative affect, whether negative affect contributes to depressive symptoms, or whether both are influenced by other factors. Similarly, the findings cannot be interpreted as evidence that participation in the Sanggah Jiwa program caused any change in depressive symptoms or affect. Longitudinal studies, repeated-measures designs, or controlled pretest-posttest studies would be required to investigate temporal changes and potential program effects.

Overall, the findings provide preliminary evidence that depressive symptoms are associated with negative affect among participants of the Sanggah Jiwa program, while the relationship with positive affect was not detected in this small sample. The distinction between positive affect and negative affect is therefore important when interpreting the psychological characteristics of community-based mental health participants.

## CONCLUSIONS

This study found variation in depressive symptom severity among participants of the Sanggah Jiwa program, with mild depressive symptoms being the most frequently observed PHQ-9 category. Depressive symptoms were significantly and positively associated with negative affect, whereas no statistically significant association was observed between depressive symptoms and positive affect.

These findings indicate that, within this sample, higher depressive symptom scores tended to occur alongside higher levels of negative affect. However, the non-significant association with positive affect should not be interpreted as evidence that depressive symptoms are unrelated to positive affect in the broader population, particularly given the small sample size and wide confidence interval.

Because the study used a cross-sectional design, the findings represent statistical associations and cannot establish causality, temporal direction, or the effectiveness of the Sanggah Jiwa program. The small sample size also limits statistical power and generalizability. Future research should involve larger samples, standardized data-management procedures, validated language versions of the instruments, and longitudinal or controlled designs to further examine the relationships between depressive symptoms, positive affect, and negative affect in community-based mental health settings.

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## Conflict of Interests

The authors declare that there are no conflicts of interest regarding the publication of this article.

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