International Journal of Education, Vocational and Social Science
https://e-journal.citakonsultindo.or.id/index.php/IJEVSS
E-ISSN : 2963 4954
IJEVSS

Learning Engagement in the Sekolah Lansia Program and Older Adults' Self-Efficacy: A Nonformal Education Perspective

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Abstract

This study examined the association between learning engagement and general self-efficacy among older adults participating in Indonesia's Sekolah Lansia (Older Adult Learning Program). A quantitative cross-sectional design was used with 92 participants from two program sites in Temanggung Regency: Bansari (n = 75) and Nglondong (n = 17). Learning engagement was assessed using 15 items addressing behavioral, emotional, and cognitive involvement, and self-efficacy was assessed using a 10-item General Self-Efficacy Scale (GSES) questionnaire. Descriptive statistics, internal-consistency estimates, correlation analyses, and simple linear regression were applied. Mean engagement and self-efficacy scores were 50.93 (SD = 6.74) and 39.13 (SD = 7.01), respectively. Cronbach's alpha was 0.888 for engagement and 0.948 for self-efficacy. Engagement was positively correlated with self-efficacy (Pearson r = 0.519, p < 0.001). The regression coefficient was 0.540 (95% CI [0.354, 0.726], p < 0.001), and the model accounted for 27.0% of variation in self-efficacy scores (R^2 = 0.270). These findings suggest that more engaged participants tended to report greater general self-efficacy. The cross-sectional design precludes causal inference. The findings highlight the relevance of meaningful learner participation in nonformal education for older adults.

Keywords: learning engagement; self-efficacy; older adults; Sekolah Lansia; nonformal education

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INTRODUCTION

Indonesia is undergoing a demographic transition toward an ageing population. The 2025 Intercensal Population Survey (SUPAS) reported that 11.97% of the national population was aged 60 years or older (Badan Pusat Statistik [BPS], 2026). In Central Java, the proportion reached 14.43% in 2025, with every regency and municipality entering the ageing-population stage (BPS Provinsi Jawa Tengah, 2026). These changes suggest that responses to population ageing should encompass not only healthcare and social protection but also opportunities to learn, participate, adapt, and develop capabilities throughout life.

Lifelong learning provides a relevant framework for addressing these needs. Nonformal education offers flexible and context-sensitive learning opportunities that can respond to adults' experiences and needs. Kalenda and Kočvarová (2023) documented persistent inequalities in older adults' participation in adult education. In a study of 300 Singapore residents aged at least 65, Fang and Sim (2024) found positive associations between classroom participation and three indicators of subjective well-being. Although relevant to later-life learning, those findings do not directly establish an association with general self-efficacy.

Access to learning also depends on supportive local environments and sustainable program management. Broek et al. (2024) emphasized the social and spatial conditions that facilitate adult learning at the local level. Mercado and Villenas (2024) highlighted institutional arrangements, collaboration, and policy factors in sustaining adult education programs in Philippine higher education institutions. These studies underscore the importance of program context but did not directly assess older learners' self-efficacy.

In Indonesia, Sekolah Lansia (the Older Adult Learning Program) is one form of nonformal education for older people. It offers opportunities to gain knowledge, exchange experiences, interact socially, and take part in activities that support personal agency. Previous Indonesian studies have primarily examined program evaluation, management, welfare, and empowerment. Maulida et al. (2023) identified stakeholder support and instructional media as strengths and opportunities, alongside challenges related to motivation and family support. Manurung (2024) explored efforts to improve older adults' welfare, while Fatimah et al. (2025) examined planning, implementation, and evaluation in program management.

Program availability alone does not determine educational outcomes; the quality of participation during learning also matters. This study conceptualizes participation as learning engagement rather than mere attendance. Fredricks et al. (2004) described behavioral, emotional, and cognitive dimensions of engagement, originally in school settings. Their

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application to older learners here is a conceptual adaptation, not a claim of an already validated older-adult scale. Behavioral engagement concerns effort and participation in learning activities; emotional engagement concerns interest and affective responses; and cognitive engagement concerns attempts to understand and apply knowledge (Schumacher, 2018). A scoping review by Bílá and Kalenda (2025) likewise emphasized the need for robust measures of motivation and participation in adult learning.

Learning engagement is shaped by the experience of learning itself. Li (2025) investigated teacher support, classroom enjoyment, motivation, and online engagement among foreign-language students. Although the population and instructional setting differ, this work illustrates why engagement should not be reduced to attendance. The transfer of such concepts to Sekolah Lansia requires appropriate empirical assessment.

Research with older learners also highlights the importance of participation quality. Ackermann and Seifert (2021), studying 811 senior-university participants in Zurich, associated instrumental motivation with lecture attendance. Lai and Han (2026), drawing on data from 4,688 Chinese adults aged 60 or older, related Mandarin-language proficiency and social interaction frequency to willingness and enthusiasm for informal reading-related learning. These measures differ from the three engagement dimensions examined here.

Adults' decisions to begin or continue learning reflect interacting motivations, barriers, perceived competence, and social conditions. Broek et al. (2025), using card-sorting interviews with 69 adult learners in the Netherlands, explored these relationships. Only eight participants were aged 66 or older, so the findings cannot be generalized specifically to older adults. Importantly, perceived competence may also precede participation, raising the possibility of a reciprocal relationship.

One psychological construct relevant to learning in later life is self-efficacy: a person's belief in their ability to manage challenges and act effectively in different situations. The General Self-Efficacy Scale (GSES) measures this general belief. Novrianto et al. (2019) evaluated the Indonesian version in 585 participants using confirmatory factor analysis and reported a unidimensional ten-item structure. Whitehall et al. (2021) further demonstrated the relevance of general self-efficacy in research involving older adults.

Learning can provide opportunities to attempt tasks, complete activities, observe peers' successes, and receive social encouragement. Such experiences may be related to perceived personal capability. Ghodsi et al. (2026) identified self-efficacy and perceived control among psychological resources potentially supported by learning in later life, although their review

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addressed psychological resilience rather than the direct statistical relationship examined here. Broek et al. (2026) also reported qualitative accounts of increased confidence during adults' transitions into learning; however, they did not use the GSES or test the present engagement model.

Bandura's (1977) self-efficacy theory provides a conceptual basis for interpreting this relationship. Four sources of efficacy beliefs are mastery experiences, vicarious experiences, verbal persuasion, and physiological or emotional states. In Sekolah Lansia, successfully completing an appropriately challenging activity, observing peers, and receiving supportive feedback may offer relevant experiences. These are theoretical mechanisms, not pathways directly measured in this study.

Behavioral engagement may be evident when learners practice, ask questions, discuss ideas, and complete activities. Emotional engagement involves interest, comfort, and positive feelings about learning; cognitive engagement involves efforts to understand and apply content. Greater engagement may increase opportunities for successful practice, feedback, and observation. Nevertheless, engagement and self-efficacy remain distinct constructs: the former describes learning processes, while the latter describes beliefs about one's capability.

Age-inclusive and flexible learning designs may help accommodate differences in participants' capacities. Tkalenko et al. (2026) considered inclusive educational opportunities for older workers, while Malakul and Sangkawetai (2025) studied digital competence and domain-specific efficacy in an online course. Neither establishes that Sekolah Lansia increases general self-efficacy. General self-efficacy must also be distinguished from confidence in performing one specific learning activity.

Hammond and Feinstein (2005) reported associations between adult learning and changes in self-efficacy, with patterns differing across participants and experiences. Their findings support investigating this association but cannot be transferred directly to older learners in Indonesia. Because learners with stronger initial efficacy beliefs may be more inclined to participate, the direction of influence cannot be established from a single cross-sectional measurement.

The research gap addressed here is contextual and operational: whether variation in behavioral, emotional, and cognitive engagement within Sekolah Lansia is associated with variation in general self-efficacy measured using the GSES. The contribution is threefold. First, participation is operationalized as multidimensional engagement rather than attendance alone. Second, older adults are treated as active learners, with self-efficacy considered a relevant psychological correlate. Third, the relationship is assessed quantitatively in a nonformal education

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setting in Indonesia.

This study therefore aims to describe engagement and general self-efficacy among Sekolah Lansia participants and to examine their statistical association. The hypothesis is that higher learning engagement is positively associated with greater general self-efficacy. Given the cross-sectional observational design, the analysis evaluates association and statistical prediction, not causal effects.

METHODS

Research Design

This quantitative study employed an explanatory cross-sectional observational design. Data on learning engagement (X) and general self-efficacy (Y) were obtained during a single measurement period. Statistical associations were evaluated without interpreting them as experimental or causal effects.

Setting and Participants

The study was conducted at two active Sekolah Lansia sites in Temanggung Regency, Central Java, Indonesia: Bansari and Nglondong (Parakan District). The analytic dataset included 92 consenting participants who met the inclusion criteria: 75 from Bansari and 17 from Nglondong. The initial estimate of the accessible population differed from the final number of eligible respondents; the final sampling frame should be reconciled with site records before submission.

Sampling and Eligibility

Recruitment was based on a total-sampling approach intended to invite all eligible active participants. The analytic sample consisted of 92 participants aged at least 60 years who were enrolled in an active program, had experience attending learning activities, could respond independently or through neutral reading assistance, and consented to participate. Full coverage of the final active-participant population and any minimum participation-duration criterion require confirmation against field records.

Measures

Learning engagement was operationalized as involvement in learning activities, conceptually encompassing behavioral, emotional, and cognitive engagement. A context-specific

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15-item questionnaire was developed for Sekolah Lansia rather than adopted unchanged from Schumacher (2018). General self-efficacy was assessed using ten GSES items, informed by the Indonesian-language validation study of Novrianto et al. (2019). The analyzed scoring ranges were 15–60 for engagement and 10–50 for self-efficacy. The five-response-category adaptation of the GSES and its scoring equivalence to the validated version must be documented before submission.

Data Collection and Ethics

Questionnaire responses were collected from participants at the program sites. Respondents were informed about the study, voluntary participation, and confidentiality, and consent was obtained before responding. Neutral assistance could be provided to participants with reading or writing difficulties. Individual identities were excluded from reporting. The precise authorization and ethical-review arrangements should be documented in the final submission.

Data Analysis

Descriptive statistics summarized participant characteristics and scale scores. Internal consistency was assessed using Cronbach's alpha and corrected item–total correlations. Pearson and Spearman correlations were calculated. Simple linear regression modeled self-efficacy as a function of learning engagement, reporting the unstandardized coefficient, 95% confidence interval, p value, and R^2. Residual normality, possible nonlinearity, and heteroskedasticity were assessed using the Shapiro–Wilk, Ramsey RESET, and Breusch–Pagan tests, respectively. An additional regression considered program site as a covariate. Statistical significance was evaluated at $\alpha = 0.05$.

RESULTS AND DISCUSSION

Participant Characteristics

The analysis included 92 participants: 75 (81.5%) from Bansari and 17 (18.5%) from Nglondong. Participants were aged 60–87 years (mean = 68.5 years). Sixty participants (65.2%) were women and 32 (34.8%) were men (Table 1).

Table 1. Characteristics of participants (N = 92)

Characteristic	Number/value	Percentage
Bansari site	75	81.5%

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Nglondong site	17	18.5%
Women	60	65.2%
Men	32	34.8%
Age, mean	68.5 years	—
Age, range	60–87 years	—

Learning Engagement and Self-Efficacy

The mean engagement score was 50.93 (SD = 6.74; median = 51.50; observed range 30–60). The mean self-efficacy score was 39.13 (SD = 7.01; median = 39.00; observed range 18–50). Table 2 summarizes the distributions. Formal low, moderate, or high categories were not assigned because validated classification thresholds were not established for these adapted measures.

Table 2. Descriptive statistics for study variables

Statistic	**Learning engagement (15 items)**	**Self-efficacy (10 items)**
Valid n	92	92
Mean	50.93	39.13
Median	51.50	39.00
Standard deviation	6.74	7.01
Observed range	30–60	18–50

Internal Consistency of the Instruments

Cronbach's alpha was 0.888 for the 15-item engagement questionnaire and 0.948 for the ten-item GSES questionnaire. Corrected item–total correlations ranged from 0.381 to 0.735 and from 0.671 to 0.863, respectively (Table 3). These values indicate high internal consistency in this sample; they do not, on their own, establish content or construct validity.

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Table 3. Internal consistency estimates

Measure	Items	Cronbach's α	Corrected item–total correlation
Learning engagement	15	0.888	0.381–0.735
General self-efficacy	10	0.948	0.671–0.863

Correlation, Assumption Checks, and Regression

Learning engagement was positively associated with general self-efficacy (Pearson r = 0.519, p < 0.001; Spearman ρ = 0.455, p < 0.001). The residual-normality test did not indicate a significant deviation (Shapiro–Wilk p = 0.195). Neither the Ramsey RESET test (p = 0.685) nor the Breusch–Pagan test (p = 0.808) provided evidence of the corresponding model violation. These tests do not independently establish observation-level independence or rule out influential observations.

In simple linear regression, engagement had a positive unstandardized coefficient (B = 0.540, 95% CI [0.354, 0.726], p < 0.001). The fitted equation was: predicted self-efficacy = 11.616 + 0.540 × engagement. The model accounted for 27.0% of the observed variation in self-efficacy scores (R^2 = 0.270). A supplementary model adjusting for program site retained a positive engagement coefficient (B = 0.538, p < 0.001; model R^2 = 0.321). Because the two sites contributed unequal numbers of participants, the supplementary estimate should be interpreted cautiously.

Table 4. Correlation and simple linear regression results (N = 92)

Parameter	Estimate	Significance / interval
Pearson correlation (r)	0.519	p < 0.001
Spearman correlation (ρ)	0.455	p < 0.001
Intercept	11.616	p = 0.018
Engagement coefficient (B)	0.540	p < 0.001
95% CI for B	0.354–0.726	—
Coefficient of determination (R^2)	0.270	—

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DISCUSSION

The findings indicate a moderate positive association between learning engagement and general self-efficacy among older adults participating in Sekolah Lansia. Participants reporting more active involvement in learning activities also tended to report stronger beliefs in their ability to manage challenges. The association remained positive in a supplementary model accounting for program site. These results support the hypothesized statistical relationship, but they do not demonstrate that participation increased self-efficacy.

Bandura's (1977) theory offers one plausible interpretation. Opportunities to practice skills, complete manageable tasks, observe peers, and receive encouragement may provide mastery experiences, vicarious experiences, and verbal persuasion. Positive emotions during learning may also be relevant. However, these mechanisms were not measured separately, and the study cannot establish them as causal pathways.

From a learning-engagement perspective, the findings underscore why participation should not be reduced to attendance records. Behavioral involvement in activities, emotional investment in the learning experience, and cognitive efforts to understand and apply material represent different aspects of active learning (Fredricks et al., 2004; Schumacher, 2018). In nonformal education, the quality of learner participation may be a meaningful consideration alongside enrollment and completion figures.

The observed association is broadly consistent with Hammond and Feinstein's (2005) account of adult learning and self-efficacy, although their population and design differed. Ackermann and Seifert (2021) emphasized motivation in older adults' educational participation, while Fang and Sim (2024) examined lifelong learning and subjective well-being rather than GSES scores. These studies provide context rather than direct replication of the present findings.

Indonesian studies of Sekolah Lansia have often focused on program management, evaluation, and welfare (Maulida et al., 2023; Manurung, 2024; Fatimah et al., 2025). The present study complements that work by examining a quantitative association between engagement in the learning process and general self-efficacy. Program facilitators may therefore consider small-group discussion, accessible demonstrations, practice adjusted to participants' capabilities, and constructive feedback. These are educational implications suggested by theory and the observed association, not interventions shown to be effective by this study.

Limitations

The cross-sectional design prevents determining temporal ordering or causation. Both

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variables were measured by self-report, making responses potentially sensitive to recall and social-desirability bias. Recruitment from two sites and the unequal site sample sizes limit generalizability. The five-option GSES response format requires documentation of its adaptation and scoring equivalence; high internal consistency alone does not establish validity. Possible site clustering and influential observations also warrant further evaluation. Longitudinal studies with independently documented engagement measures could provide stronger evidence regarding change and mechanisms.

CONCLUSION

Among 92 Sekolah Lansia participants in Bansari and Nglondong, learning engagement was positively and statistically significantly associated with general self-efficacy ($r = 0.519$; $B = 0.540$; 95% CI [0.354, 0.726]; $p < 0.001$). Engagement explained 27.0% of the variation in self-efficacy scores in the simple regression model ($R^2 = 0.270$), and the association remained positive after accounting for program site. These findings suggest that attention to meaningful engagement may be relevant when designing nonformal learning opportunities for older adults. Causal claims require longitudinal or intervention research.

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